OSPAR COMMISSION

Annual OSPAR report on dumping of wastes or other matter at sea in 2011

At the time of publication Portugal had not provided their data.

Biodiversity Series

2013

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. 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 Union and Spain.

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.
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 l’Union européenne et l’Espagne.

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Part I - Tables

Table 1 Overview of number of permits issued, tonnes licensed and tonnes dumped in 2011

Contracting Party	Number of permits issued for waste category				Number of operations regulated by other means	Tonnes licensed (dry weight)	Tonnes dumped (dry weight)	Notes
	Dredged material	Inert material	Fish waste	Others				
Belgium	0					28 400 000	48 154 497	(1)
Denmark	87						4 715 817	(1)
France	54					78 785 600	19 642 016	
Germany	7				23	26 678 300	26 678 300	(1)
Iceland							373 300	(1)
Ireland	7				4	570 036	402 646	(1) (2) (3) (4)
Netherlands	10					25 000 000	24 980 022	(1) (2) (3)
Norway	26					319 476		(1)
		4				623 469		
			0				942 945	
Portugal								
Spain	16					2 573 933	2 573 933	(1) (2)
Sweden	11					21 960	11 198	(1)
United Kingdom	104					50 631 383	13 481 017	(1) (2) (3)

Table 2 Specific reporting on dumping operations of dredged material exceeding national action levels for sea disposal within 2011

	Contaminants of concern					
OSPAR Deposit Site Code	Type	Upper action level (mg/kg)	Average concentration in the material (mg/kg)	Tonnes dumped (dry weight)	Reasons for allowing disposal	Notes
Germany						
103	DDT	3	4,2	328 000	(1)	
103	HCB	5,5	9,2	328 000	(1)	
103	Cu	90	96	328 000	(1)	
105	DDT	3	4,2	287 000	(1)	
105	HCB	5,5	9,2	287 000	(1)	
105	Cu	90	96	287 000	(1)	
109	DDT	3	4,2	1 376 000	(1)	
109	HCB	5,5	9,2	1 376 000	(1)	
109	Cu	90	96	1 376 000	(1)	
120	pp DDE	3	3,4	374 300	(1)	
120	pp DDD	6	7,6	374 300	(1)	
Ireland						
17	Copper	110	111	1115	Result was less than 1% above upper action level. All other samples (12) had levels well below AL2.	Dry weight calculated based on moisture result for sample.
Norway						
NO10	Pb	83	0,000000000023	88 000		(1)

Table 3a Dredging operation, deposit sites and dumping amounts

OSPAR Deposit Site Code	categories				In case of dredged material						total quantity (in metric tonnes)	
	dredged material	inert material	fish waste	others	origin / name of watersystem	type of areas dredged Harbour	Estuary	Sea	dredging operation type capital	maintenance	dry weight	notes
Belgium												
B/1	x				Pas van het zand			x		x	1 330 673	
B/1	x				CDNB Zeebrugge			x		x	1 206 194	
B/1	x				Scheur Oost			x		x	1 706 004	
B/1	x				Scheur West			x		x	1 668 942	
B/1	x				Voorhaven	x				x	78 012	
B/3	x				Pas van het zand			x		x	1 363 162	
B/3	x				CDNB Zeebrugge			x		x	623 364	
B/3	x				Voorhaven	x				x	971 983	
B/3	x				Scheur Oost			x		x	166 343	
B/3	x				Scheur West			x		x	397 805	
B/6	x				Haven & voorhaven	x				x	1 889 093	
B/6	x				CDNB Zeebrugge			x		x	836 409	
B/6	x				Vaargeul Blankenberge			x		x	8 119	
B/6	x				Spuikom Blankenberge	x				x	19 051	
B/6	x				Vlotdok Blankenberge	x				x	5 554	
B/6	x				Pas van het Zand			x		x	4 986	
B/9	x				Ingangsgeul Oostende			x		x	374 964	
B/9	x				Montgomery	x				x	9 311	
B/9	x				Haven Oostende	x				x	239 834	
B/9	x				RYCO Oostende	x		x		x	7 952	
B/99	x				Toegangsgeul Nieuwpoort			x		x	61 027	
B/99	x				Vaar-& havengeul Nieuwpoort			x		x	70 327	
B/99	x				Nieuwe Jachthaven			x		x	24 475	
B/99	x				Oude vlotkom	x				x	15 540	
B/99	x				Novus Portus	x				x	15 919	
B/HP1	x				Gat van Ossenisse		x		x		533 422	
B/RVB	x				Gat van Ossenisse		x		x		243 774	
B/SOD	x				CDW		x		x		91 248	
B/SN51	x				Bocht van Bath		x			x	355 622	
B/SN51	x				Drempel van Hansweert		x			x	1 071 298	
B/SN51	x				Drempel van Zandvliet		x			x	18 330	
B/SN51	x				Overloop van Valkenisse		x			x	299 782	
B/SN51	x				Drempel van Valkenisse		x			x	461 636	
B/SN51	x				Drempel van Walsoorden		x			x	50 270	
B/HP1	x				Gat van Ossenisse		x			x	50 694	
B/HP1	x				Drempel van Borssele		x			x	694 262	
B/HP1	x				Pas van Terneuzen		x			x	66 866	
B/RVB	x				Gat van Ossenisse		x			x	221 112	
B/RVB	x				Bocht van Bath		x			x	328 764	
B/RVB	x				Drempel van Hansweert		x			x	421 388	

OSPAR Deposit Site Code	categories				In case of dredged material						total quantity (in metric tonnes)	
	dredged material	inert material	fish waste	others	origin / name of watersystem	type of areas dredged: Harbour	Estuary	Sea	dredging operation type: capital	maintenance	dry weight	notes
B/RVB	x				Drempel van Zandvliet		x			x	10 392	
B/RVB	x				Overloop van Valkenisse		x			x	83 866	
B/RVB	x				Drempel van Valkenisse		x			x	83 668	
B/RVB	x				Drempel van Walsoorden		x			x	10 008	
B/SN11	x				Drempel van Borssele		x			x	1 335 822	
B/SN11	x				Pas van Terneuzen		x			x	264 422	
B/SH61	x				Bocht van Bath		x			x	1 322 674	
B/SH61	x				Drempel van Zandvliet		x			x	26 590	
B/SH41	x				Gat van Ossenisse		x			x	1 136 314	
B/SH41	x				Bocht van Bath		x			x	467 518	
B/SH41	x				Drempel van Hansweert		x			x	1 727 526	
B/SH41	x				Overloop van Valkenisse		x			x	1 375 326	
B/SH41	x				Drempel van Valkenisse		x			x	1 526 828	
B/SH41	x				Drempel van Walsoorden		x			x	351 528	
B/SH41	x				Overloop Hansweert		x			x	1 058 950	
B/SN31	x				Gat van Ossenisse		x			x	707 100	
B/SN31	x				Drempel van Borssele		x			x	93 576	
B/SN31	x				Put van Terneuzen		x			x	661 156	
B/SH51	x				Bocht van Bath		x			x	226 436	
B/SH51	x				Drempel van Hansweert		x			x	566 306	
B/SH51	x				Overloop van Valkenisse		x			x	151 376	
B/SH51	x				Drempel van Valkenisse		x			x	15 800	
B/SH51	x				Drempel van Walsoorden		x			x	210 624	
B/HP3	x				Drempel van Borssele		x			x	734 718	
B/HP3	x				Pas van Terneuzen		x			x	564 000	
B/WALS	x				Bocht van Bath		x			x	35 478	
B/WALS	x				Drempel van Hansweert		x			x	871 870	
B/WALS	x				Overloop van Valkenisse		x			x	297 928	
B/WALS	x				Drempel van Valkenisse		x			x	633 366	
B/SOD	x				Drempel van Frederik		x			x	111 504	
B/SOD	x				Bocht van Bath		x			x	348 458	
B/SOD	x				Drempel van Zandvliet		x			x	1 969 562	
B/SOD	x				Drempel van Krankeloon		x			x	79 672	
B/SOD	x				Drempel van De Parel		x			x	275 214	
B/SOD	x				Drempel van Lillo		x			x	983 324	
B/SOD	x				Toegang Boudewijn/Van Cauwelaertsluis		x			x	1 706	
B/SOD	x				Noordzeeterminal		x			x	238 590	
B/SOD	x				Kaaien 23-27		x			x	39 476	
B/OWL	x				Drempel van Frederik		x			x	1 784 076	
B/OWL	x				Drempel van Zandvliet		x			x	70 612	
B/OWL	x				Toegangsgeul Zandvliet/Berendrechtsluis		x			x	542 434	
B/OWL	x				Drempel van Lillo		x			x	420 784	
B/OWL	x				Deurganckdok		x			x	1 379 144	

OSPAR Deposit Site Code	categories				In case of dredged material						total quantity (in metric tonnes)	
	dredged material	inert material	fish waste	others	origin / name of watersystem	type of areas dredged Harbour	Estuary	Sea	dredging operation type capital	maintenance	dry weight	notes
B/OWL	x				Toegang Boudewijn/Van Cauwelaertsluis		x			x	85 024	
B/OWL	x				Noordzeeterminal		x			x	131 102	
B/OWL	x				Toegangsgeul Kallosluis		x			x	255 492	
B/PVM	x				Drempel van Frederik		x			x	1 977 658	
B/PVM	x				Drempel van Zandvliet		x			x	64 020	
B/PVM	x				Toegangsgeul Zandvliet/Berendrechtsluis		x			x	456 490	
B/PVM	x				Drempel van Lillo		x			x	411 152	
B/PVM	x				Deurganckdok		x			x	1 477 818	
B/PVM	x				Toegang Boudewijn/Van Cauwelaertsluis		x			x	79 842	
B/PVM	x				Noordzeeterminal		x			x	112 206	
B/PVM	x				Toegangsgeul Kallosluis		x			x	304 460	
Total											**48 154 497**	
Denmark												
DK K_002_01	x				Sydlige Roskilde Fjord	x				x	912	
DK K_005_01	x				Kattegat < 20m	x				x	3 140	
DK K_013_01	x				Åbne del, Øresundstragten	x				x	608	
DK K_024_01	x				Isefjord, Kattegat	x				x	407	
DK K_032_01	x				Kattegat < 20m	x				x	5 653	
DK K_111_1	x				Lister Grund	x				x	29 334	
DK K_119_01	x				Vesterhavet 1 sm	x				x	730 117	
DK K_119_02	x				Vesterhavet 1 sm	x				x	415 163	
DK K_119_03	x				Vesterhavet 1 sm	x				x	295 092	
DK K_121_01	x				Grådyb, tidevandsområde	x				x	138 092	
DK K_121_02	x				Grådyb, tidevandsområde	x				x	132 277	
DK K_132_01					Ringkøbing Fjord						0	
DK K_132_02	x				Ringkøbing Fjord	x				x	1 707	
DK K_132_03	x				Ringkøbing Fjord	x				x	1 155 481	
DK K_132_04					Ringkøbing Fjord						0	
DK K_132_05	x				Ringkøbing Fjord	x				x	10 071	
DK K_132_06					Ringkøbing Fjord						0	
DK K_133_01	x				Vesterhavet 1 sm	x				x	80 510	
DK K_134_01	x				Vesterhavet 12 sm	x				x	7 308	
DK K_138_01					Hevring Bugt						0	
DK K_139_01					Anholt						0	
DK K_141_01	x				Hevring Bugt	x				x	10 132	
DK K_141_02					Hevring Bugt						0	
DK K_143_01					Århus Bugt Syd, Samsø og Djursland Syd						0	
DK K_143_02					Århus Bugt Syd, Samsø og Djursland Syd						0	
DK K_143_03	x				Århus Bugt Syd, Samsø og Djursland Syd	x				x	1 952	
DK K_143_04					Århus Bugt Syd, Samsø og Djursland Syd	x				x	7 244	
DK K_147_01	x				Århus Bugt, Kalø og Begtrup Vig	x				x	19 979	
DK K_150_01	x				12 sømil Djursland Ø	x				x	1 707	

OSPAR Deposit Site Code	categories				In case of dredged material						total quantity (in metric tonnes)	
	dredged material	inert material	fish waste	others	origin / name of watersystem	type of areas dredged Harbour	Estuary	Sea	dredging operation type capital	maintenance	dry weight	notes
DK K_150_02	x				12 sømil Djursland Ø	x			x		1 155 481	
DK K_155_01					Kattegat						0	
DK K_155_02					Kattegat						0	
DK K_155_03	x				Kattegat	x				x	16 048	
DK K_155_04					Kattegat						0	
DK K_155_05	x				Kattegat	x				x	7 416	
DK K_155_06	x				Kattegat	x				x	17 183	
DK K_155_07	x				Kattegat	x				x	3 404	
DK K_155_08	x				Kattegat	x				x	3 850	
DK K_155_09	x				Kattegat	x				x	11 061	
DK K_155_10					Kattegat						0	
DK K_155_11	x				Kattegat	x				x	40 956	
DK K_155_12	x				Kattegat	x				x	10 861	
DK K_156_01					Nissum, Thisted, Kås, Løgstør, Nibe, Langerak						0	
DK K_156_02	x				Nissum, Thisted, Kås, Løgstør, Nibe, Langerak	x				x	10 132	
DK K_156_03	x				Nissum, Thisted, Kås, Løgstør, Nibe, Langerak	x			x		2 067	
DK K_156_04					Nissum, Thisted, Kås, Løgstør, Nibe, Langerak						0	
DK K_156_05	x				Nissum, Thisted, Kås, Løgstør, Nibe, Langerak	x				x	32 279	
DK K_156_06					Nissum, Thisted, Kås, Løgstør, Nibe, Langerak						0	
DK K_156_07					Nissum, Thisted, Kås, Løgstør, Nibe, Langerak						0	
DK K_156_08	x				Nissum, Thisted, Kås, Løgstør, Nibe, Langerak	x				x	3 850	
DK K_156_09	x				Nissum, Thisted, Kås, Løgstør, Nibe, Langerak	x				x	1 621	
DK K_156_10	x				Nissum, Thisted, Kås, Løgstør, Nibe, Langerak	x				x	48 052	
DK K_156_11					Nissum, Thisted, Kås, Løgstør, Nibe, Langerak						0	
DK K_156_12	x				Nissum, Thisted, Kås, Løgstør, Nibe, Langerak	x				x	4 255	
DK K_156_13					Nissum, Thisted, Kås, Løgstør, Nibe, Langerak						0	
DK K_156_14					Nissum, Thisted, Kås, Løgstør, Nibe, Langerak						0	
DK K_156_15	x				Nissum, Thisted, Kås, Løgstør, Nibe, Langerak	x				x	20 397	
DK K_156_16					Nissum, Thisted, Kås, Løgstør, Nibe, Langerak						0	
DK K_156_17	x				Nissum, Thisted, Kås, Løgstør, Nibe, Langerak	x				x	137 023	
DK K_157_01	x				Lovns, Skive, Riisgårde, Bjørnholm Bugt	x			x	x	20 264	
DK K_161_01	x				Vesterhavet 12 sm	x				x	115 436	
DK K_162_01					Skagerrak 12 sm						0	
DK K_163_01					Nordlige Kattegat 12 sm						0	
DK K_163_02	x				Nordlige Kattegat 12 sm	x				x	7 295	
DK K_163_03					Nordlige Kattegat 12 sm						0	
DK K_163_04					Nordlige Kattegat 12 sm						0	
Total											**4 715 817**	
France												
F/05901	x					x				x	550 878	
F/05902	x					x				x	431 397	
F/05903	x					x				x	38 146	

OSPAR Deposit Site Code	categories				In case of dredged material						total quantity (in metric tonnes)	
	dredged material	inert material	fish waste	others	origin / name of watersystem	type of areas dredged: Harbour	Estuary	Sea	dredging operation type: capital	maintenance	dry weight	notes
F/05904	x					x				x	547 895	
F/06201	x					x				x	270 884	
F/06202	x					x				x	390 365	
F/07601	x					x	x			x	4 047 000	
F/07602	x					x	x			x	1 604 717	
F/07603	x					x				x	234 259	
F/07605	x					x				x	16 229	
F/07606	x					x				x	50 755	
F/07607	x					x				x	24 438	
F/01410(nord) & F/01411 (sud)	x					x				x	261 660	
F/05004	x					x				x	7 339	
F/05601	x					x				x	133 752	
F/04401	x					x	x			x	2 345 010	
F/04412	x					x				x	10 350	
F/04413	x					x				x	362 627	
F/01704	x					x				x	6 588	
F/08503	x					x				x	37 014	
F/08504	x					x				x	2 216	
F/08506	x					x				x	25 409	
F/08507	x					x				x	1 073	
F/08508	x					x				x	944	
F/08511	x					x				x	3 219	
F/01701a	x					x				x	3 756	
F/01706	x					x				x	72 429	
F/01707	x					x				x	67 847	
F/01710	x					x				x	53 114	
F/01714b	x					x				x	3 031	
F/01715	x					x				x	21 458	
F/03319	x					x				x	548 000	
F/03307 F/03319 F/03318 F/03317 F/03305	x					x				x	54 000	
F/03315 F/03317 F/03316 F/03313	x					x				x	4 878 000	
F/03318 F/03317 F/03311 F/03307	x					x				x	1 088 000	
F/03301 F/03302 F/03303 F/03305 F/03306 F/03307 F/03311	x					x				x	1 053 000	

OSPAR Deposit Site Code	categories				In case of dredged material						total quantity (in metric tonnes)	
	dredged material	inert material	fish waste	others	origin / name of watersystem	type of areas dredged			dredging operation type			notes
						Harbour	Estuary	Sea	capital	maintenance	dry weight	
F/03326	x					x				x	3 756	
F/06401	x					x				x	233 842	
F/06401 / F/06402	x					x				x	131 546	
F/06401 / F/06403	x					x				x	26 073	
Total											**19 642 016**	
Germany												
12	x				Husum harbour	x				x	27000	
13	x				Harbour and outer harbour of Büsum	x				x	25000	
40	x				Harbour basin of river Eider flood gate system	x				x	53000	
49	x				Wittdün/Amrum ferry jetty, Steenodde Amrom mole, Amrum harbour navigation channel	x		x		x	6000	
54	x				Friedrichskoog harbour	x				x	44000	
60	x				Ems estuaray, navigation channel km 90,0-105,0; Borkum harbour		x			x	31000	
63	x				Ems estuaray, navigation channel km 40,7-74,6		x			x	1996000	
65	x				Ems estuaray, navigation channel km 31-53		x			x	2558000	
70	x				Jade bay / navigation channel km 6,0-15,0; Neuer Vorhafen WHV	x	x			x	346000	
72	x				Jade bay / navigation channel km 6,0-15,0	x	x			x	1529000	
74	x				Jade bay / navigation channel km 35-54,0	x	x			x	493000	
75	x				Jade bay / navigation channel km 41,0-54,0	x	x			x	2591000	
80	x				Weser estuary / navigation channel km 78,0-91					x	54000	
82	x				Weser estuary / navigation channel km 70,4-78,0; km 91 - 110		x			x	815000	
84	x				Weser estuary / navigation channel km 70,4-78,0; km 91 - 130		x			x	709000	
85	x				Weser estuary / navigation channel km 55,0-58		x			x	1555000	
86	x				Weser estuary / navigation channel km 55,0-58		x			x	1519000	
87	x				Weser estuary / navigation channel km 70,4-78,0		x			x	1297000	
88	x				Elbe estuary / navigation channel; km 638-717	x	x			x	27000	
92	x				Elbe estuary / navigation channel; km 689,9-732,0	x	x			x	129000	
94	x				Elbe estuary / navigation channel; km 698,5-748,0	x	x			x	4133000	
96	x				Elbe estuary / navigation channel; km 717,0-739,0	x	x			x	1991000	
98	x				Elbe estuary / navigation channel; Altenbruch km 717,0-726,0; km 732,0-748,0	x	x			x	2255000	
101	x				outer port of the lock to the "Nord-Ostsee-Kanal" (Kiel-Canal);	x	x			x	120000	
103	x				Elbe estuary / navigation channel; km 638-660	x	x			x	328000	
105	x				Elbe estuary / navigation channel; km 638-660	x	x			x	287000	
109	x				Elbe estuary / navigation channel; km 638-645	x	x			x	1376000	
120	x				Sediment trap Elbe km 640		x			x	374300	
126	x				Channel to the island of Foehr			x		x	5000	

OSPAR Deposit Site Code	categories				In case of dredged material						total quantity (in metric tonnes)	
	dredged material	inert material	fish waste	others	origin / name of watersystem	type of areas dredged Harbour	Estuary	Sea	dredging operation type capital	maintenance	dry weight	notes
127	x				Harbour Wyk at the island of Foehr			x		x	5000	
Total											**26 678 300**	
Iceland												
IS 28	x					x				x	32696	
IS 59	x					x				x	18214,6	
IS 60	x					x				x	322389,88	
Total											**373 300**	
Ireland												
20	x				River Boyne		x			x	11974	
8	x				River Suir		x		x		10124	
8	x				River Suir		x			x	119285	
55	x				North Atlantic			x		x	7417	
17	x				Naval Base, Cork Hbr	x				x	11357	
57	x				River Lee		x			x	61814	
58	x				Cork Hbr		x			x	24840	
17	x				Cork Hbr		x			x	155836	
Total											**402 646**	
Netherlands												
NL-6 Scheveningen	v					x				x	456 282	
NL-7 IJmuiden	v					x				x	1 330 035	
NL-8 Rotterdam	v					x			x	x	8 778 255	
NL-10 Eastern Scheldt											0	(4)
NL-11 Western Scheldt	v					x	x			x	14 415 450	
NL-13 Waddensea West	N.A.											(5)
NL-14 Waddensea East	N.A.											(5)
NL-15 Ems-Dollard	N.A.											(5)
NL-16 Slijkgat											0	(4)
Total											**24 980 022**	
Norway												(1)
VE1	x						x		NI	NI	448	
VE1	x						x		NI	NI	840	
VE1	x						x		NI	NI	960	
VE3	x						x		NI	NI	960	
VE3	x						x		NI	NI	1 000	
ST4		x							NI	NI	160 427	
FI4	x						x		NI	NI	25 600	
TR13	x						x		NI	NI	9 600	
TR14	x						x		NI	NI	7 200	
TR15	x						x		NI	NI	14 400	

OSPAR Deposit Site Code	categories				In case of dredged material						total quantity (in metric tonnes)	
	dredged material	inert material	fish waste	others	origin / name of watersystem	type of areas dredged Harbour	Estuary	Sea	dredging operation type capital	maintenance	dry weight	notes
TR7	x						x		NI	NI	25 600	
SF8	x						x		NI	NI	130	
SF9	x					x			NI	NI	200	
SF10	x						x		NI	NI	63 450	
SF11		x							NI	NI	18 000	
SF12	x						x		NI	NI	2 990	
SF13		x							NI	NI	23 356	
SF14		x							NI	NI	421 686	
OS2	x						x		NI	NI	5 900	
OS2	x						x		NI	NI	5 600	
OS2	x						x		NI	NI	2 800	
OS4	x						x		NI	NI	3 800	
OS4	x						x		NI	NI	4 600	
VA11	x						x		NI	NI	1 200	
VA12	x						x		NI	NI	47 558	
VA13	x						x		NI	NI	240	
NO8	x					x			NI	NI	2 600	
NO9	x						x		NI	NI	3 200	
NO10	x					x			NI	NI	88 000	
NO11	x						x		NI	NI	600	
Total											**942 945**	
Spain												
E/2	x				Bilbao	x				x	103254,47	
E/2C	x				Deba	x	x		x	x	59937,50	
E/3	x				Santander	x				x	41058,68	
E/3B	x				Colindres	x				x	5856,26	
E/3C	x				Suances		x			x	25585,00	
E/3F	x				Santoña	x	x			x	15073,64	
E/3G	x				San Vicente de la Barquera	x				x	66951,00	
E/5	x				Avilés	x				x	1529289,40	
E/5B	x				San Juan de la Arena	x				x	34008,84	
E/5B	x				San Esteban de Pravia		x			x	70525,00	
E/5H	x				Tapia de Casariego	x				x	13151,73	
E/5D	x				Luarca	x	x			x	15361,13	
E/5E	x				Puerto de Vega	x	x			x	1743,70	
E/6A	x				Ferrol	x	x			x	7851,62	
E/8	x				Vilagarcía de Arousa		x		x		46307,38	
E/8	x				Ulla				x		NI	
E/8	x				Marín	x			x		90433,67	
E/10	x				Huelva		x			x	8389,83	
E/12D	x				Sevilla		x			x	439153,75	
Total											**2 573 933**	

OSPAR Deposit Site Code	categories				In case of dredged material						total quantity (in metric tonnes)	
	dredged material	inert material	fish waste	others	origin / name of watersystem	type of areas dredged: Harbour	Estuary	Sea	dredging operation type: capital	maintenance	dry weight	notes
Sweden												
SWE 11	x				Göteborg (Vinga), Kattegat	x				x	6029	(11)
SWE 10	x				Göteborg (Hakefjorden), Kattegat	x				x	764	(12)
SWE 1	x				Björkholmen, Skagerrak	x				x	525	(13)
SWE 1	x				Björkholmen, Skagerrak	x				x	130	(14)
SWE 2	x				Stora Borgen, Skagerrak	x				x	85	(15)
SWE 2	x				Stora Borgen, Skagerrak	x				x	750	(16)
SWE 2	x				Stora Borgen, Skagerrak	x				x	60	(17)
SWE 2	x				Stora Borgen, Skagerrak	x				x	680	(18)
SWE 2	x				Stora Borgen, Skagerrak	x				x	2175	(19)
Total											**11 198**	
United Kingdom												
CR019	x				Cromarty Firth	x	x		x		0	
CR019	x				Cromarty Firth	x				x	31362	
CR030	x				Moray Firth	x				x	14990	
CR040	x				Moray Firth	x				x	5005	
CR050	x				Macduff	x				x	1736	
CR070	x				Grampian coast	x				x	0	
CR080	x				Boddam	x				x	0	
CR110	x				Dee	x				x	175170	
DM001	x				Norfolk coast			x	x		38	
DV010	x				Sussex coast			x	x		0	
DV010	x				Kent coast	x				x	253029	
DV011	x				Dover	x				x	0	
DV040	x				Eastbourne	x				x	22309	
FI015	x				Kirkwall	x	x			x	13698	
FI040	x				Stromness	x				x	1357	
FI055	x				Orkney	x			x		4585	
FI055	x				Stromness	x				x	0	
FI095	x				Shetland coast	x				x	26400	
FO007	x				Grampian coast	x				x	0	
FO010	x				Montrose	x	x		x		11350	
FO010	x				Montrose	x				x	149307	
FO020	x				Tayside	x				x	0	
FO028	x				Tay Firth	x	x			x	15840	
FO038	x				Fife coast	x			x		17325	
FO038	x				Leith	x				x	14038	
FO041	x				Firth of Forth	x		x		x	34913	
FO042	x				Firth of Forth	x		x		x	29487	
FO043	x				Firth of Forth	x		x		x	27704	
FO044	x				Firth of Forth	x				x	574959	

OSPAR Deposit Site Code	categories				In case of dredged material						total quantity (in metric tonnes)	
	dredged material	inert material	fish waste	others	origin / name of watersystem	type of areas dredged: Harbour	Estuary	Sea	dredging operation type: capital	maintenance	dry weight	notes
FO047	x				Firth of Forth	x			x		18217	
FO048	x				Fife coast	x			x		6750	
FO048	x				Firth of Forth	x				x	0	
FO080	x				Tweed	x				x	0	
HU015	x				Bridlington	x				x	24754	
HU020	x				Humber	x				x	70979	
HU021	x				Humber	x				x	197666	
HU030	x				Humber	x				x	11528	
HU040	x				Humber	x				x	443	
HU041	x				Humber	x				x	4873	
HU056	x				Humber		x	x	x		0	
HU060	x				Humber	x	x	x		x	2620397	
HU080	x				Humber		x	x	x		0	
HU080	x				Humber	x	x			x	20913	
HU081	x				Humber		x	x	x		0	
HU082	x				Humber		x	x	x		0	
HU090	x				Humber	x	x			x	194602	
HU109	x				Humber		x	x	x		0	
HU111	x				Humber		x	x	x		0	
HU123	x				Lincolnshire coast			x	x		5800	
HU143	x				Ouse	x				x	38532	
HU151	x				Norfolk coast	x				x	44586	
HU152	x				Norfolk coast	x				x	0	
HU153	x				Norfolk coast	x				x	29955	
HU154	x				Norfolk coast	x				x	0	
HU170	x				Humber	x				x	13998	
HU176	x				Norfolk coast		x	x			0	
IS015			x		Colne		x				1720	
IS035	x				Conwy/Deganwy	x				x	3903	
IS040	x				Anglesey coast	x			x		51195	
IS040	x				Anglesey coast	x				x	52157	
IS065	x				Conwy/Deganwy	x				x	0	
IS099	x				Broughton	x				x	0	
IS102	x				Dee		x			x	341028	
IS110	x				Mersey	x	x			x	68741	
IS120	x				Mersey		x		x		73	
IS120	x				Mersey	x	x			x	100534	
IS128	x				Mersey	x	x			x	3001	
IS140	x				Mersey	x	x			x	478550	
IS150	x				Mersey		x		x		5450	
IS170	x				Wyre	x				x	27677	
IS192	x				Lune	x	x			x	3158	
IS195	x				Irish Sea			x	x		0	

OSPAR Deposit Site Code	categories				In case of dredged material						total quantity (in metric tonnes)	
	dredged material	inert material	fish waste	others	origin / name of watersystem	type of areas dredged: Harbour	Estuary	Sea	dredging operation type: capital	maintenance	dry weight	notes
IS200	x				Lancashire coast	x	x			x	246499	
IS205	x				Cumbrian coast	x				x	647172	
IS240	x				Cumbrian coast	x	x			x	0	
IS241	x				Cumbrian coast	x	x			x	0	
IS245	x				Cumbrian coast	x				x	23617	
IS290	x				Rhins coast	x			x		1729	
IS400	x				IOM waters	x				x	0	
IS420	x				IOM waters	x				x	0	
IS591	x				Lagan				x		116896	
IS591	x				Lagan	x	x			x	18124	
IS650	x				Kilkeel	x				x	6771	
IS671	x				Carlingford Lough	x				x	150343	
LU010	x				Camel	x				x	740	
LU055	x				Washford	x				x	0	
LU070	x				Avon/Severn estuary	x	x			x	58637	
LU080	x				Avon/Severn estuary	x	x			x	59354	
LU083	x				Avon/Severn estuary	x	x			x	0	
LU084	x				Avon/Severn estuary	x	x			x	11437	
LU085	x				Avon/Severn estuary	x	x			x	0	
LU086	x				Avon/Severn estuary	x	x			x	0	
LU088	x				Avon/Severn estuary		x			x	0	
LU110	x				Avon/Severn estuary	x				x	328126	
LU115	x				Avon/Severn estuary	x				x	18393	
LU130	x				Port Talbot Harbour	x		x	x		0	
LU130	x				Swansea	x		x		x	898181	
LU140	x				Usk	x				x	120222	
LU169	x				Pembroke		x		x		15586	
LU169	x				Milford Haven	x				x	0	
LU190	x				Milford Haven	x				x	0	
MA010	x				Loch Ryan	x			x		828672	
MA021	x				Clyde	x			x		17514	
MA021	x				Firth of Clyde	x	x			x	209310	
MA025	x				Firth of Clyde	x				x	0	
MA030	x				Ellen	x			x		0	
MA050	x				Firth of Clyde	x				x	28263	
MA051	x				Londonderry	x				x	0	
MA502	x				Foyle	x				x	37337	
MA545	x				Londonderry	x				x	0	
PL031	x				Plym	x	x		x		0	
PL031	x				Tamar/ Plymouth Sound	x	x			x	4609	
PL060	x				Fowey	x	x			x	0	
PL075	x				Fal		x		x		0	
PL075	x				Falmouth	x				x	0	

OSPAR Deposit Site Code	categories				In case of dredged material						total quantity (in metric tonnes)	
	dredged material	inert material	fish waste	others	origin / name of watersystem	type of areas dredged			dredging operation type			notes
						Harbour	Estuary	Sea	capital	maintenance	dry weight	
PO070	x				Teign	x	x			x	10030	
PO090	x				Teign	x				x	0	
PO501	x				Jersey Waters		x		x		2100	
TH005	x				Lowestoft/Waveney	x				x	46467	
TH034	x				Stour/Orwell		x		x		0	
TH034	x				Stour/Orwell	x				x	89962	
TH052	x				Stour/Orwell, Suffolk coast	x	x	x		x	1141067	
TH056	x				Stour/Orwell	x		x	x		482122	
TH062	x				Blackwater		x			x	506	
TH070	x				Medway, Kent coast	x	x	x		x	0	
TH073	x				Kent coast	x				x	0	
TH140	x				Kent coast	x				x	14890	
TH211	x				Stour/Orwell	x				x	0	
TH216	x				Stour/Orwell	x				x	29977	
TH217	x				Stour/Orwell	x				x	16170	
TH218	x				Stour/Orwell	x				x	9283	
TH219	x				Stour/Orwell	x				x	9283	
TY025	x				Coquet		x			x	0	
TY042	x				Blyth Harbour	x				x	86972	
TY070	x				Tyne		x		x		173190	
TY070	x				Tyne	x	x			x	132308	
TY081	x				Tyne		x		x		150990	
TY081	x				Tyne	x	x			x	102508	
TY090	x				Wear	x	x			x	246	
TY130	x				Durham coast	x				x	13238	
TY150	x				Tees/Hartlepool	x	x		x		26310	
TY160	x				Tees/Hartlepool		x		x		24720	
TY160	x				Tees/Hartlepool	x	x	x		x	500699	
TY180	x				Esk, Whitby	x		x		x	13878	
TY181	x				Humber			x		x	32368	
TY182	x				Tyne	x				x	0	
TY190	x				North Yorkshire coast	x				x	3226	
WI010	x				Ouse	x		x		x	172680	
WI020	x				Sussex coast	x				x	15330	
WI031	x				Shoreham	x				x	50592	
WI046	x				Southampton water/ Portsmouth	x				x	245	
WI060	x				Southampton water/ Portsmouth	x	x		x		158249	
WI060	x				Yar	x	x	x		x	215744	
WI060	x				Southampton water/ Portsmouth	x				x	757	
WI071	x				Ryde, IOW coast	x				x	854	
WI080	x				Southampton water/ Portsmouth	x			x		418	
WI080	x				Yar	x	x			x	14016	
WI090	x				Yar	x	x	x		x	0	

OSPAR Deposit Site Code	categories				In case of dredged material						total quantity (in metric tonnes)	
	dredged material	inert material	fish waste	others	origin / name of watersystem	type of areas dredged Harbour	Estuary	Sea	dredging operation type capital	maintenance	dry weight	notes
WI110	x				Poole	x			x		7642	
WI110	x				Poole	x	x	x		x	4229	
WI111	x				Poole	x		x		x	14437	
Total											**13 481 017**	

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

	in tonnes													in kilogrammes												
OSPAR Deposit Site Code	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	ΣPAH9	Total PAH	N	P	CB28	CB52	CB101	CB118	CB138	CB153	CB180	ΣPCB7	Total CB	HCB	g-HCH	DDT	TBT	DBT	other/notes
Belgium																												
B/1	0,798	0,133	17,565	61,876	13,040	33,267	18,230	93,812			27,146										0,128					0,007		
B/1	0,760	0,205	20,505	74,784	18,455	44,629	22,918	120,619			16,658										0,651					0,013		
B/1	0,048	0,016	1,248	4,759	1,529	2,730	1,482	8,503			1,996										0,020					0,004		
B/1	0,853	0,188	22,178	69,946	14,330	39,238	22,178	105,772			49,133										0,000					0,014		
B/1	0,834	0,183	21,696	68,426	14,019	38,386	21,696	103,474			48,066										0,000					0,013		
B/3	0,818	0,136	17,994	63,387	13,359	34,079	18,675	96,103			27,809										0,131					0,007		
B/3	0,393	0,106	10,597	38,649	9,537	23,064	11,844	62,336			8,609										0,337					0,007		
B/3	0,593	0,194	15,552	59,291	19,051	34,019	18,468	105,946			24,873										0,255					0,044		
B/3	0,083	0,018	2,162	6,820	1,397	3,826	2,162	10,313			4,791										0,000					0,001		
B/3	0,199	0,044	5,171	16,310	3,342	9,150	5,171	24,664			11,457										0,000					0,003		
B/6	1,152	0,378	30,225	115,235	37,026	66,118	35,893	205,911			48,342										0,495					0,085		
B/6	0,527	0,142	14,219	51,857	12,797	30,947	15,891	83,641			11,551										0,452					0,009		
B/6	0,003	0,000	0,066	0,232	0,049	0,125	0,068	0,352			0,102										0,004					0,000		
B/6	0,003	0,000	0,083	0,305	0,096	0,183	0,100	0,522			0,167										0,001					0,000		
B/6	0,003	0,000	0,081	0,122	0,041	0,081	0,041	0,114			0,135										0,138					0,000		
B/6	0,010	0,003	0,286	1,048	0,330	0,629	0,343	1,791			0,573										0,005					0,000		
B/9	0,004	0,001	0,135	0,565	0,159	0,334	0,175	0,954			0,238										0,000					0,000		
B/9	0,169	0,052	5,624	18,748	4,200	11,249	5,999	28,872			9,074										0,071					0,000		
B/9	0,005	0,002	0,158	0,661	0,186	0,391	0,205	1,117			0,279										0,000					0,000		
B/9	0,132	0,041	4,077	17,028	4,797	10,073	5,276	28,780			7,195										0,000					0,000		
B/99	0,024	0,006	0,610	0,854	0,305	0,610	0,427	1,160			5,462										0,053					0,000		
B/99	0,028	0,007	0,703	0,985	0,352	0,703	0,492	1,336			6,294										0,061					0,000		
B/99	0,012	0,003	0,367	1,395	0,392	0,808	0,465	2,350			0,470										0,000					0,000		
B/99	0,008	0,002	0,233	0,886	0,249	0,513	0,295	1,492			0,299										0,000					0,000		
B/99	0,008	0,002	0,239	0,907	0,255	0,525	0,302	1,528			0,306										0,000					0,000		
B/HP1	<d.l.	0,000	<dl	13,440	0,590	<dl	0,690	9,390			<dl										<dl					<dl		
B/RVB	<d.l.	0,000	<dl	6,140	0,270	<dl	0,320	4,290			<dl										<dl					<dl		
B/SOD	0,260	0,050	2,460	6,900	4,190	7,880	1,990	31,300			21,170										4,280					0,240		
B/SN51	<dl	0,010	2,350	5,750	0,850	<dl	1,120	11,010			10,670										0,680					0,390		
B/SN51	<dl	0,010	7,070	17,730	1,180	<dl	1,390	12,210			<dl										<dl					<dl		
B/SN51	0,010	<dl	0,590	0,620	0,180	0,320	0,170	1,660			1,530										0,170					0,050		
B/SN51	<dl		<dl	4,010	0,330	<dl	0,390	3,450			<dl										<dl					<dl		
B/SN51	<dl		<dl	7,060	0,830	<dl	0,990	8,820			<dl										0,780					<dl		
B/SN51	<dl		<dl	0,560	<dl	<dl	0,070	0,520			<dl										<dl					<dl		
B/HP1	<dl		<dl	1,280	0,060	<dl	0,070	0,890			<dl										<dl					<dl		
B/HP1	<dl		<dl	12,700	1,530	6,730	2,060	13,190			20,830										1,320					0,750		
B/HP1	<dl		<dl	1,810	0,070	<dl	0,240	1,520			<dl										<dl					0,040		
B/RVB	<dl		<dl	5,570	0,240	<dl	0,290	3,890			<dl										<dl					<dl		
B/RVB	<dl		2,170	5,320	0,790	<dl	1,040	10,180			9,860										0,620					0,360		
B/RVB	<dl		2,780	6,970	0,460	<dl	0,550	4,800			<dl										<dl					<dl		
B/RVB	0,010		0,330	0,350	0,100	0,180	0,100	0,940			0,870										0,090					0,030		
B/RVB	<dl		<dl	1,120	0,090	<dl	0,110	0,960			<dl										<dl					<dl		
B/RVB	<dl		<dl	1,280	0,150	<dl	0,180	1,600			<dl										0,140					<dl		
B/RVB	<dl		<dl	0,110	<dl	<dl	0,010	0,100			<dl										<dl					<dl		
B/SN11	<dl		<dl	24,450	2,940	12,960	3,960	25,380			40,070										2,540					1,450		
B/SN11	<dl		<dl	7,170	0,290	<dl	0,950	6,030			<dl										<dl					0,170		
B/SH61	<dl		8,730	21,380	3,170	<dl	4,170	40,940			39,680										2,510					1,470		
B/SH61	0,020		0,860	0,900	0,260	0,460	0,250	2,410			2,230										0,240					0,080		
B/SH41	<dl		<dl	28,640	1,250	<dl	1,480	20,000			<dl										<dl					<dl		
B/SH41	<dl		3,090	7,560	1,120	<dl	1,470	14,470			14,030										0,890					0,520		
B/SH41	<dl		11,400	28,590	1,900	<dl	2,250	19,690			<dl										<dl					<dl		
B/SH41	<dl		<dl	18,380	1,510	<dl	1,790	15,820			<dl										<dl					<dl		
B/SH41	<dl		<dl	23,360	2,750	<dl	3,280	29,160			<dl										2,600					<dl		
B/SH41	<dl		<dl	3,940	<dl	<dl	0,460	3,620			<dl										<dl					<dl		
B/SH41	<dl		<dl	9,800	1,160	<dl	1,380	5,880			<dl										<dl					0,900		
B/SN31	<dl		<dl	17,820	0,780	<dl	0,920	12,440			<dl										<dl					<dl		
B/SN31	<dl		<dl	1,710	0,210	0,910	0,280	1,780			2,810										0,180					0,100		
B/SN31	<dl		<dl	17,450	0,730	<dl	0,860	11,500			<dl										<dl					0,630		
B/SH51	<dl		1,490	3,660	0,540	<dl	0,710	7,010			6,790										0,430					0,250		
B/SH51	<dl		3,740	9,370	0,620	<dl	0,740	6,460			<dl										<dl					<dl		
B/SH51	<dl		<dl	2,020	0,170	<dl	0,200	1,740			<dl										<dl					<dl		
B/SH51	<dl		<dl	0,240	0,030	<dl	0,030	0,300			<dl										0,030					<dl		
B/SH51	<dl		<dl	2,360	<dl	<dl	0,270	2,170			<dl										<dl					<dl		
B/HP3	<dl		<dl	13,450	1,620	7,130	2,180	1,960			22,040										1,400					0,800		
B/HP3	<dl		<dl	15,280	0,620	<dl	2,030	12,860			<dl										<dl					0,370		

	in tonnes													in kilogrammes													
OSPAR Deposit Site Code	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	ΣPAH9	Total PAH	N	P	CB28	CB52	CB101	CB118	CB138	CB153	CB180	ΣPCB7	Total CB	HCB	g-HCH	DDT	TBT	DBT	other/notes
B/WALS	<dl		0,230	0,570	0,090	<dl	0,110	1,100			1,060										0,070					0,040		
B/WALS	<dl		5,750	14,430	0,960	<dl	1,130	9,940			<dl										<dl					<dl		
B/WALS	<dl		<dl	3,980	0,330	<dl	0,390	3,430			<dl										<dl					<dl		
B/WALS	<dl		<dl	9,690	1,140	<dl	1,360	12,100			<dl										1,080					<dl		
B/SOD	0,140		3,080	4,960	2,190	4,030	1,320	20,570			15,780										2,400					0,790		
B/SOD	<dl		2,300	5,630	0,840	<dl	1,100	10,780			10,450										0,660					0,390		
B/SOD	1,480		63,470	66,810	19,380	34,350	18,200	178,360			164,850										17,880					5,670		
B/SOD	0,170		2,790	2,850	0,900	2,090	0,610	7,390			19,280										0,900					0,600		
B/SOD	0,540		<dl	12,070	5,640	9,660	2,860	43,420			62,680										8,830					4,020		
B/SOD	1,790		45,040	46,570	22,150	41,660	12,220	176,990			185,300										32,280					9,100		
B/SOD	0,010		0,050	0,120	0,080	0,130	0,030	0,580			0,450										0,080					0,020		
B/SOD	0,550		6,440	17,040	9,660	17,390	5,080	74,920			65,140										9,880					3,720		
B/SOD	0,010		<dl	0,910	0,090	2,060	0,120	4,860			<dl										0,060					0,020		
B/OWL	2,320		49,240	79,390	35,060	64,490	21,140	329,160			252,450										38,360					12,580		
B/OWL	0,050		2,280	2,400	0,690	1,230	0,650	6,390			5,910										0,640					0,200		
B/OWL	1,330		14,650	41,310	22,160	40,900	11,910	173,850			82,180										21,750					10,580		
B/OWL	0,760		19,270	19,930	9,480	17,830	5,230	75,740			79,290										13,810					3,890		
B/OWL	3,910		37,240	112,260	71,030	132,630	32,460	496,950			402,710										73,600					7,310		
B/OWL	0,270		2,300	6,180	3,790	6,320	1,730	28,770			22,280										3,820					0,800		
B/OWL	0,300		3,540	9,360	5,310	9,560	2,790	41,170			35,790										5,430					2,050		
B/OWL	0,850		6,900	21,780	13,940	23,060	6,540	116,420			134,810										16,720					3,890		
B/PVM	2,570		54,580	88,010	38,860	71,490	23,440	364,880			279,840										42,520					13,940		
B/PVM	0,050		2,060	2,170	0,630	1,120	0,590	5,800			5,360										0,580					0,180		
B/PVM	1,120		12,330	34,760	18,650	34,420	10,020	146,310			69,160										18,310					8,900		
B/PVM	0,750		18,830	19,470	9,260	17,420	5,110	74,000			77,480										13,500					3,800		
B/PVM	4,190		39,900	120,290	76,110	142,120	34,780	532,510			431,520										78,870					7,830		
B/PVM	0,260		2,160	5,810	3,560	5,930	1,630	27,010			20,920										3,490					0,750		
B/PVM	0,260		3,030	8,010	4,540	8,180	2,390	35,230			30,630										4,650					1,750		
B/PVM	1,010		8,220	25,950	16,610	27,480	7,790	138,730			160,650										19,920					4,640		
Total	**32,457**	**1,932**	**644,514**	**1814,036**	**596,003**	**1137,797**	**462,966**	**4591,162**	**0,000**	**0,000**	**3119,575**	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**0,000**	**451,792**	**0,000**	**0,000**	**0,000**	**0,000**	**116,267**	**0,000**	
Denmark																												
DK K_002_01	0,000	0,000	0,004	0,004	0,004	0,007	0,004	0,023	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_005_01	0,001	0,000	0,013	0,044	0,169	0,077	0,029	0,400	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,420		
DK K_013_01	0,000	0,000	0,002	0,002	0,002	0,005	0,003	0,015	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_024_01	0,000	0,000	0,001	0,003	0,004	0,002	0,002	0,009	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,001		
DK K_032_01	0,001	0,000	0,023	0,023	0,023	0,045	0,025	0,141	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_111_01	0,010	0,006	0,900	2,025	0,773	1,564	1,100	5,681	NI	0,013	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,299		
DK K_119_01	0,003	0,001	0,060	0,270	0,090	0,200	0,060	0,500	NI	0,030	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,200		
DK K_119_02	0,008	0,003	0,180	0,810	0,270	0,600	0,180	1,500	NI	0,090	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,600		
DK K_119_03	0,068	0,012	1,180	1,180	1,180	2,361	1,298	7,377	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_121_01	0,023	0,012	1,584	3,188	1,056	2,355	1,648	8,587	NI	0,056	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,359		
DK K_121_02	0,040	0,019	3,160	6,087	2,324	4,794	3,420	17,281	NI	0,043	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,642		
DK K_139_01	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_132_02	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_132_03	0,003	0,001	0,052	0,052	0,057	0,104	0,052	0,324	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_132_04	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_132_05	0,001	0,000	0,020	0,020	0,022	0,041	0,020	0,127	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_132_06	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_133_01	0,019	0,003	0,338	0,366	0,342	0,671	0,409	2,311	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,001		
DK K_134_01	0,002	0,001	0,084	0,150	0,119	0,118	0,113	0,634	NI	0,012	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,165		
DK K_138_01	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_139_01	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_141_01	0,002	0,000	0,041	0,041	0,045	0,081	0,041	0,253	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_141_02	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_143_01	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_143_02	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_143_03	0,001	0,000	0,007	0,023	0,032	0,016	0,019	0,104	NI	0,002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,012		
DK K_143_04	0,002	0,000	0,029	0,029	0,032	0,058	0,029	0,181	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_147_01	19,979	56,143	0,000	0,000	0,000	0,001	0,002	0,001	NI	0,058	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,915	NI	NI	NI	NI	0,659		
DK K_150_01	0,001	0,000	0,005	0,017	0,015	0,012	0,015	0,123	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,003		
DK K_150_02	0,266	0,046	4,622	4,622	5,084	9,244	4,622	28,887	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_155_01	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,333		
DK K_155_02	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_155_03	0,004	0,001	0,064	0,064	0,071	0,128	0,064	0,401	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_155_04	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_155_05	0,002	0,000	0,030	0,030	0,033	0,059	0,030	0,185	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_155_06	0,004	0,001	0,069	0,069	0,076	0,137	0,069	0,430	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		

	in tonnes													in kilogrammes												
OSPAR Deposit Site Code	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	ΣPAH9	Total PAH	N	P	CB28	CB52	CB101	CB118	CB138	CB153	CB180	ΣPCB7	Total CB	HCB	g-HCH	DDT	TBT	DBT	other/notes
DK K_155_07	0,001	0,000	0,014	0,014	0,015	0,027	0,014	0,085	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_155_08	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_155_09	0,001	0,001	0,023	0,076	0,037	0,051	0,044	0,209	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_155_10	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_155_11	0,001	0,002	0,051	0,045	0,035	0,061	0,039	0,217	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_155_12	0,002	0,000	0,043	0,043	0,048	0,087	0,043	0,272	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_156_01	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_156_02	0,002	0,000	0,041	0,041	0,045	0,081	0,041	0,253	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,006		
DK K_156_03	0,000	0,000	0,008	0,008	0,008	0,017	0,009	0,052	NI	0,008	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,160		
DK K_156_04	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_156_05	0,007	0,001	0,129	0,129	0,142	0,258	0,129	0,807	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_156_06	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_156_07	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_156_08	0,001	0,000	0,015	0,015	0,017	0,031	0,015	0,096	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_156_09	0,000	0,000	0,006	0,006	0,007	0,013	0,006	0,041	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_156_10	0,011	0,002	0,192	0,192	0,211	0,384	0,192	1,201	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_156_11	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_156_12	0,001	0,000	0,011	0,024	0,061	0,024	0,022	0,165	NI	0,002	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,016		
DK K_156_13	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_156_14	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_156_15	0,006	0,001	0,107	0,184	0,157	0,233	0,141	0,773	NI	0,001	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,013	NI	NI	NI	NI	0,113		
DK K_156_16	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_156_17	0,032	0,005	0,548	0,548	0,603	1,096	0,548	3,426	NI	0,001	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,039		
DK K_157_01	0,005	0,001	0,081	0,081	0,089	0,162	0,081	0,507	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_161_01	0,002	0,002	0,429	0,807	0,459	0,600	0,566	2,857	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_162_01	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_163_01	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_163_02	0,002	0,000	0,029	0,029	0,032	0,058	0,029	0,182	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_163_03	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
DK K_163_04	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,000		
Total	**20,52**	**56,27**	**14,20**	**21,36**	**13,79**	**25,87**	**15,17**	**86,62**	**0,00**	**0,31**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,93**	**0,00**	**0,00**	**0,00**	**0,00**	**4,03**		
France																												
F/05901	0,13	0,04	4,75	22,94	5,37	11,90	7,12	37,85	NI	<LoD	NI	1745,68	434,32	<LoD	<LoD	0,18	0,18	0,24	0,27	0,18	1,04	NI	NI	NI	NI	<LoD	<LoD	
F/05902	0,10	0,04	4,82	19,15	4,80	9,81	6,13	31,92	NI	NI	NI	1357,12	371,16	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	NI	NI	NI	NI	0,11	<LoD	
F/05903	0,01	0,00	0,23	1,28	0,34	0,68	0,36	2,19	NI	NI	NI	154,05	27,38	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	NI	NI	NI	NI	<LoD	<LoD	
F/05904	0,13	0,04	3,93	18,61	5,51	10,40	5,43	33,06	NI	NI	NI	1593,71	377,69	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	NI	NI	NI	NI	3,14	0,37	
F/06201	0,08	0,02	2,38	11,21	3,49	5,48	3,09	21,17	NI	NI	NI	NI	NI	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	NI	NI	NI	NI	0,27	0,10	
F/06202	0,13	0,03	2,61	13,96	6,61	12,01	4,75	28,10	NI	NI	NI	NI	NI	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	NI	NI	NI	NI	6,96	3,15	
F/07601	0,87	0,37	24,84	56,03	24,56	51,58	19,51	142,56	NI	NI	1,26	NI	1967,51	3,49	3,84	4,87	5,18	4,33	6,44	3,89	32,04	32,04	NI	NI	NI	0,17	0,13	
F/07602	0,85	0,49	14,01	77,47	29,78	53,68	24,42	141,97	NI	NI	1,40	2900,25	1093,77	<LoD	<LoD	17,93	13,19	17,75	26,33	12,63	54,84	NI	NI	NI	NI	17,86	26,39	
F/07603	0,06	0,01	1,11	6,58	2,35	3,33	2,05	11,17	NI	NI	NI	280,33	104,13	0,05	0,02	0,02	0,11	0,17	0,19	0,05	<LoD	NI	NI	NI	NI	0,70	0,23	
F/07605	<LoD	<LoD	0,05	0,37	0,18	0,22	0,11	0,76	NI	NI	NI	13,73	7,52	0,01	0,01	0,02	0,03	0,03	0,04	0,01	0,15	NI	NI	NI	NI	0,12	0,12	
F/07606	0,01	0,01	0,26	2,00	1,71	1,71	0,77	6,00	NI	NI	NI	204,81	60,59	0,07	0,16	0,18	0,17	0,36	0,34	0,10	1,38	NI	NI	NI	NI	0,30	0,15	
F/07607	0,02	0,01	0,31	0,95	0,66	1,00	0,40	2,75	NI	NI	NI	61,10	48,88	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	NI	NI	NI	NI	0,97	0,48	
F/01410(nord) & F/01411 (sud)	<LoD	<LoD	0,75	7,44	3,28	4,22	2,48	15,67	NI	NI	0,03	NI	152,90	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	NI	NI	NI	NI	<LoD	<LoD	
F/05004	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	NI	NI	
F/05601	0,01	0,01	0,94	2,96	1,58	2,72	1,39	11,10	NI	NI	0,38	NI	10,43	<LoD	0,62	1,34	<LoD	0,72	1,21	<LoD	NI	4,96	NI	NI	NI	2,68	0,89	
F/04401	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	NI	NI	
F/04412	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	NI	NI	
F/04413	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	NI	NI	
F/01704	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	NI	NI	
F/08503	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	NI	
F/08504	0,00	0,00	0,04	0,14	0,19	0,11	0,06	0,45	NI	NI	0,01	7,38	2,59	NI	NI	NI	NI	NI	NI	NI	NI	0,01	NI	NI	NI	0,08	NI	
F/08506	0,00	0,00	0,26	0,85	0,32	0,62	0,31	1,60	NI	NI	0,01	54,30	13,51	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,03	NI	
F/08507	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	NI	NI	
F/08508	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	NI	
F/08511	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	NI	NI	
F/01701a	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	NI	NI	
F/01706	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	NI	NI	
F/01707	0,01	0,00	0,11	0,34	0,22	0,26	0,18	1,06	NI	NI	0,00	NI	NI	NI	NI	<LoD	<LoD	<LoD	<LoD	<LoD	NI	NI	NI	NI	NI	<LoD	NI	
F/01710	0,01	0,01	0,94	4,20	1,61	2,46	1,64	9,06	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
F/01714b	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	NI	NI	
F/01715	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	NI	NI	
F/03319	<LoD	<LoD	3,86	3,02	<LoD	2,83	2,19	8,60	NI	NI	NI	<LoD	215,09	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	NI	NI	NI	NI	NI	<LoD	<LoD	
F/03307 F/03319 F/03318 F/03317 F/03305	<LoD	<LoD	0,47	0,64	0,29	0,89	0,26	1,59	NI	NI	NI	<LoD	22,28	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	NI	NI	NI	NI	NI	0,46	0,28	

	in tonnes													in kilogrammes													
OSPAR Deposit Site Code	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	ΣPAH9	Total PAH	N	P	CB28	CB52	CB101	CB118	CB138	CB153	CB180	ΣPCB7	Total CB	HCB	g-HCH	DDT	TBT	DBT	other/notes
F/03315 F/03317 F/03316 F/03313	2,85	0,83	64,86	150,80	85,76	133,24	77,02	466,48	NI	NI	NI	7073,10	4829,22	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	NI	NI	NI	NI	NI	123,62	90,38	
F/03318 F/03317 F/03311 F/03307	0,64	0,19	17,07	36,05	21,00	40,46	23,59	145,13	NI	NI	NI	1559,47	1339,45	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	18,13	NI	NI	NI	NI	58,67	24,43	
F/03301 F/03302 F/03303 F/03305 F/03306 F/03307 F/03311	<LoD	<LoD	5,90	10,74	<LoD	14,85	10,34	51,49	NI	NI	NI	<LoD	873,99	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	NI	NI	NI	NI	<LoD	<LoD	
F/03326	<LoD	<LoD	0,09	0,08	<LoD	0,04	0,08	0,17	NI	NI	NI	NI	NI	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	NI	NI	NI	NI	NI	NI	NI	
F/06401	<LoD	<LoD	28,47	43,18	33,08	52,63	30,07	23,98	NI	NI	1870,73	4210,19	1068,28	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	NI	49,11	NI	NI	NI	38,29	28,06	
F/06401 / F/06402	<LoD	<LoD	9,62	8,37	<LoD	<LoD	<LoD	26,78	NI	NI	1052,37	174,23	600,22	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	NI	27,62	NI	NI	NI	2,55	2,05	
F/06401 / F/06403	<LoD	<LoD	2,65	3,98	4,68	5,77	3,79	25,34	NI	NI	208,58	394,50	129,48	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	<LoD	NI	5,48	NI	NI	NI	2,50	1,72	
Total	**5,90**	**2,11**	**195,34**	**503,35**	**237,35**	**422,87**	**227,51**	**1 248,00**	**0,00**	**0,00**	**3 134,77**	**21 783,94**	**13 750,39**	**3,61**	**4,65**	**24,54**	**18,86**	**23,59**	**34,83**	**16,86**	**107,58**	**119,22**	**0,00**	**0,00**	**0,00**	**259,47**	**178,94**	
Germany																												pp DDD
12	0,006	0,005	0,329	1,021	0,389	0,47	0,44	2,44	0,462	0,003	0,005	40,6	14,1	<0,001	<0,003	0,013	0,007	0,018	<0,029	<0,022	<0,094	ND	<0,001	<0,001	<0,001	0,664	<0,014	
13	0,004	0,006	0,363	0,959	0,308	0,531	0,426	2,503	1,267	0,006	0,008	43,6	12,2	0,012	0,006	0,016	<0,001	0,026	0,037	0,024	0,122	ND	0,021	<0,001	<0,001	0,106	<0,009	
40	0,018	0,016	1,238	2,812	1,037	2,621	1,42	8,454	<4,65	0,028	0,038	71	38,1	0,042	0,181	0,119	0,087	0,106	0,158	0,071	0,764	ND	<0,023	<0,005	<0,023	0,105	0,096	
49	0,002	0,001	0,132	0,261	0,152	0,249	0,156	0,957	<0,16	0,003	0,004	26	6,601	0,002	0,001	0,003	0,003	0,005	0,008	0,003	0,026	ND	0,003	<0,0003	<0,001	0,062	0,015	
54	0,026	0,035	1,117	2,385	1,107	1,639	1,251	7,617	2,07	0,01	0,019	72	22,7	<0,005	<0,005	<0,005	<0,012	0,025	0,019	0,016	<0,167	ND	<0,005	<0,005	<0,005	<0,048	<0,048	
60	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
63	0,92	0,539	46,8	121,7	38,2	89,8	56,8	327,9	<73,5	0,876	1,193	4191,6	1266,2	<0,499	<0,499	<0,543	<0,536	<1,01	1,369	<0,639	<5,095	ND	0,499	<0,1	<0,499	6,25	3,406	
65	1,117	0,567	49,4	159,9	46,3	91,2	73,1	309,7	115,7	1,417	1,895	5657,2	2132,8	1,075	0,568	1,319	1,275	2,37	3,327	1,607	11,5	ND	1,618	<0,124	<0,319	14,8	6,58	
70	0,091	0,062	5,837	21,7	6,872	12,2	9,704	39,6	20,2	0,121	0,17	804,5	256,9	0,136	0,063	0,123	0,152	0,192	0,278	0,1	1,045	ND	0,096	0,027	0,035	0,94	0,62	
72	0,117	0,054	5,311	17,4	7,686	11,3	7,697	35,9	<38,9	<0,195	<0,305	<420,3	313,3	0,113	<0,068	0,106	0,115	0,169	0,24	0,089	0,899	ND	0,081	<0,065	<0,063	<1,291	<1,342	
74	0,006	0,003	0,287	0,939	0,415	0,608	0,416	1,939	<12,5	<0,063	<0,098	<135,6	101,1	0,037	<0,022	0,034	0,037	0,055	0,077	0,029	0,29	ND	0,026	<0,021	<0,02	<0,416	<0,433	
75	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
80	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
82	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
84	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
85	0,661	0,274	17,1	60,9	25,7	57,7	30,4	207,8	76,3	0,721	0,963	3397,6	1298,5	0,435	0,362	1,042	0,699	1,813	2,689	1,466	8,507	ND	0,362	<0,075	<0,192	22,7	6,926	
86	0,397	0,165	10,265	36,6	15,4	34,7	18,3	125	74,5	0,704	0,94	3317,9	1268	0,425	0,354	1,017	0,683	1,771	2,626	1,432	8,307	ND	0,354	<0,073	<0,188	22,1	6,763	
87	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
88	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
92	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
94	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
96	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
98	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
101	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
103	0,203	0,124	2,718	6,224	8,879	6,928	4,482	75,6	34,6	0,456	0,604	1278,5	517,7	0,273	0,288	0,667	0,342	0,989	1,427	0,842	4,829	ND	2,792	0,06	1,317	21,5	6,45	
105	0,092	0,056	1,226	2,808	4,005	3,125	2,022	34,1	30,2	0,399	0,529	1118,5	452,9	0,239	0,252	0,584	0,3	0,865	1,249	0,737	4,225	ND	2,442	0,052	1,152	18,8	5,643	
109	2,56	1,561	34,2	78,3	111,8	87,2	56,4	951,2	145,2	1,915	2,538	5371,8	2175,2	1,147	1,208	2,804	1,439	4,156	5,997	3,54	20,3	ND	11,7	0,25	5,535	90,1	27,1	
120	1,114	0,7065	15,9	37,4	28,8	38,6	17,6	226,1	26,2	0,296	0,389	985,8	391,6	0,144	0,179	0,397	0,247	0,716	0,983	0,59	3,255	EX	1,17	0,053	0,342	12,7	3,911	
126	<0,0004	<0,0004	0,07	0,139	0,038	0,072	0,066	0,311	0,18	0,002	0,003	10,46	2,599	<0,0003	<0,0003	<0,0003	<0,0003	<0,0005	<0,001	<0,0003	<0,003	ND	<0,0005	<0,0003	<0,0003	ND	ND	
127	<0,001	0,0003	0,074	0,203	0,163	0,13	0,096	0,65	<0,119	<0,0004	<0,002	10,234	3,406	0,001	0,002	0,002	0,003	0,006	0,005	0,004	0,022	ND	0,001	<0,0002	0,002	0,051	0,018	
Total	**7,33**	**4,17**	**192,37**	**551,65**	**297,25**	**439,07**	**280,78**	**2 357,77**	**526,88**	**6,96**	**9,30**	**26 397,29**	**10 273,91**	**4,08**	**3,46**	**8,25**	**5,39**	**13,28**	**20,49**	**10,55**	**64,09**	**0,00**	**21,17**	**0,44**	**8,38**	**210,88**	**67,53**	
Ireland																												
8+	0,00	0,00	0,07	0,59	0,18	0,36	0,19	1,10	0,61	0,01	0,01			0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,02	ND	0,01	0,01	ND	0,00	0,00	
8+	0,03	0,01	0,86	3,06	1,00	2,41	1,59	8,14	4,97	0,34	0,45			0,05	0,06	0,06	0,05	0,04	0,06	0,04	0,37	ND	0,02	0,02		0,00	D (0,02 mgkg-1)	
17+	0,00	0,00	0,09	0,44	0,49	0,98	0,29	4,31	3,43	0,01	0,01			0,02	0,14	0,01	0,01	0,09	0,04	0,12	0,42	ND	0,00	0,00	ND	0,00	D (0,004 mgkg-1)	
17+	0,04	0,01	1,11	11,43	9,77	4,89	5,24	16,13	8,11	0,35	0,58			0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	ND	0,00	0,00	ND	1,11	D (0,002mgkg-1)	
20	0,01	0,00	0,10	0,29	0,18	0,28	0,30	1,37	1,21	0,00	0,01			0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	ND	0,00	0,00	
55	0,00	0,00	0,02	0,05	0,02	0,01	0,02	0,08	0,00	0,00	0,00			0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	ND	0,00	0,00	ND	0,00	0,00	
57	0,01	0,00	0,34	3,60	2,02	1,48	1,72	4,38	2,84	0,11	0,19			0,01	0,01	0,01	0,01	0,01	0,01	0,00	0,06	ND	0,00	0,00	ND	0,36	0,60	
58	0,02	0,01	0,25	4,31	2,19	1,63	2,51	3,36	11,51	0,06	0,10			0,01	0,01	0,01	0,01	0,02	0,01	0,00	0,08	ND	ND	0,00	ND	1,16	1,14	
Total	**0,11**	**0,03**	**2,84**	**23,79**	**15,85**	**12,04**	**11,86**	**38,86**	**32,68**	**0,89**	**1,36**	**0,00**	**0,00**	**0,10**	**0,22**	**0,10**	**0,10**	**0,16**	**0,13**	**0,16**	**0,96**	**0,00**	**0,03**	**0,02**	**0,00**	**2,63**	**1,73**	
Netherlands																												
NL-6 Scheveningen	0,20	0,10	1,70	6,40	4,80	3,70	2,60	32,00	32,00	0,19	0,23			0,80	0,80	0,80	0,80	0,80	0,80	0,80	7,10		0,60	0,00		3,00		
NL-7 IJmuiden	0,20	0,33	23,00	44,00	26,00	46,00	24,00	165,00	143,00	0,90				0,92	0,82	0,83	0,84	0,77	0,86	0,72	7,65		0,23	1,00	5,93	3,08		
NL-8 Rotterdam	5,80	1,20	70,00	180,00	110,00	163,00	92,00	750,00	890,00	8,32	13,86			18,00	18,00	20,00	20,00	18,00	20,00	22,00	136,00		6,00	8,00	10,00	91,00		
NL-10 Eastern Scheldt	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00			0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00		0,00	0,00	0,00	0,00		(6)
NL-11 Western Scheldt	3,80	0,72	265,00	294,00	71,00	160,00	67,58	444,00	612,00	3,00				7,10	7,20	7,80	7,40	9,40	9,25	7,90	63,46		11,50	21,56	322,00	93,00		
NL-13 Waddensea West																												(7)
NL-14 Waddensea East																												(7)

	in tonnes													in kilogrammes														
OSPAR Deposit Site Code	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	ΣPAH9	Total PAH	N	P	CB28	CB52	CB101	CB118	CB138	CB153	CB180	ΣPCB7	Total CB	HCB	g-HCH	DDT	TBT	DBT	other/notes
NL-15 Ems-Dollard																												(7)
NL-16 Slijkgat	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00			0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00		0,00	0,00	0,00	0,00		(6)
Total	**10,00**	**2,35**	**359,70**	**524,40**	**211,80**	**372,70**	**186,18**	**1 391,00**	**1 677,00**	**12,41**	**14,09**	**0,00**	**0,00**	**26,82**	**26,82**	**29,43**	**29,04**	**28,97**	**30,92**	**31,42**	**214,21**	**0,00**	**18,33**	**30,56**	**337,93**	**190,08**	**0,00**	
Norway																												
NO10						2. 009															1.3							
Total	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**		
Spain																												
E/2	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	
E/2C	5,00E-04	5,00E-04	N.I.	3,10E-02	2,30E-02	3,20E-02	2,00E-02	1,59E-01	N.I.	0,001	0,001	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	5,00E-04	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	
E/3	7,60E-02	1,10E-02	5,47E-01	2,88E+00	2,56E+00	2,52E+00	4,42E-01	1,73E+01	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	
E/3B	0,001	5,00E-04	Ex	0,05	0,013	0,048	0,022	0,161	Ex	Ex	Ex	Ex	EX	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	0,002	N.I.	Ex	EX	EX	EX	EX	
E/3C	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	(1)
E/3F	0,003	0,002	0,042	0,171	0,185	0,353	0,073	0,725	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	0,05	Ex	Ex	Ex	Ex	Ex	Ex	
E/3G	0,003	0,004	0,045	0,07	0,034	0,064	0,033	0,108	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	0,047	Ex	Ex	Ex	Ex	Ex	Ex	
E/5	2,3	2,9	5,5	54,1	15,8	32,5	2,8	264,7	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	0,02	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	
E/5B	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	
E/5D	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	
E/5E	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	
E/6A	9,00E-05	7,00E-05	N.I.	4,00E-03	2,00E-02	2,80E-02	5,00E-03	7,20E-02	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	8,00E-04	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	
E/8	2,00E-04	5,00E-05	N.I.	1,10E-02	7,00E-03	4,00E-03	1,20E-02	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	
E/10	1,00E-04	2,00E-04	1,00E-03	2,00E-03	3,30E-02	9,00E-03	2,00E-03	6,60E-02	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	1,00E-06	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	
E/12D	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	Ex	(1)
Total	**2,38**	**2,92**	**6,14**	**57,32**	**18,68**	**35,56**	**3,41**	**283,33**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,12**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	
Sweden																												
SWE 11	0,001	0,001	NI	NI	0,1215	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,0001	NI	NI	NI	NI	398,3	NI	(11)
SWE 10	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0,00002	NI	NI	NI	NI	73,3	NI	(12)
SWE 1	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
SWE 1	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
SWE 2	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
SWE 2	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
SWE 2	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
SWE 2	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	EX	
SWE 2	0,001	0,00009	0,007	0,019	0,038	0,021	0,013	0,114	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.	0,027	0,063	
Total	**0,00**	**0,00**	**0,01**	**0,02**	**0,16**	**0,02**	**0,01**	**0,11**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**0,00**	**471,63**	**0,06**	
United Kingdom																												
DV010	1,70E-02	8,13E-02	3,37E+00	6,80E+00	4,54E+00	5,52E+00	3,48E+00	1,65E+01		4,22E+02	7,96E+02																1,71E-02	2,15E-03
DV040		5,71E-04	5,69E-01	9,55E-01	3,49E-01	5,74E-01	4,90E-01	1,70E+00																				
HU015	6,00E-03	7,31E-04	3,28E-01	2,79E-01	2,07E-01	5,21E-01	2,61E-01	1,40E+00		7,42E+01	4,43E+02																4,05E-04	7,49E-05
HU020	1,70E+01	1,21E+01	1,30E+03	3,83E+03	2,37E+03	4,18E+03	2,06E+03	1,23E+04		7,87E+05	2,21E+06																2,81E+00	4,92E-01
HU021	4,72E+01	3,38E+01	3,62E+03	1,07E+04	6,60E+03	1,16E+04	5,74E+03	3,43E+04		2,19E+06	6,14E+06																7,83E+00	1,37E+00
HU030	2,76E+00	1,97E+00	2,11E+02	6,23E+02	3,85E+02	6,79E+02	3,35E+02	2,00E+03		1,28E+05	3,58E+05																4,56E-01	8,00E-02
HU040	8,00E-04	2,83E-04	1,20E-02	5,40E-02	7,25E-02	5,20E-02	2,49E-02	1,78E-01		5,19E+00	1,57E+01			9,59E-07	9,37E-07	1,19E-06	8,70E-07	1,73E-06	1,90E-06	1,76E-06	9,34E-06	2,87E-05				1,20E-05	9,42E-05	1,43E-05
HU041	8,60E-03	3,11E-03	1,32E-01	5,93E-01	7,96E-01	5,72E-01	2,74E-01	1,95E+00		5,70E+01	1,73E+02			1,05E-05	1,03E-05	1,31E-05	9,56E-06	1,90E-05	2,08E-05	1,94E-05	1,03E-04	3,15E-04				1,30E-04	1,04E-03	1,57E-04
HU060	1,31E+00	4,54E-01	5,86E+01	1,54E+02	6,90E+01	1,68E+02	7,97E+01	4,00E+02		1,06E+03	4,55E+03																4,06E-02	1,64E-02
HU080	1,10E-02	3,46E-03	4,54E-01	1,27E+00	5,35E-01	1,33E+00	6,39E-01	3,12E+00																			3,42E-04	1,38E-04
HU090	1,02E-01	3,22E-02	4,22E+00	1,18E+01	4,98E+00	1,24E+01	5,95E+00	2,91E+01																			3,18E-03	1,28E-03
HU143	4,80E-03	2,89E-03	5,62E-01	9,74E-01	3,76E-01	1,02E+00	6,40E-01	2,56E+00																			2,30E-04	1,51E-04
HU151	1,40E-03	1,03E-03	4,64E-01	6,74E-01	3,31E-01	8,16E-01	4,81E-01	1,81E+00		3,14E+01	1,30E+02																	
HU153	9,00E-04	6,92E-04	3,12E-01	4,53E-01	2,22E-01	5,48E-01	3,23E-01	1,21E+00		2,11E+01	8,76E+01																	
HU170	6,30E-03	2,02E-03	2,79E-01	5,16E-01	3,67E-01	7,27E-01	4,57E-01	2,87E+00		4,44E+01	1,88E+02			1,81E-05	1,25E-05	1,53E-05	1,23E-05	1,67E-05	1,95E-05	1,17E-05	1,06E-04	2,97E-04					3,07E-04	7,24E-05
IS035	1,70E-03	2,76E-04	3,91E-02	8,45E-02	5,87E-02	9,15E-02	5,80E-02	4,96E-01		3,20E+00	7,93E+00																1,89E-05	1,26E-05
IS040	3,70E-03	6,29E-03	7,73E-01	2,07E+00	1,54E+00	2,74E+00	1,58E+00	7,36E+00		8,05E+01	1,73E+02																5,12E-04	2,05E-04
IS040	4,50E-03	3,26E-03	4,88E-01	1,12E+00	7,72E-01	1,47E+00	9,39E-01	3,83E+00																			2,54E-04	1,56E-04
IS102	3,40E-03	0,00E+00	2,05E+00	2,46E+00	3,87E-01	1,45E+00	1,27E+00	8,43E+00																			6,79E-04	3,57E-04
IS110	3,32E-02	5,05E-02	9,68E-01	2,50E+00	1,91E+00	3,52E+00	1,16E+00	1,39E+01		1,76E+02	3,84E+02			1,37E-04	8,91E-05	8,31E-05	9,65E-05	1,01E-04	1,08E-04	5,64E-05	6,73E-04	3,39E-03					8,46E-04	6,68E-04
IS120	6,00E-05	1,17E-04	1,31E-03	3,57E-03	2,66E-03	6,71E-03	1,80E-03	1,67E-02		3,59E-01	8,11E-01			2,45E-07	1,94E-07	1,44E-07	5,62E-07	1,94E-07	2,30E-07	2,16E-07	1,34E-06	4,72E-06					2,88E-07	9,12E-07
IS120	9,68E-02	1,01E-01	2,60E+00	7,17E+00	7,37E+00	1,37E+01	3,71E+00	3,73E+01		5,60E+02	1,25E+03			7,98E-04	6,88E-04	4,27E-04	3,98E-04	4,35E-04	4,63E-04	2,95E-04	3,48E-03	1,15E-02	8,21E-05	1,84E-05		1,53E-03	1,93E-02	3,17E-03
IS128	1,40E-03	3,57E-03	5,81E-02	1,66E-01	1,34E-01	2,48E-01	7,07E-02	7,79E-01		1,17E+01	2,55E+01			1,35E-05	9,95E-06	8,78E-06	9,95E-06	1,05E-05	1,11E-05	7,61E-06	7,14E-05	2,28E-04				4,80E-05	2,28E-05	2,93E-05
IS140	2,83E-01	4,87E-01	9,71E+00	2,78E+01	2,64E+01	4,74E+01	1,42E+01	1,34E+02		1,95E+03	4,39E+03			2,37E-03	1,85E-03	1,38E-03	1,43E-03	1,52E-03	1,58E-03	1,04E-03	1,10E-02	3,63E-02	1,13E-04	2,54E-05		6,38E-03	1,09E-01	1,56E-02
IS150	4,30E-03	8,75E-03	9,73E-02	2,66E-01	1,98E-01	5,00E-01	1,34E-01	1,24E+00		2,68E+01	6,04E+01			1,82E-05	1,45E-05	1,07E-05	4,18E-05	1,45E-05	1,72E-05	1,61E-05	1,00E-04	3,51E-04					2,15E-05	6,79E-05
IS170	7,00E-04	2,59E-03	1,76E-01	2,53E-01	9,14E-02	2,72E-01	1,82E-01	9,25E-01																			8,53E-05	9,27E-05
IS192	5,00E-04	5,92E-04	2,24E-02	9,74E-02	7,20E-02	1,18E-01	6,57E-02	3,44E-01		3,58E+00	8,76E+00			5,45E-07	3,96E-07	5,45E-07	6,93E-07	8,42E-07	7,92E-07	3,47E-07	4,16E-06	1,19E-05					5,20E-05	6,44E-06
IS200	0,00E+00	3,64E-02	2,33E+00	5,10E+00	2,02E+00	5,06E+00	3,28E+00	1,41E+01		2,23E+02	5,62E+02																8,68E-04	4,61E-04
IS205	2,24E-01	3,56E-01	9,03E+00	2,16E+01	4,42E+01	4,23E+01	1,96E+01	1,48E+02		2,11E+03	4,63E+03			4,33E-04	8,57E-04	2,41E-03	2,50E-03	3,37E-03	2,79E-03	1,16E-03	1,35E-02	4,02E-02					1,92E-02	1,91E-02

	in tonnes													in kilogrammes												
OSPAR Deposit Site Code	Cd	Hg	As	Cr	Cu	Pb	Ni	Zn	Oil	ΣPAH9	Total PAH	N	P	CB28	CB52	CB101	CB118	CB138	CB153	CB180	ΣPCB7	Total CB	HCB	g-HCH	DDT	TBT	DBT	other/notes
IS245	8,90E-03	3,69E-03	4,91E-01	1,26E+00	6,44E-01	1,41E+00	7,88E-01	3,99E+00																			1,63E-04	1,18E-04
IS591	1,95E-02		1,79E+00	2,11E+01	1,13E+01	3,80E+00	7,82E+00	1,52E+01																			1,51E-02	5,15E-03
IS591	4,01E-02		3,67E-01	2,71E+00	2,00E+00	2,40E+00	1,67E+00	8,53E+00																				
IS650	6,10E-03		1,97E-01	1,58E+00	9,38E-01	6,68E-01	7,13E-01	2,89E+00																			2,32E-03	3,77E-04
IS671	3,01E-02		2,09E+00	1,57E+01	8,66E+00	1,87E+01	1,09E+01	4,17E+01																				
LU010	1,00E-04	2,45E-05	2,52E-02	1,63E-02	2,68E-02	2,38E-02	1,51E-02	7,10E-02																			3,11E-05	2,94E-06
LU070	1,56E-02	1,93E-02	7,60E-01	2,10E+00	1,41E+00	3,64E+00	1,99E+00	1,02E+01		2,15E+02	4,83E+02			3,14E-04	1,32E-04	1,34E-04	1,49E-04	2,39E-04	2,05E-04	1,80E-04	3,07E-03	6,14E-03					5,91E-04	3,52E-04
LU080	1,58E-02	1,96E-02	7,69E-01	2,13E+00	1,42E+00	3,69E+00	2,02E+00	1,04E+01		2,18E+02	4,89E+02			3,18E-04	1,34E-04	1,36E-04	1,51E-04	2,42E-04	2,08E-04	1,83E-04	3,11E-03	6,21E-03					5,99E-04	3,56E-04
LU084	3,00E-03	3,77E-03	1,48E-01	4,10E-01	2,75E-01	7,11E-01	3,89E-01	2,00E+00		4,19E+01	9,42E+01			6,12E-05	2,58E-05	2,62E-05	2,91E-05	4,65E-05	4,01E-05	3,52E-05	5,98E-04	1,20E-03					1,15E-04	6,86E-05
LU110	1,85E-01	9,24E-03	6,08E+00	2,05E+01	1,56E+01	3,20E+01	1,58E+01	9,43E+01		2,39E+03	5,48E+03			3,47E-03	1,44E-03	1,42E-03	1,49E-03	2,20E-03	2,09E-03	1,65E-03	1,37E-02	4,42E-02					9,53E-03	2,67E-03
LU115	5,30E-03		4,05E-01	1,28E+00	6,83E-01	1,95E+00	8,91E-01	5,24E+00		6,89E+01	1,56E+02																1,30E-04	9,32E-05
LU130	2,00E-01		1,23E+01	2,09E+01	1,55E+01	3,63E+01	1,93E+01	1,00E+02		3,67E+03	7,63E+03			1,18E-03	5,24E-04	5,96E-04	6,67E-04	9,65E-04	8,94E-04	7,98E-04	5,60E-03	1,85E-02					2,27E-03	1,46E-03
LU140	5,83E-02		2,08E+00	6,53E+00	4,26E+00	1,23E+01	4,81E+00	3,23E+01		6,35E+02	1,54E+03																2,90E-03	
LU169	1,60E-03	0,00E+00	1,23E-01	2,78E-01	1,73E-01	3,65E-01	2,55E-01	1,07E+00		2,34E+01	4,71E+01			4,43E-05	1,70E-05	1,84E-05	2,32E-05	3,39E-05	3,17E-05	2,64E-05	1,93E-04	6,38E-04					1,33E-04	9,40E-05
MA502	2,04E+00		4,57E-01	7,60E-01	9,30E-01	2,55E+00	5,56E-01	4,96E-02																				
PL031	1,80E-03	1,82E-03	2,49E-01	1,17E-01	5,58E-01	3,81E-01	9,48E-02	9,32E-01		4,25E+01	6,58E+01			0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00					1,03E-04	1,95E-05
PO070	9,00E-04	6,57E-04	7,07E-02	1,50E-01	1,11E-01	1,93E-01	1,16E-01	4,63E-01																			5,04E-05	1,99E-05
TH005	1,07E-02	9,42E-03	1,32E+00	2,55E+00	3,57E+00	2,56E+00	1,72E+00	7,68E+00		1,31E+02	4,56E+02																3,78E-03	1,39E-03
TH034	4,98E-02	1,56E-02	1,81E+00	4,52E+00	7,75E+00	5,45E+00	3,15E+00	1,45E+01		1,14E+03	2,13E+03																1,91E-02	2,34E-03
TH052		5,77E-02	2,21E+01	5,21E+01	2,22E+01	3,94E+01	3,16E+01	1,04E+02		1,27E+03	4,96E+03																1,02E-02	5,68E-03
TH062	2,00E-04	7,93E-05	7,28E-03	1,98E-02	2,30E-02	2,32E-02	1,68E-02	7,42E-02																			2,65E-05	6,89E-06
TH140	2,50E-03	2,85E-03	3,16E-01	6,01E-01	5,06E-01	5,37E-01	3,16E-01	1,55E+00																			9,48E-04	6,32E-05
TH216		1,52E-03	5,81E-01	1,37E+00	5,84E-01	1,03E+00	8,31E-01	2,74E+00		3,33E+01	1,30E+02																2,69E-04	1,49E-04
TH217		8,18E-04	3,13E-01	7,39E-01	3,15E-01	5,58E-01	4,48E-01	1,48E+00		1,80E+01	7,02E+01																1,45E-04	8,06E-05
TH218		4,69E-04	1,80E-01	4,24E-01	1,81E-01	3,20E-01	2,57E-01	8,49E-01		1,03E+01	4,03E+01																8,32E-05	4,62E-05
TH219		4,69E-04	1,80E-01	4,24E-01	1,81E-01	3,20E-01	2,57E-01	8,49E-01		1,03E+01	4,03E+01																8,32E-05	4,62E-05
TY042	1,84E-02	1,38E-02	1,58E+00	2,07E+00	2,39E+00	4,75E+00	1,98E+00	8,42E+00		9,57E+02	5,54E+03			1,07E-04	6,13E-05	9,19E-05	6,13E-05	1,23E-04	1,23E-04	6,13E-05	5,51E-04	2,02E-03					1,53E-03	4,59E-04
TY070	8,61E-02	7,53E-02	3,10E+00	3,87E+00	5,57E+00	1,63E+01	3,32E+00	2,75E+01																			6,03E-03	9,52E-04
TY070	8,46E-02	3,95E-02	3,22E+00	5,51E+00	6,17E+00	2,42E+01	4,39E+00	4,76E+01																			1,39E-02	2,46E-03
TY081	7,51E-02	6,56E-02	2,70E+00	3,37E+00	4,86E+00	1,42E+01	2,90E+00	2,40E+01																			5,26E-03	8,30E-04
TY081	7,00E-02	3,04E-02	2,49E+00	4,28E+00	4,82E+00	1,90E+01	3,41E+00	3,76E+01																			1,12E-02	1,94E-03
TY090	9,00E-05	3,47E-05	5,50E-03	6,87E-03	5,05E-03	4,03E-02	5,07E-03	3,38E-02		1,57E+00	1,07E+01																2,82E-06	1,13E-06
TY130	6,00E-03	3,44E-03	2,91E-01	5,03E-01	7,02E-01	1,52E+00	3,97E-01	2,42E+00		1,52E+02	1,17E+03			4,49E-05	3,17E-05	3,04E-05	2,78E-05	2,78E-05	2,50E-05	1,30E-05	2,01E-04	6,66E-04					2,51E-02	7,92E-04
TY150	2,40E-02	1,88E-02	5,61E-01	2,29E+00	2,34E+00	4,87E+00	8,61E-01	8,65E+00		4,80E+02	1,68E+03			3,00E-05	2,76E-05	3,30E-05	2,88E-05	3,42E-05	4,08E-05	3,06E-05	2,28E-04	7,71E-04					1,20E-03	1,26E-03
TY160	1,01E-02	1,29E-02	6,06E-01	1,40E+00	1,53E+00	3,29E+00	7,31E-01	5,40E+00		3,30E+02	1,30E+03																3,29E-04	2,37E-04
TY160	8,98E-01	2,72E+01	1,94E+01	6,95E+01	6,14E+01	2,31E+02	1,89E+02	7,24E+01		1,82E+04	5,87E+04			7,31E-04	7,93E-04	6,63E-04	9,90E-04	1,20E-03	2,93E-04	3,20E-04	2,20E-04	1,40E-02	1,02E-03	1,01E+00		5,48E-01	3,74E+03	8,91E-02
TY180	1,80E-03	8,82E-04	2,65E-01	3,46E-01	2,32E-01	6,25E-01	3,34E-01	1,22E+00		2,10E+01	1,04E+02																6,54E-04	3,71E-05
TY181	1,90E-03		1,68E-01	1,59E-01	3,88E-02	2,14E-01	1,10E-01	1,13E+00																				1,14E-04
TY190	4,00E-04	4,68E-04	6,44E-02	9,29E-02	7,25E-02	1,72E-01	6,86E-02	3,10E-01		2,27E+01	1,18E+02																3,95E-04	4,68E-05
WI010	2,90E-03	7,56E-03	1,77E+00	3,03E+00	2,92E+00	3,33E+00	2,47E+00	1,08E+01		3,40E+02	5,94E+02			8,34E-05	8,64E-05	1,14E-04	1,02E-04	1,14E-04	1,11E-04	4,63E-05	6,58E-04	1,89E-03					8,95E-03	2,41E-03
WI020	2,20E-03	5,41E-04	1,91E-01	4,26E-01	1,73E-01	2,28E-01	1,98E-01	7,85E-01																			2,08E-04	1,19E-04
WI031	7,20E-03	1,52E-03	5,51E-01	9,17E-01	4,48E-01	5,27E-01	4,98E-01	1,89E+00		1,10E+01	1,86E+01																1,50E-04	9,91E-05
WI046		3,29E-05	4,26E-03	9,91E-03	8,41E-03	7,51E-03	5,18E-03	2,47E-02																			2,34E-06	7,15E-07
WI060	4,67E-02	5,56E-02	3,09E+00	8,85E+00	7,12E+00	1,11E+01	5,62E+00	2,10E+01		7,39E+01	1,35E+02			1,44E-05	7,15E-05	1,20E-04	1,15E-04	1,22E-04	1,07E-04	3,20E-05	5,76E-04	1,72E-03					1,05E-02	3,18E-03
WI060	2,50E-02	2,84E-02	3,64E+00	5,85E+00	6,34E+00	5,89E+00	3,71E+00	1,80E+01		1,86E+02	3,41E+02			1,96E-04	1,04E-04	2,07E-04	1,22E-04	3,98E-04	4,12E-04	2,88E-04	3,63E-03	7,27E-03					2,01E-02	2,89E-03
WI060	2,00E-05	4,45E-06	4,36E-03	2,87E-03	1,15E-03	2,12E-03	2,29E-03	6,49E-03																			6,38E-06	5,63E-07
WI071		2,07E-07	6,68E-03	8,07E-03	2,83E-03	4,02E-03	4,38E-03	1,47E-02																			1,89E-07	8,67E-07
WI080	8,00E-05	7,89E-05	7,87E-03	1,79E-02	1,72E-02	1,54E-02	9,75E-03	4,86E-02		3,02E-01	4,61E-01				1,04E-07	1,88E-07	2,15E-07	2,41E-07	2,22E-07	1,07E-07	1,54E-06	3,08E-06					3,49E-05	1,49E-05
WI080	2,60E-03	2,43E-03	3,07E-01	5,93E-01	5,07E-01	4,37E-01	3,34E-01	1,45E+00		5,19E+00	1,10E+01			0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						4,46E-04	1,68E-04
WI110	2,00E-03	2,26E-03	5,55E-02	8,73E-02	1,02E-01	2,13E-01	6,04E-02	3,54E-01		9,54E+00	3,33E+01			2,12E-07	2,45E-07	4,26E-06	4,19E-06	4,29E-06	3,86E-06	1,30E-06	1,11E-05	4,40E-05					2,52E-04	6,57E-05
WI110	2,70E-03	2,19E-03	6,89E-02	1,30E-01	4,81E-01	2,28E-01	1,30E-01	1,69E+00		4,40E-01	1,37E+00			3,56E-08	4,12E-08	1,63E-07	2,28E-07	1,33E-07	2,02E-07	2,19E-07	1,86E-06	4,39E-06					8,89E-04	3,01E-04
WI111	4,00E-03	2,16E-03	2,01E-01	3,38E-01	4,69E-01	3,75E-01	2,10E-01	1,44E+00		4,18E+01	7,81E+01																5,38E-04	1,44E-04
Total	**73,15**	**77,22**	**5 325,83**	**15 659,84**	**9 733,52**	**17 333,97**	**8 603,49**	**50 180,75**	**0,00**	**3 142 911,12**	**8 819 914,23**	**0,00**	**0,00**	**0,01**	**0,01**	**0,01**	**0,01**	**0,01**	**0,01**	**0,01**	**0,06**	**0,20**	**0,00**	**1,01**	**0,00**	**0,56**	**3 756,10**	**2,13**

Part II - Information

1. 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.

2. Additional information

(Referring to section 4 of the Format for Annual Reporting on Dumping Operations at Sea (Agreement 2009-3)

2.1 Deposit site

2.1.1 Iceland

Deposit sites for dumping of dredged material at sea which were used in 2010 but not in 2011:
IS 52, IS 53

Deposit sites for dumping of dredged material at sea not used in 2010, but used in 2011:
IS 28

2.1.2 Ireland

Dumpsite IR/57 and 58 were new in 2011, as areas where sediment from WID settled out.

IR56 – sediment was deposited in the intertidal zone as beach nourishment.

2.1.3 Norway

New Deposit Sites:

Name	ID	UTM33_N	UTM33_E
Kvalvika	FI4	7859410	819539
Aursfjorden between Kvernelva and Perhansanes	TR13	7691116	643696
Hamnes, Lyngen	TR14	7751966	710548
Løksfjorden	TR15	7773114	640762
Torsbukti, Leikanger	SF8	6810743	58703
Bulandet	SF9	6839794	-55198
Selje harbour	SF10	6935538	-11053
Solund shipyard	SF11	6814531	-44544
Frøysjøen	SF12	6889104	-28285
Nishammaren	SF13	6842128	-11794
Steiehalsen	SF14	6842294	-14618
Helvikfjorden	VA11	6470425	13882
Spangereid	VA12	6459632	36990
Vallebukta	VA13	6457685	53382
Festvåg ferry quay	NO8	7480580	489926
Between Ytterkvarøya and Langøya	NO9	7375116	406724
Stamsund	NO10	7555626	452118
Risøysundet, west of Litle Flesa	NO11	7652723	530529

2.1.4 Spain

The following table (table 1) includes the codes for new sites with its geographical coordinates and updates the information of sites reported in 2010

Name	Code	Longitude	Latitude
Santoña	E/3F	3 º 26'W	43º 25,4' N
San Vicente de la Barquera	E/3G	4º 29' W	43º 25,1' N
Tapia de Casariego	E/5H	6 º 57' 55'' W	43º34'54'' N
Ferrol	E/6A	8º 14'50'' W	43º 27'57'' N
Sevilla_Bonanza	E/12D	6º 33' 18" W	36º 45' 40" N

2.1.5 United Kingdom

New disposal sites for 2011 are:

Disposal Site Code	*Disposal Site*	*Latitude*	*Longitude*	*Site Shape*
MA502	1	55.186667	-7.000000	Polygon
MA502	2	55.180000	-7.016667	Polygon
MA502	3	55.181667	-7.018333	Polygon
MA502	4	55.188333	-7.002333	Polygon

ADD ENGLAND

2.2 Method of determination

2.2.1 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:

$$\rho_{ms} = \frac{\rho_{ss}}{\left(\rho_{ss} - \rho_{o}\right)} \times \left(\rho_{sat} - \rho_{o}\right)$$ in which:

- ρ_{sat} = density of the mixture (in kg/m^3)
- ρ_{ms} = concentration of dry matter in the mixture (in kg dry matter/m^3)
- ρ_{o} = density of water at 4^{o}C (in kg/m^3)
- ρ_{ss} = density of the dry sediment (in kg/m^3).

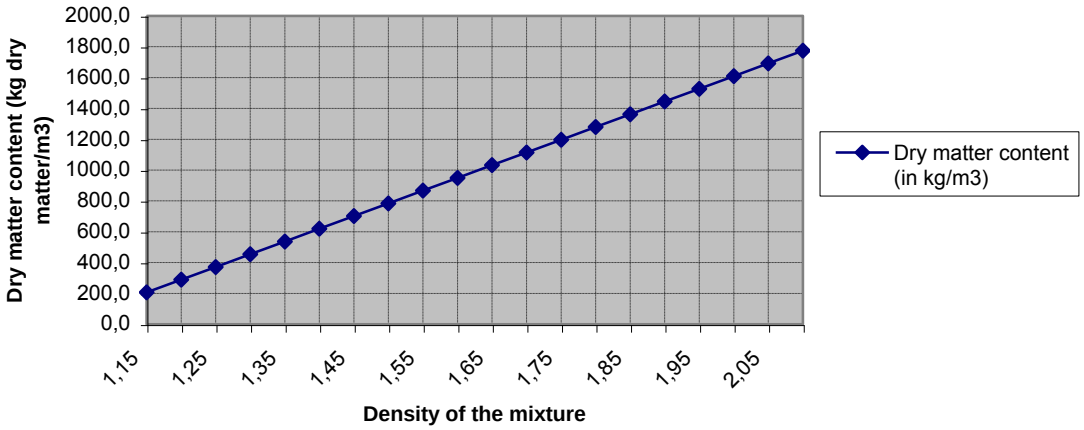
Assuming that ρ_{ss} = 2 600 kg/m^3 and ρ_o = 1 025 kg/m^3, the following simplified formula is obtained:

ρ_{ms} = 1 650,8 x (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

Hydrocarbons

Hydrocarbons (Table 3b) are analysed on 2mm fraction of marine sediments, by extraction with CC14 in Infra Red.

Total CB and Oil were not requested to laboratories in 2005.

2.2.2 Germany

For Germany where necessary, the quantities in Table 3a have been converted from cubic metres into tonnes dry weight. 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 or composition of sand and silt:	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).

DDT:
From 2002 onwards, the figure given under DDT reflects the “pp-DDT-portion”. Additional information for pp-DDD and pp-DDE are given in the column “other” in Table 3b.

Total PAH:
Like in the preceding years, the figure under total PAH reflects the sum of PAH_6.(benzo[ghi]perylene; benzo[a]pyrene; fluoranthene; indeno[1,2,3-cd]pyrene; benzo[b]fluoranthene; benzo[k]fluoranthene)

2.2.3 Ireland

- Only CB 28; CB 52; CB 101; CB 118; CB 138; CB 153; and CB 180 measured
- For PAH, usually US EPA 16 PAH measured.
- Other CB congeners and PAH compounds requested in the event of a known problem or source.

PCB and OC determination:
Sample plus surrogate standards are extracted with DCM/Acetone by ASE. The solvent extract is reduced in volume and cleaned up using High Resolution Size Exclusion Chromatography (SEC/GPC). The extract is further cleaned up on Florisil and Silica columns. The cleaned up extract is analysed by GCMS in SIM mode.

PAH determination:
The sediment sample is extracted with an Accelerated Solvent Extraction system using a Dichloromethane/Acetone (50/50) solvent mixture. The extract is cleaned up with Gel Permeation chromatography and Silica gel and analysed via GC/MS in SIM mode.

Extractable hydrocarbons:
Sediment is extracted with pentane, dried and analysed by fluorescence spectroscopy.

The limits of detection requested from laboratories are as follows. Occasionally, these cannot be me. Analyses are generally not sent elsewhere if known problems or sources do not exist in the dredged area.

Contaminant	Concentration	Units (dry weight)	Contaminant	Concentration	Units (dry weight)
Hg	0,05	mg kg^{-1}	CB28	1,0	µg kg^{-1}
As	1,0	mg kg^{-1}	CB52	1,0	µg kg^{-1}
Cd	0,1	mg kg^{-1}	CB101	1,0	µg kg^{-1}
Cu	5,0	mg kg^{-1}	CB118	1,0	µg kg^{-1}
Pb	5,0	mg kg^{-1}	CB138+163	1,0	µg kg^{-1}
Zn	10,0	mg kg^{-1}	CB153	1,0	µg kg^{-1}
Cr	5,0	mg kg^{-1}	CB180	1,0	µg kg^{-1}
Ni	15	mg kg^{-1}	DDE pp	1,0	µg kg^{-1}
TBT & DBT	0,01	mg kg^{-1}	DDT pp	1,0	µg kg^{-1}
PAHs	20	µg kg^{-1}	DDD pp	1,0	µg kg^{-1}
			Dieldrin	1,0	µg kg^{-1}
			Lindane	1,0	µg kg^{-1}
			HCB	1,0	µg kg^{-1}

All sample batches are required to have CRM analysed alongside, and results submitted as part of the report.

2.2.4 Spain

The grain size fraction analysed, in all cases, it has been smaller than 0,063 mm. The methodology used for the analysis is the following:

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

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.

2.2.5 United Kingdom

UK methods of determination are all as previously reported to EIHA/SEABED.

Total PCBs measured consists of the following congeners:

CB 18	CB 49	CB 110	CB 149	CB 170
CB 28	CB 52	CB 118	CB 151	CB 180
CB 31	CB 66	CB 128	CB 153	CB 183
CB 44	CB 101	CB 138	CB 156	CB 187
CB 47	CB 105	CB 141	CB 158	CB 194

Total PAHs measured consists of the following PAH compounds:

2, 3 Benzanthracene	Benzo[ghi]perylene	Fluoranthene
Acenaphene	Benzo [k] fluoranthene	Fluorene
Acenaphthylene	C1-Naphthalenes	Indeno[123-cd]pyrene
Anthracene	C1- Phenanthrenes	Naphthalene
Benzo[a]anthracene	C2-Naphthalenes	Perylene
Benzo[a]pyrene	C3-Naphthalenes	Phenanthrene
Benzo [b] fluoranthene	Chrysene	Pyrene
Benzo[e]pyrene	Dibenzo[a,h]anthracene	

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), pp.25.
- 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), pp. 29.
- 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), pp. 18.
- 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), pp. 25.
- 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), pp. 25.

2.3 Toxicity

Spain: In the case of the Santander Harbour (E/3) and the Avilés Harbour (E/5), additionally to the chemical characterisation, two different bioassays using *Chlorella vulgaris* and Microtox (*Vibrio fischeri*), were conducted. The results indicated a negative toxicity.

2.4 Quality assurance of analyses of dumped material

a. Do the laboratories carrying out the analyses undertake: *Contracting Parties responding "Yes" to this question are indicated under the respective columns with their country abbreviation.*	All	None	Some
(i) the analysis of blank samples and laboratory reference materials with each batch of samples of waste and other material dumped in the maritime area that is analysed by that laboratory;	*Irl, Is, F, UK*		*Se*
(ii) periodic comparative analysis of laboratory reference materials and certified reference materials;	*Irl,, F, Se, UK*		
(iii) the compilation of quality control charts based upon the data resulting from the analyses of the laboratory reference materials and certified reference materials, and the use of those quality control charts to monitor analytical performance in relation to all samples of dumped wastes or other materials;	*Irl*[x]*, Is, F, Se, UK*		
(iv) periodic participation in interlaboratory comparison exercises, including, where possible, international comparison exercises;	*Irl, Is, F (at least yearly), Se, UK*		
(v) periodic participation in national and, where possible, international laboratory proficiency schemes, under which: • participating laboratories are asked to analyse samples of substances which are provided by the organisers of the scheme; • the composition of those samples is not disclosed in advance; • the results of the scheme for each participating laboratory are made available to all participating laboratories.	*Irl, F (only in national comparison exercises), Se, UK*		

[x] *Ireland: compiled and maintained by analysing laboratory.*

b. If reporting "Some" in the table above, please indicate which parts of the data set are not subject to the full range of QA procedures.

In Germany, several laboratories, often commercial laboratories, are involved in analyses of dredged material. Most of these laboratories are accredited and apply the QA procedures (i) to (v).

c. Describe any practical action taken to apply the QA procedures described above (e.g. participation in interlaboratory comparison exercises and international QA/QC schemes).

Ireland: 5 out of 6 analyses were carried out by UK Environment Agency National Laboratory Service, which takes part in the QUASIMEME Laboratory Proficiency Scheme for sediment analysis.1 out of 6 analysis carried out by TES Bretby, UK. Sediments testing accredited by UKAS to ISO17025 and lab participates in MCERTS standards.

d. Are any special difficulties encountered in applying Quality Assurance procedures?

Ireland: Sometimes LoDs specified cannot be achieved. This provides a difficulty in calculating quantities for Table 3b.

In cases where results are <LoD, the following procedures were applied to get the best "guesstimate"

- *LoD was excluded from calculations for average concentrations, if there were other values in the sample set.*
- *Half of LoD was used to calculate quantities of contaminants.*
- *If LoD is considered very high, 95%ile value for background sediment is applied, for samples in remote areas.*
- *If LoD is appropriately low, then no amount is reported for samples in remote areas.*

2.5 Other relevant information

3. Footnotes to all tables

3.1 Table 1

3.1.1 Belgium

(1) The amounts licensed are the maximum amounts per year. The permits issued are valid for 2 years, 01.01.2010 – 31.12.2011. It should also be noted that these permits only consider dredged material dumped at sea. No permits were issued for internal waters.

3.1.2 Denmark

(1) Denmark has not calculated the permitted dredging volumes for 2011, as the authorised levels in many cases are not linked to a single year. The permits are often given for 5 years. The permissions do not always specify for which year the amounts can be used.

3.1.3 Germany

(1) Permits for dredging/disposing of dredged material are issued by the competent authorities of the Federal States. Permits are not issued for dredging/disposing activities of the German Federal Water and Shipping Directorate (the Directorate does not issue permits for its own activities). However, the dredging/disposing activities of the Directorate are governed by national regulations which are in accordance with OSPAR and LC requirements.

3.1.4 Iceland

(1) According to Iceland law, dumping of vessels and aircrafts is not permitted.

3.1.5 Ireland

(1) Seven new permits were issued in 2011. Three were not used.

(2) Three existing multi-annual permits were still active from previous years.

(3) One existing permit was granted a technical amendment for water injection dredging.

(4) Total amount licensed is calculated in wet weight. Dry weight was calculated using formulae from HELCOM as in many cases no analyses had been carried out on the material as dredging was postponed.

3.1.6 Netherlands

(1) Since early 2009 a new system of regulating the disposal of dredged material is in effect in the Netherlands. The planned disposal needs to be announced and agreed upon within 5 working days after the announcement. This so called 'bbk-announcement' should at least give insight in the sediment quality and expected amounts. This information is identical to the application of a permit but a formal permit is no longer required.

(2) Announcements mentioned under 1) are based on the estimated amounts to be dredged in cubic metres (not metric tonnes) therefore total amounts are estimated.

(3) Permits (and announcements mentioned under 1) issued for dumping of dredged materials in national waters are numerous and are not taken into account in the overview of total amounts licensed in tables 1 and 2 but are specified in table 3.

3.1.7 Norway

(1) All weights are wet weights.

3.1.8 Spain

(1) In 2011 the following new permits were issued:

- Deba (E/2C) (1 permit)
- Avilés (E/5) (1 permit)
- Ulla (E8) (1 permit)
- Sevilla (E/12D) (1 permit)

(2) In the following cases the disposal operations were licensed in previous years:

- Bilbao (E/2): 1 permit issued in 2006 for the period 2008-2011
- Santander (E/3): 2 permits issued in 2009 and extended in 2011.
- A joint permit was issued for the following harbours: Santoña (E/3F), Colindres (E/3B), Suances (E/3C) y San Vicente de la Barquera (E/3G), in 2010 for the period 2011-2014.
- San Juan de la Arena (E/5B): 1 permit issued in 2011 for the period 2011-2014
- San Esteban de Pravia y San Juan de la Arena (E/5B):1 permit issued in 2007 for the period 2008-2012.
- Tapia de Casariego (E/5H) 1 permit issued in 2010 for the period 2010-2014
- Luarca (E/5D) 1 permit issued in 2010
- Vega (E/5E): 1 permit issued in 2009 for the period 2009-2013.
- Vilagarcía (E/8): 1 permit issued in 2009.
- Marín (E/8): 1 permit issued in 2009.

- Huelva (E/10): 1 permit issued in 2009 for the period 2008-2013

3.1.9 Sweden

(1) 11 new Swedish licenses were issued in 2011 for the OSPAR Area. 1 of these licenses (30 000 m^3, approximately 18 000 tonnes) is also reported to HELCOM. For Skagerrak alone 10 licenses (4 850 $m^{3,}$ approximately 3 960 tonnes) were issued.

3.1.10 United Kingdom

(1) UK licensed tonnages are usually on a wet weight basis. These are the estimated dry weight equivalents.

(2) A significant number of UK dredged material licences are now issued for 3 years, including some with very large tonnages.

(3) 6 000 tonnes dry weight of fish waste was licensed for deposit in the sea in 2009 under a 3 year licence issued in February 2009 to run from 5th February 2009 to 4th February 2012 i.e. 2 ,000 tonnes per annum. The material was licensed for deposit directly onto the intertidal zone but is not dumping under the terms of the Convention. 1 708 tonnes of fish waste was deposited under this licence during 2010.

3.2 Table 2

3.2.1 Denmark

(1) There is no dumped material with a content of hazardous substances above the upper action level. No dumped materials other than dredging spoil are allowed.

3.2.2 Germany

(1) Part of the dredged material from the inner Elbe estuary beyond the OSPAR-Convention area was disposed of in the OSPAR area, since the capacity of deposits near the dredging sites was depleted. Furthermore, it is supposed that there is a return transport of dredged material from close-by deposits due to hydromorphological conditions. Disposal of part of the material at more seaward sites should reduce the increased sediment amounts to be dredged. A new concept for the management of dredged material is under development.
The average concentrations of contaminants exceeding action level 2 and the related amount of dredged material are shown in Table 2 in column (3) + (4).

3.2.3 Iceland

(1) Concentrations of contaminants in samples of dredged material did not exceed the regulatory limits (upper levels) for disposal at sea.

3.2.4 Ireland

(1) Result for one sample was less than 1% above upper action level for Cu. Decision made to allow disposal as overall concentration for area was well below upper action level. All other samples (12x) had levels below AL2.

3.2.5 Norway

(1) This is average in the total amount of masses.

(2) The counties only report dumping of the contaminants Hg, Pb, Cd and ∑PCB7.

3.2.6 Sweden

No material dumped during 2011 was considered to have exceptionally high pollutant concentrations.

3.3 Table 3 a

3.3.1 Netherlands

(1) In Eastern Scheldt and Slijkgat no dredging was done in 2011, therefore no amounts are stated for the deposit site NL-10 and NL-16.

(2) The amounts for deposit sites NL-13, 14 and 15 were not available at the time of reporting.

3.3.2 Norway

(1) All weights are wet weights.

3.3.3 Sweden

General remark: the numbering of notes is the same in the reports to HELCOM and IMO (London Convention and Protocol.

(11) 9 750 m^3, mostly clay (2,5 percent rocks). (Permit no. 523-2984-01). *Also reported to HELCOM.*

(12) 1 440m^3, mostly clay (2,5 percent rocks). (Permit number 523-2984-01) *Also reported to HELCOM.*

(13) 500 m^3 clay and sand.(Permit number 02654-10)

(14) 120 m^3 sand/mud.(Permit number 2905-10, 523-1114-09)

(15) 140 m^3 clay (Permit number 523-3968-10, 523-1319-08)

(16) 500 m^3 sand, gravel, shells, silt. (Permit number 523-3986-10)

(17) 100 m^3 clay (Permit number 3755-10)

(18) 650 m^3 sand and clay (Permit number 5218-11, 523-2098-09)

(19) 1 450 m^3, mostly sand, some silt and clay (Permit number 523-7498-09, 5066-11)

3.3.4 United Kingdom

(1) NS100 was a deposit site in the North Sea disposal of pipeline pre-sweep sediment.

3.4 Table 3 b

3.4.1 Denmark

(1) The volume of dumped material is mostly reported in m^3 from the ports. Then the amount in tonnes has been calculated from knowledge of the content of dry matter and loss on ignition.

In permissions where Denmark expects that the dredged material is uncontaminated, there is no analysis. The quantity of hazardous substances has been calculated from knowledge of the background values for the inner Danish waters.

3.4.2 Germany

(1) If more than half of the values of concentration which were used to calculate the average were under the limit of detection then the load should be marked by “<” and a superscript number. This number equates to the limit of detection in mg/kg.

1 => 0,05 µg/kg

2 => 0,1 µg/kg

3 => 0,5 µg/kg

4 => 1 µg/kg

5 => 50 mg/kg

6 => 1000 mg/kg

7 => 0,1 mg/kg

8 => 0,02 mg/kg

9 => 0,4 mg/kg

10 => 0,2 mg/kg

11 => 0,05 mg/kg

3.4.3 Iceland

(1) Concentrations of contaminants in samples did not exceed level 3 (disposal at sea generally allowed) of the national action levels, and in general, analysed values were within the range observed in unpolluted sediments. Therefore, calculations of loads are not considered relevant.

3.4.4 Ireland

(1) Ireland adopted a new approach in 2010 using a combination of WFD guidance and best professional judgement to calculate amounts of contaminants disposed in cases where chemical analysis results are lower than LoD. This method has been continued this year. While it may appear that the quantities of contaminants disposed of have, in some cases, significantly increased this is in fact a result of the method of calculation. The intention is to give a more accurate picture of amounts, so that a best estimate is reported instead of zero, as has occasionally been the case in the past.

(2) In cases where results are <LoD, the following procedures were applied to get the best "guesstimate"

- LOD was excluded from calculations for average concentrations if there were other values in the sample set that could be used
- Half of LoD was used to calculate quantities of contaminants where LoD was considered to be a reasonable measure
- If LoD was considered very high, 95%ile value for background sediment was applied, for samples in remote areas
- If LoD is appropriately low, then no amount is reported for samples in remote areas.

Limits of Detection indicated by < in Table 3b

- Dumpsite 8, DBT - <0,02 mg kg^{-1}
- Dumpsite 17, DBT- < 0,004 mg kg^{-1}
- Dumpsite 20, DBT - < 0,002 mg kg^{-1}
- Dumpsite 58, χ -HCH - < 1,0 µg kg^{-1}

3.4.5 Netherlands

(1) In Eastern Scheldt and Slijkgat no dredging was done in 2011, therefore no amounts are stated for the deposit site NL-6, NL-10 and NL-16.

(2) The amounts for deposit sites NL-13, 14 and 15 were not available at the time of reporting.

3.4.6 Sweden

(11) Quantification limit for ∑PCB7 <0,002 mg/kg.

(12) Quantification limit for ∑PCB7 <0,014 mg/kg.

4. Legend to all tables

NA Not applicable
ND Not determined
NI No information
DL Detection limit

Contents

1. 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.

2. Additional information

(Referring to section 4 of the Format for Annual Reporting on Dumping Operations at Sea (Agreement 2009-3)

2.1 Deposit site

2.1.1 Iceland

Deposit sites for dumping of dredged material at sea which were used in 2010 but not in 2011:
IS 52, IS 53

Deposit sites for dumping of dredged material at sea not used in 2010, but used in 2011:
IS 28

2.1.2 Ireland

Dumpsite IR/57 and 58 were new in 2011, as areas where sediment from WID settled out.

IR56 – sediment was deposited in the intertidal zone as beach nourishment.

2.1.3 Norway

New Deposit Sites:

Name	ID	UTM33_N	UTM33_E
Kvalvika	FI4	7859410	819539
Aursfjorden between Kvernelva and Perhansanes	TR13	7691116	643696
Hamnes, Lyngen	TR14	7751966	710548
Løksfjorden	TR15	7773114	640762
Torsbukti, Leikanger	SF8	6810743	58703
Bulandet	SF9	6839794	-55198
Selje harbour	SF10	6935538	-11053
Solund shipyard	SF11	6814531	-44544
Frøysjøen	SF12	6889104	-28285
Nishammaren	SF13	6842128	-11794
Steiehalsen	SF14	6842294	-14618
Helvikfjorden	VA11	6470425	13882
Spangereid	VA12	6459632	36990
Vallebukta	VA13	6457685	53382
Festvåg ferry quay	NO8	7480580	489926
Between Ytterkvarøya and Langøya	NO9	7375116	406724
Stamsund	NO10	7555626	452118
Risøysundet, west of Litle Flesa	NO11	7652723	530529

2.1.4 Spain

The following table (table 1) includes the codes for new sites with its geographical coordinates and updates the information of sites reported in 2010

Name	Code	Longitude	Latitude
Santoña	E/3F	3 º 26'W	43º 25,4' N
San Vicente de la Barquera	E/3G	4º 29' W	43º 25,1' N
Tapia de Casariego	E/5H	6 º 57' 55'' W	43º34'54'' N
Ferrol	E/6A	8º 14'50'' W	43º 27'57'' N
Sevilla_Bonanza	E/12D	6º 33' 18" W	36º 45' 40" N

2.1.5 United Kingdom

New disposal sites for 2011 are:

Disposal Site Code	*Disposal Site*	*Latitude*	*Longitude*	*Site Shape*
MA502	1	55.186667	-7.000000	Polygon
MA502	2	55.180000	-7.016667	Polygon
MA502	3	55.181667	-7.018333	Polygon
MA502	4	55.188333	-7.002333	Polygon

ADD ENGLAND

2.2 Method of determination

2.2.1 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:

$$\rho_{ms} = \frac{\rho_{ss}}{\left(\rho_{ss} - \rho_{o}\right)} \times \left(\rho_{sat} - \rho_{o}\right)$$ in which:

- ρ_{sat} = density of the mixture (in kg/m^3)
- ρ_{ms} = concentration of dry matter in the mixture (in kg dry matter/m^3)
- ρ_{o} = density of water at 4^{o}C (in kg/m^3)
- ρ_{ss} = density of the dry sediment (in kg/m^3).

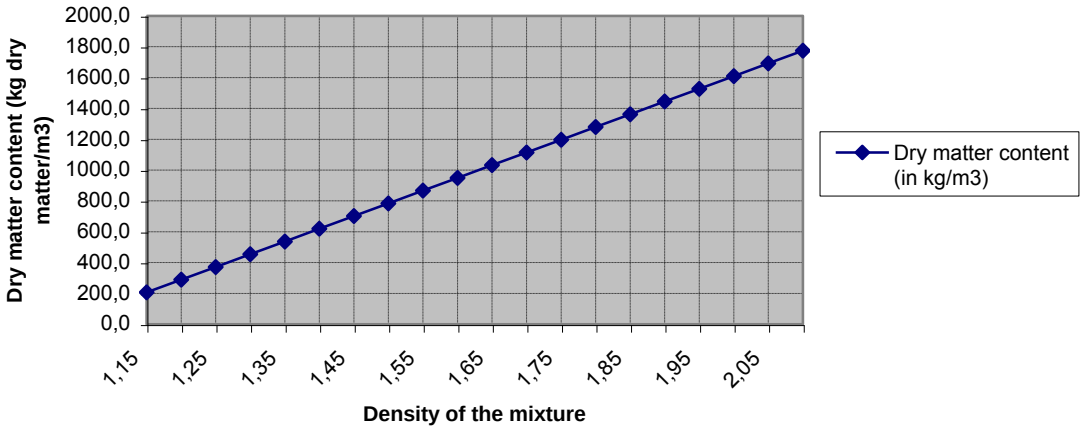
Assuming that ρ_{ss} = 2 600 kg/m^3 and ρ_o = 1 025 kg/m^3, the following simplified formula is obtained:

ρ_{ms} = 1 650,8 x (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

Hydrocarbons

Hydrocarbons (Table 3b) are analysed on 2mm fraction of marine sediments, by extraction with CC14 in Infra Red.

Total CB and Oil were not requested to laboratories in 2005.

2.2.2 Germany

For Germany where necessary, the quantities in Table 3a have been converted from cubic metres into tonnes dry weight. 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 or composition of sand and silt:	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).

DDT:
From 2002 onwards, the figure given under DDT reflects the “pp-DDT-portion”. Additional information for pp-DDD and pp-DDE are given in the column “other” in Table 3b.

Total PAH:
Like in the preceding years, the figure under total PAH reflects the sum of PAH_6.(benzo[ghi]perylene; benzo[a]pyrene; fluoranthene; indeno[1,2,3-cd]pyrene; benzo[b]fluoranthene; benzo[k]fluoranthene)

2.2.3 Ireland

- Only CB 28; CB 52; CB 101; CB 118; CB 138; CB 153; and CB 180 measured
- For PAH, usually US EPA 16 PAH measured.
- Other CB congeners and PAH compounds requested in the event of a known problem or source.

PCB and OC determination:
Sample plus surrogate standards are extracted with DCM/Acetone by ASE. The solvent extract is reduced in volume and cleaned up using High Resolution Size Exclusion Chromatography (SEC/GPC). The extract is further cleaned up on Florisil and Silica columns. The cleaned up extract is analysed by GCMS in SIM mode.

PAH determination:
The sediment sample is extracted with an Accelerated Solvent Extraction system using a Dichloromethane/Acetone (50/50) solvent mixture. The extract is cleaned up with Gel Permeation chromatography and Silica gel and analysed via GC/MS in SIM mode.

Extractable hydrocarbons:
Sediment is extracted with pentane, dried and analysed by fluorescence spectroscopy.

The limits of detection requested from laboratories are as follows. Occasionally, these cannot be me. Analyses are generally not sent elsewhere if known problems or sources do not exist in the dredged area.

Contaminant	Concentration	Units (dry weight)	Contaminant	Concentration	Units (dry weight)
Hg	0,05	mg kg^{-1}	CB28	1,0	µg kg^{-1}
As	1,0	mg kg^{-1}	CB52	1,0	µg kg^{-1}
Cd	0,1	mg kg^{-1}	CB101	1,0	µg kg^{-1}
Cu	5,0	mg kg^{-1}	CB118	1,0	µg kg^{-1}
Pb	5,0	mg kg^{-1}	CB138+163	1,0	µg kg^{-1}
Zn	10,0	mg kg^{-1}	CB153	1,0	µg kg^{-1}
Cr	5,0	mg kg^{-1}	CB180	1,0	µg kg^{-1}
Ni	15	mg kg^{-1}	DDE pp	1,0	µg kg^{-1}
TBT & DBT	0,01	mg kg^{-1}	DDT pp	1,0	µg kg^{-1}
PAHs	20	µg kg^{-1}	DDD pp	1,0	µg kg^{-1}
			Dieldrin	1,0	µg kg^{-1}
			Lindane	1,0	µg kg^{-1}
			HCB	1,0	µg kg^{-1}

All sample batches are required to have CRM analysed alongside, and results submitted as part of the report.

2.2.4 Spain

The grain size fraction analysed, in all cases, it has been smaller than 0,063 mm. The methodology used for the analysis is the following:

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

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.

2.2.5 United Kingdom

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Total PCBs measured consists of the following congeners:

CB 18	CB 49	CB 110	CB 149	CB 170
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CB 44	CB 101	CB 138	CB 156	CB 187
CB 47	CB 105	CB 141	CB 158	CB 194

Total PAHs measured consists of the following PAH compounds:

2, 3 Benzanthracene	Benzo[ghi]perylene	Fluoranthene
Acenaphene	Benzo [k] fluoranthene	Fluorene
Acenaphthylene	C1-Naphthalenes	Indeno[123-cd]pyrene
Anthracene	C1- Phenanthrenes	Naphthalene
Benzo[a]anthracene	C2-Naphthalenes	Perylene
Benzo[a]pyrene	C3-Naphthalenes	Phenanthrene
Benzo [b] fluoranthene	Chrysene	Pyrene
Benzo[e]pyrene	Dibenzo[a,h]anthracene	

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), pp.25.
- 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), pp. 29.
- 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), pp. 18.
- 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), pp. 25.
- 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), pp. 25.

2.3 Toxicity

Spain: In the case of the Santander Harbour (E/3) and the Avilés Harbour (E/5), additionally to the chemical characterisation, two different bioassays using *Chlorella vulgaris* and Microtox (*Vibrio fischeri*), were conducted. The results indicated a negative toxicity.

2.4 Quality assurance of analyses of dumped material

a. Do the laboratories carrying out the analyses undertake: *Contracting Parties responding "Yes" to this question are indicated under the respective columns with their country abbreviation.*	All	None	Some
(i) the analysis of blank samples and laboratory reference materials with each batch of samples of waste and other material dumped in the maritime area that is analysed by that laboratory;	*Irl, Is, F, UK*		*Se*
(ii) periodic comparative analysis of laboratory reference materials and certified reference materials;	*Irl,, F, Se, UK*		
(iii) the compilation of quality control charts based upon the data resulting from the analyses of the laboratory reference materials and certified reference materials, and the use of those quality control charts to monitor analytical performance in relation to all samples of dumped wastes or other materials;	*Irl*[x]*, Is, F, Se, UK*		
(iv) periodic participation in interlaboratory comparison exercises, including, where possible, international comparison exercises;	*Irl, Is, F (at least yearly), Se, UK*		
(v) periodic participation in national and, where possible, international laboratory proficiency schemes, under which: • participating laboratories are asked to analyse samples of substances which are provided by the organisers of the scheme; • the composition of those samples is not disclosed in advance; • the results of the scheme for each participating laboratory are made available to all participating laboratories.	*Irl, F (only in national comparison exercises), Se, UK*		

[x] *Ireland: compiled and maintained by analysing laboratory.*

b. If reporting "Some" in the table above, please indicate which parts of the data set are not subject to the full range of QA procedures.

In Germany, several laboratories, often commercial laboratories, are involved in analyses of dredged material. Most of these laboratories are accredited and apply the QA procedures (i) to (v).

c. Describe any practical action taken to apply the QA procedures described above (e.g. participation in interlaboratory comparison exercises and international QA/QC schemes).

Ireland: 5 out of 6 analyses were carried out by UK Environment Agency National Laboratory Service, which takes part in the QUASIMEME Laboratory Proficiency Scheme for sediment analysis.1 out of 6 analysis carried out by TES Bretby, UK. Sediments testing accredited by UKAS to ISO17025 and lab participates in MCERTS standards.

d. Are any special difficulties encountered in applying Quality Assurance procedures?

Ireland: Sometimes LoDs specified cannot be achieved. This provides a difficulty in calculating quantities for Table 3b.

In cases where results are <LoD, the following procedures were applied to get the best "guesstimate"

- *LoD was excluded from calculations for average concentrations, if there were other values in the sample set.*
- *Half of LoD was used to calculate quantities of contaminants.*
- *If LoD is considered very high, 95%ile value for background sediment is applied, for samples in remote areas.*
- *If LoD is appropriately low, then no amount is reported for samples in remote areas.*

2.5 Other relevant information

3. Footnotes to all tables

3.1 Table 1

3.1.1 Belgium

(1) The amounts licensed are the maximum amounts per year. The permits issued are valid for 2 years, 01.01.2010 – 31.12.2011. It should also be noted that these permits only consider dredged material dumped at sea. No permits were issued for internal waters.

3.1.2 Denmark

(1) Denmark has not calculated the permitted dredging volumes for 2011, as the authorised levels in many cases are not linked to a single year. The permits are often given for 5 years. The permissions do not always specify for which year the amounts can be used.

3.1.3 Germany

(1) Permits for dredging/disposing of dredged material are issued by the competent authorities of the Federal States. Permits are not issued for dredging/disposing activities of the German Federal Water and Shipping Directorate (the Directorate does not issue permits for its own activities). However, the dredging/disposing activities of the Directorate are governed by national regulations which are in accordance with OSPAR and LC requirements.

3.1.4 Iceland

(1) According to Iceland law, dumping of vessels and aircrafts is not permitted.

3.1.5 Ireland

(1) Seven new permits were issued in 2011. Three were not used.

(2) Three existing multi-annual permits were still active from previous years.

(3) One existing permit was granted a technical amendment for water injection dredging.

(4) Total amount licensed is calculated in wet weight. Dry weight was calculated using formulae from HELCOM as in many cases no analyses had been carried out on the material as dredging was postponed.

3.1.6 Netherlands

(1) Since early 2009 a new system of regulating the disposal of dredged material is in effect in the Netherlands. The planned disposal needs to be announced and agreed upon within 5 working days after the announcement. This so called 'bbk-announcement' should at least give insight in the sediment quality and expected amounts. This information is identical to the application of a permit but a formal permit is no longer required.

(2) Announcements mentioned under 1) are based on the estimated amounts to be dredged in cubic metres (not metric tonnes) therefore total amounts are estimated.

(3) Permits (and announcements mentioned under 1) issued for dumping of dredged materials in national waters are numerous and are not taken into account in the overview of total amounts licensed in tables 1 and 2 but are specified in table 3.

3.1.7 Norway

(1) All weights are wet weights.

3.1.8 Spain

(1) In 2011 the following new permits were issued:

- Deba (E/2C) (1 permit)
- Avilés (E/5) (1 permit)
- Ulla (E8) (1 permit)
- Sevilla (E/12D) (1 permit)

(2) In the following cases the disposal operations were licensed in previous years:

- Bilbao (E/2): 1 permit issued in 2006 for the period 2008-2011
- Santander (E/3): 2 permits issued in 2009 and extended in 2011.
- A joint permit was issued for the following harbours: Santoña (E/3F), Colindres (E/3B), Suances (E/3C) y San Vicente de la Barquera (E/3G), in 2010 for the period 2011-2014.
- San Juan de la Arena (E/5B): 1 permit issued in 2011 for the period 2011-2014
- San Esteban de Pravia y San Juan de la Arena (E/5B):1 permit issued in 2007 for the period 2008-2012.
- Tapia de Casariego (E/5H) 1 permit issued in 2010 for the period 2010-2014
- Luarca (E/5D) 1 permit issued in 2010
- Vega (E/5E): 1 permit issued in 2009 for the period 2009-2013.
- Vilagarcía (E/8): 1 permit issued in 2009.
- Marín (E/8): 1 permit issued in 2009.

- Huelva (E/10): 1 permit issued in 2009 for the period 2008-2013

3.1.9 Sweden

(1) 11 new Swedish licenses were issued in 2011 for the OSPAR Area. 1 of these licenses (30 000 m^3, approximately 18 000 tonnes) is also reported to HELCOM. For Skagerrak alone 10 licenses (4 850 $m^{3,}$ approximately 3 960 tonnes) were issued.

3.1.10 United Kingdom

(1) UK licensed tonnages are usually on a wet weight basis. These are the estimated dry weight equivalents.

(2) A significant number of UK dredged material licences are now issued for 3 years, including some with very large tonnages.

(3) 6 000 tonnes dry weight of fish waste was licensed for deposit in the sea in 2009 under a 3 year licence issued in February 2009 to run from 5th February 2009 to 4th February 2012 i.e. 2 ,000 tonnes per annum. The material was licensed for deposit directly onto the intertidal zone but is not dumping under the terms of the Convention. 1 708 tonnes of fish waste was deposited under this licence during 2010.

3.2 Table 2

3.2.1 Denmark

(1) There is no dumped material with a content of hazardous substances above the upper action level. No dumped materials other than dredging spoil are allowed.

3.2.2 Germany

(1) Part of the dredged material from the inner Elbe estuary beyond the OSPAR-Convention area was disposed of in the OSPAR area, since the capacity of deposits near the dredging sites was depleted. Furthermore, it is supposed that there is a return transport of dredged material from close-by deposits due to hydromorphological conditions. Disposal of part of the material at more seaward sites should reduce the increased sediment amounts to be dredged. A new concept for the management of dredged material is under development.
The average concentrations of contaminants exceeding action level 2 and the related amount of dredged material are shown in Table 2 in column (3) + (4).

3.2.3 Iceland

(1) Concentrations of contaminants in samples of dredged material did not exceed the regulatory limits (upper levels) for disposal at sea.

3.2.4 Ireland

(1) Result for one sample was less than 1% above upper action level for Cu. Decision made to allow disposal as overall concentration for area was well below upper action level. All other samples (12x) had levels below AL2.

3.2.5 Norway

(1) This is average in the total amount of masses.

(2) The counties only report dumping of the contaminants Hg, Pb, Cd and ∑PCB7.

3.2.6 Sweden

No material dumped during 2011 was considered to have exceptionally high pollutant concentrations.

3.3 Table 3 a

3.3.1 Netherlands

(1) In Eastern Scheldt and Slijkgat no dredging was done in 2011, therefore no amounts are stated for the deposit site NL-10 and NL-16.

(2) The amounts for deposit sites NL-13, 14 and 15 were not available at the time of reporting.

3.3.2 Norway

(1) All weights are wet weights.

3.3.3 Sweden

General remark: the numbering of notes is the same in the reports to HELCOM and IMO (London Convention and Protocol.

(11) 9 750 m^3, mostly clay (2,5 percent rocks). (Permit no. 523-2984-01). *Also reported to HELCOM.*

(12) 1 440m^3, mostly clay (2,5 percent rocks). (Permit number 523-2984-01) *Also reported to HELCOM.*

(13) 500 m^3 clay and sand.(Permit number 02654-10)

(14) 120 m^3 sand/mud.(Permit number 2905-10, 523-1114-09)

(15) 140 m^3 clay (Permit number 523-3968-10, 523-1319-08)

(16) 500 m^3 sand, gravel, shells, silt. (Permit number 523-3986-10)

(17) 100 m^3 clay (Permit number 3755-10)

(18) 650 m^3 sand and clay (Permit number 5218-11, 523-2098-09)

(19) 1 450 m^3, mostly sand, some silt and clay (Permit number 523-7498-09, 5066-11)

3.3.4 United Kingdom

(1) NS100 was a deposit site in the North Sea disposal of pipeline pre-sweep sediment.

3.4 Table 3 b

3.4.1 Denmark

(1) The volume of dumped material is mostly reported in m^3 from the ports. Then the amount in tonnes has been calculated from knowledge of the content of dry matter and loss on ignition.

In permissions where Denmark expects that the dredged material is uncontaminated, there is no analysis. The quantity of hazardous substances has been calculated from knowledge of the background values for the inner Danish waters.

3.4.2 Germany

(1) If more than half of the values of concentration which were used to calculate the average were under the limit of detection then the load should be marked by “<” and a superscript number. This number equates to the limit of detection in mg/kg.

1 => 0,05 µg/kg

2 => 0,1 µg/kg

3 => 0,5 µg/kg

4 => 1 µg/kg

5 => 50 mg/kg

6 => 1000 mg/kg

7 => 0,1 mg/kg

8 => 0,02 mg/kg

9 => 0,4 mg/kg

10 => 0,2 mg/kg

11 => 0,05 mg/kg

3.4.3 Iceland

(1) Concentrations of contaminants in samples did not exceed level 3 (disposal at sea generally allowed) of the national action levels, and in general, analysed values were within the range observed in unpolluted sediments. Therefore, calculations of loads are not considered relevant.

3.4.4 Ireland

(1) Ireland adopted a new approach in 2010 using a combination of WFD guidance and best professional judgement to calculate amounts of contaminants disposed in cases where chemical analysis results are lower than LoD. This method has been continued this year. While it may appear that the quantities of contaminants disposed of have, in some cases, significantly increased this is in fact a result of the method of calculation. The intention is to give a more accurate picture of amounts, so that a best estimate is reported instead of zero, as has occasionally been the case in the past.

(2) In cases where results are <LoD, the following procedures were applied to get the best "guesstimate"

- LOD was excluded from calculations for average concentrations if there were other values in the sample set that could be used
- Half of LoD was used to calculate quantities of contaminants where LoD was considered to be a reasonable measure
- If LoD was considered very high, 95%ile value for background sediment was applied, for samples in remote areas
- If LoD is appropriately low, then no amount is reported for samples in remote areas.

Limits of Detection indicated by < in Table 3b

- Dumpsite 8, DBT - <0,02 mg kg^{-1}
- Dumpsite 17, DBT- < 0,004 mg kg^{-1}
- Dumpsite 20, DBT - < 0,002 mg kg^{-1}
- Dumpsite 58, χ -HCH - < 1,0 µg kg^{-1}

3.4.5 Netherlands

(1) In Eastern Scheldt and Slijkgat no dredging was done in 2011, therefore no amounts are stated for the deposit site NL-6, NL-10 and NL-16.

(2) The amounts for deposit sites NL-13, 14 and 15 were not available at the time of reporting.

3.4.6 Sweden

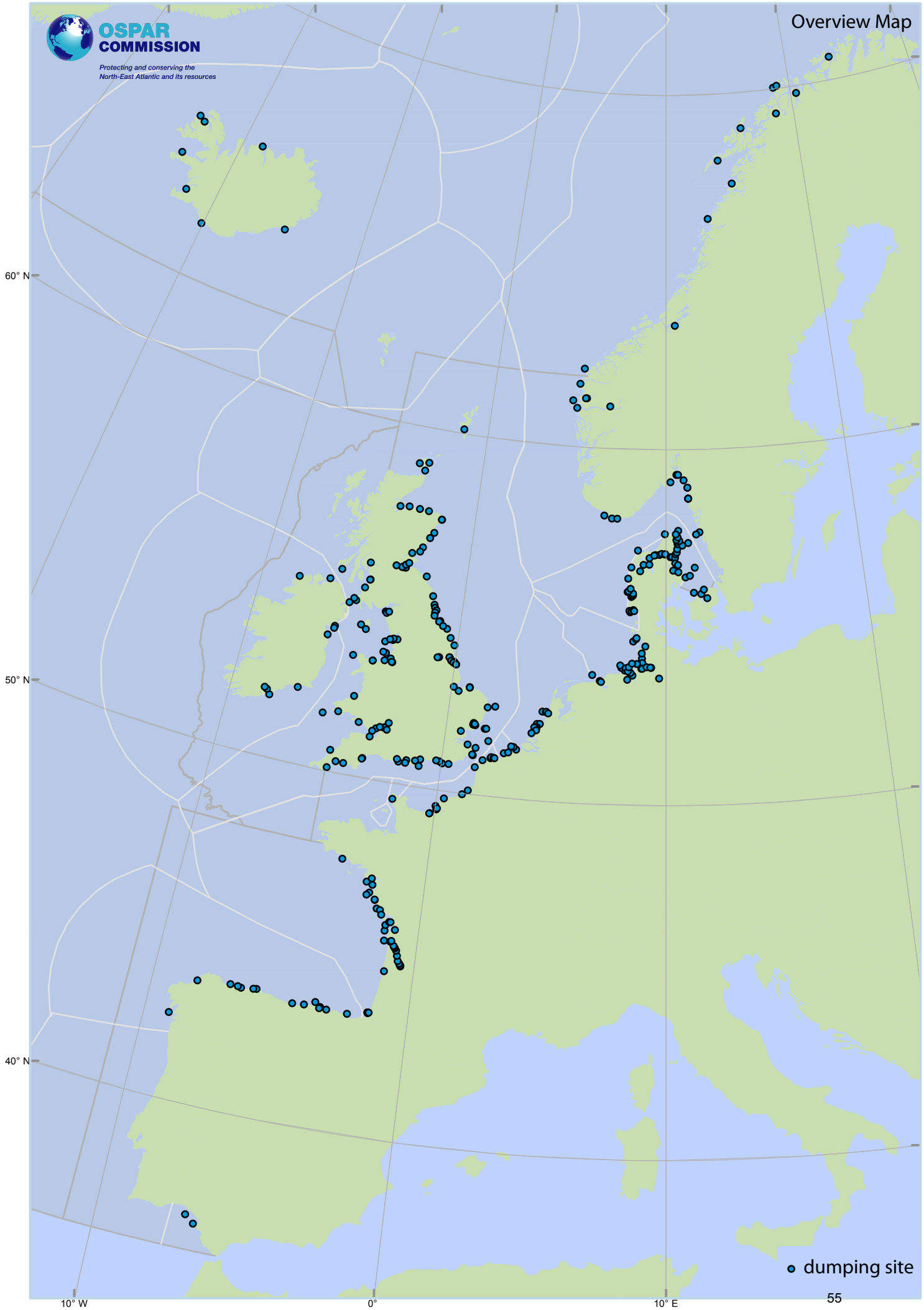
(11) Quantification limit for ∑PCB7 <0,002 mg/kg.

(12) Quantification limit for ∑PCB7 <0,014 mg/kg.

4. Legend to all tables

NA Not applicable
ND Not determined
NI No information
DL Detection limit

Part III - Maps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Protecting and conserving the
North-East Atlantic and its resources
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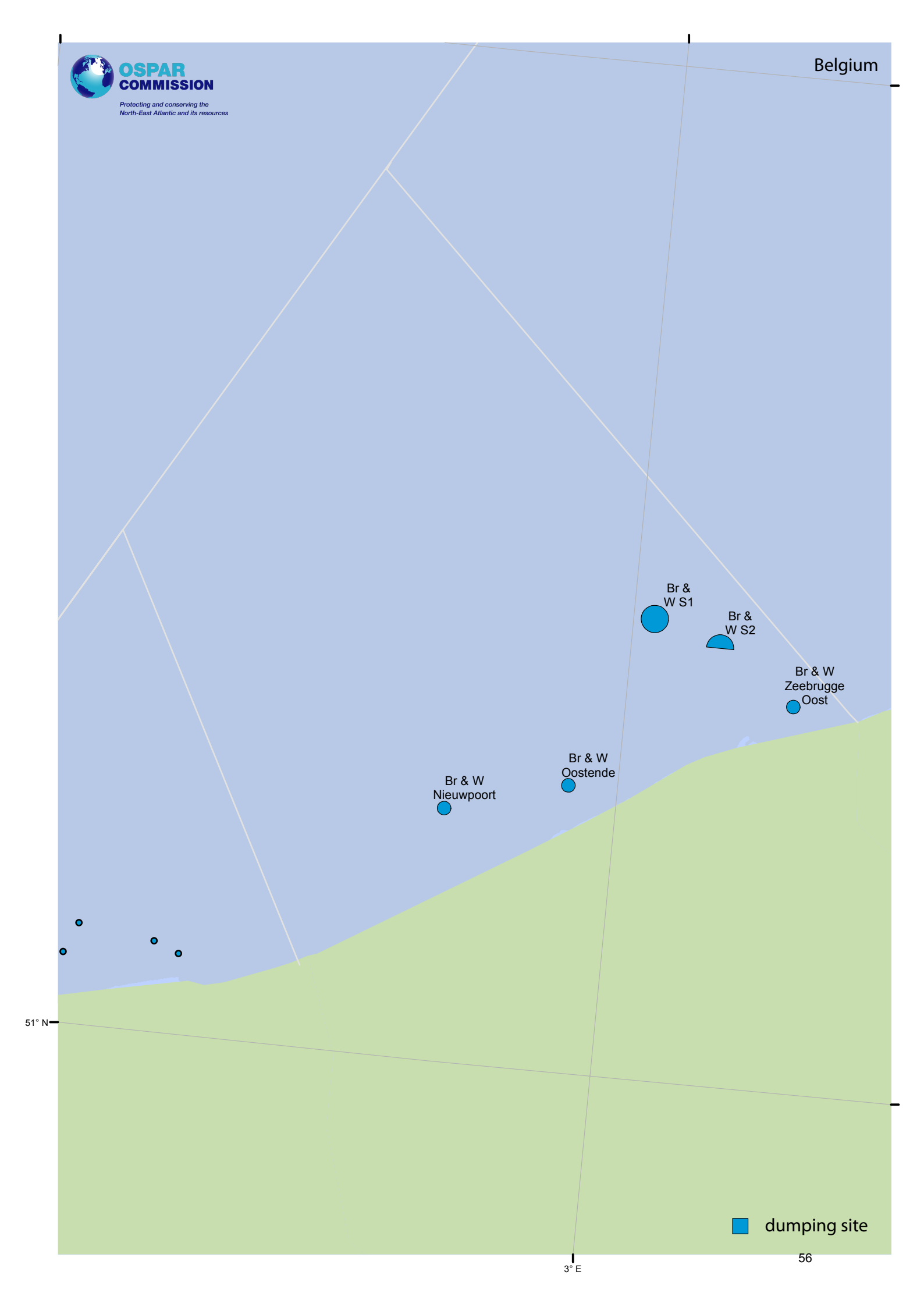
40° N
10° W
0°
10° E
dumping site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North-East Atlantic and its resources
Belgium
Br &
W S1
Br &
W S2
Br & W
Zeebrugge
Oost
Br & W
Oostende
Br & W
Nieuwpoort
51° N
3° E
dumping site


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Denmark
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Hirtshals
Ålbæk
Strandby
Rønnerhavn
POL - Bangsbo
Frederikshavn Havn
Sæby
Østerby, Læsø
Klapplads
Vesterø, Læsø
Voerså
Hanstholm
Klitgård
Aalborg Øst
Attrup Hage
Aalborg Vest
Haverslev
Egense Klapplads
Hou
Aså
Hals Barre
Mou Syd Egense Klapplads Nord
Løgstør
Øster Hurup
Glyngøre
Rindgrund
Als Odde
Anholt Havn Klapplads
Gåseholm
Gåseholm 2
Barren Randers Fjord Klapplads
Gyldendal
Bønnerup Havn Klapplads
Grenå Lystbådehavn Klapplads
Grenå Havn Klapplads
Thorsminde
Klapplads ved Hvide Sande (Tyskerhavnen)
Hvide Sande
Stauning Havn
Skaven Havn
Hemmet Havn
Bork Havn
Odden Klapplads
Klapplads 2B - Vesterhavet
Klapplads E - Vadehavet
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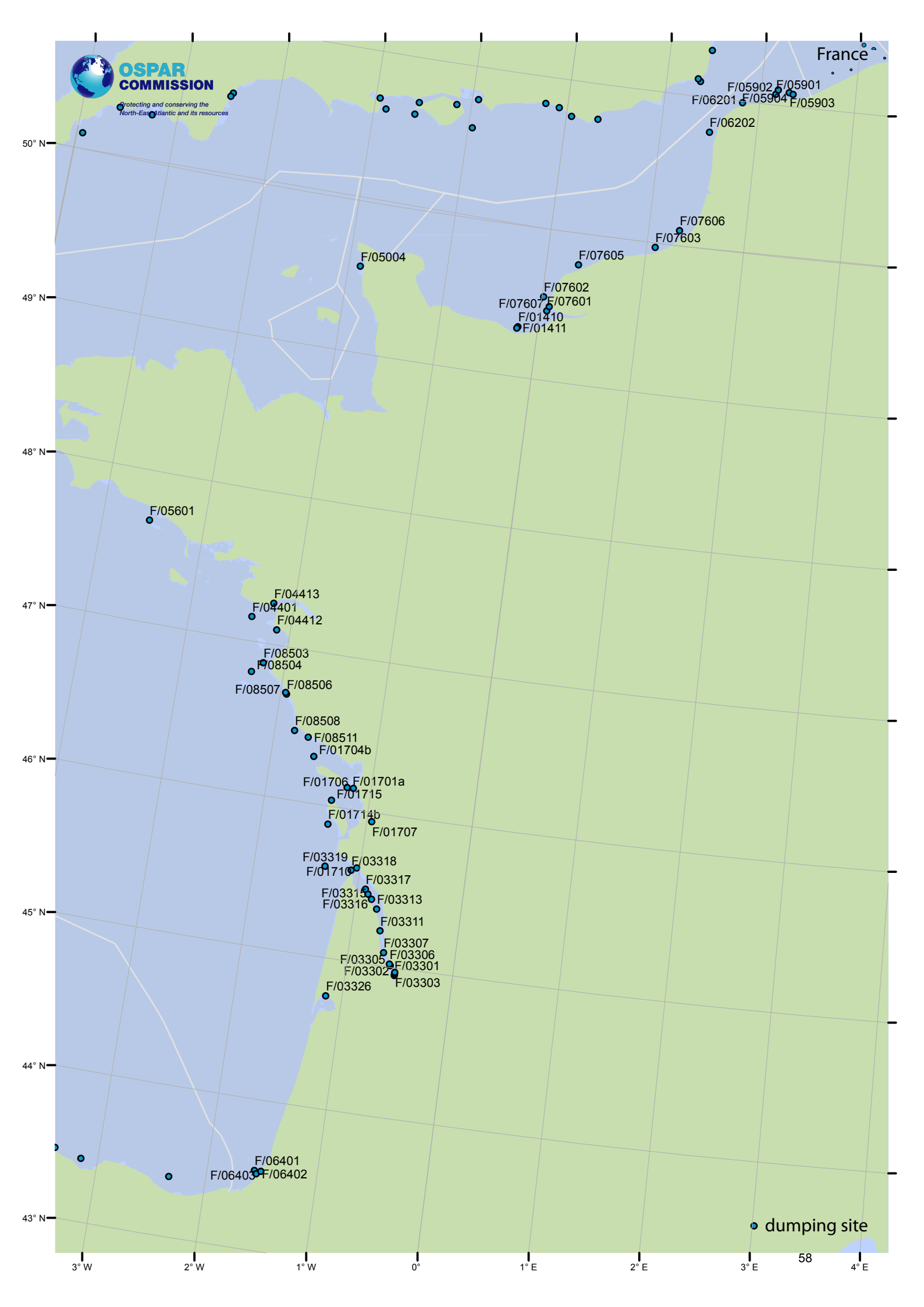
56° N
9° E
10° E
11° E
dumping site
57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2° E
3° E
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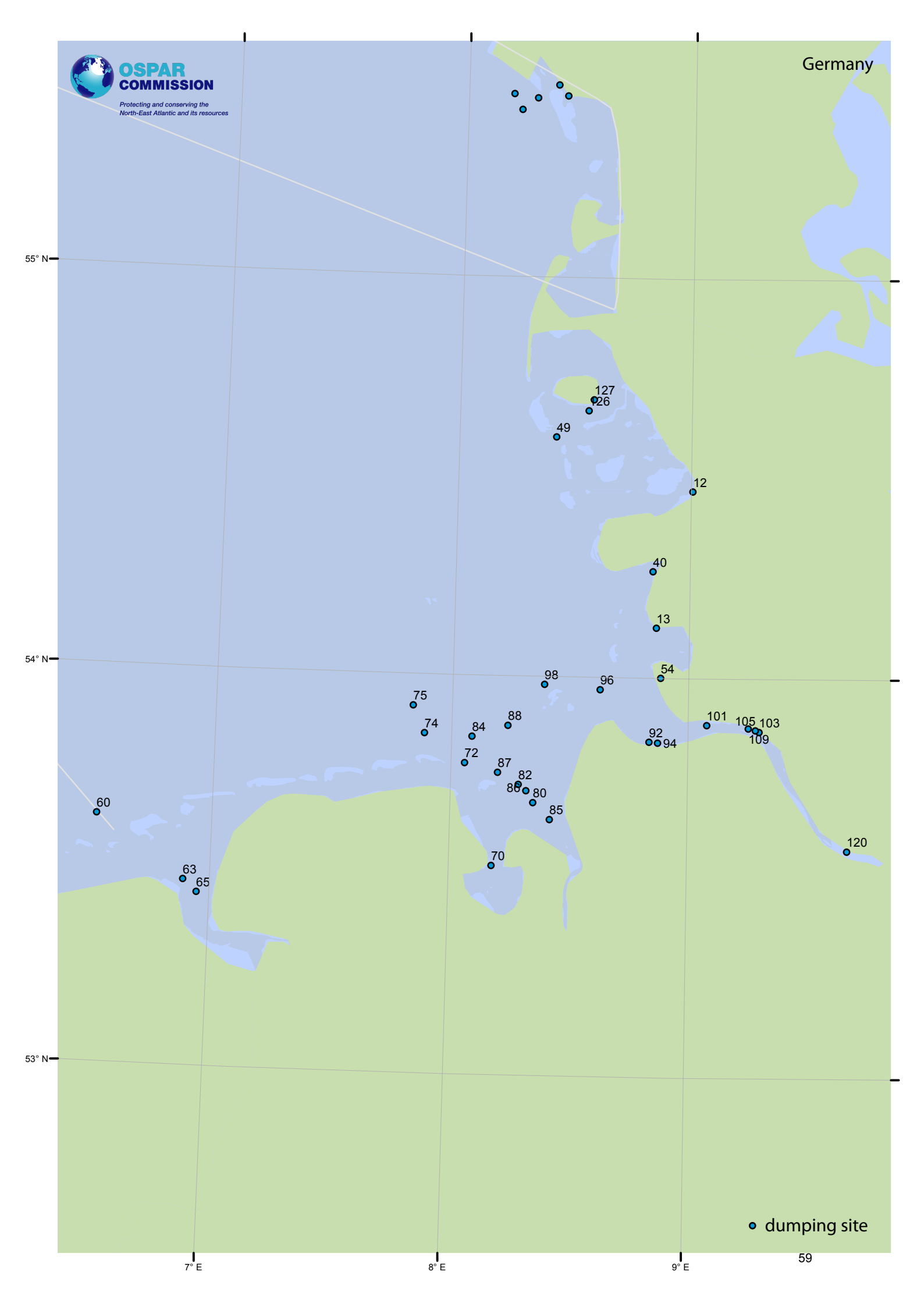
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North-East Atlantic and its resources
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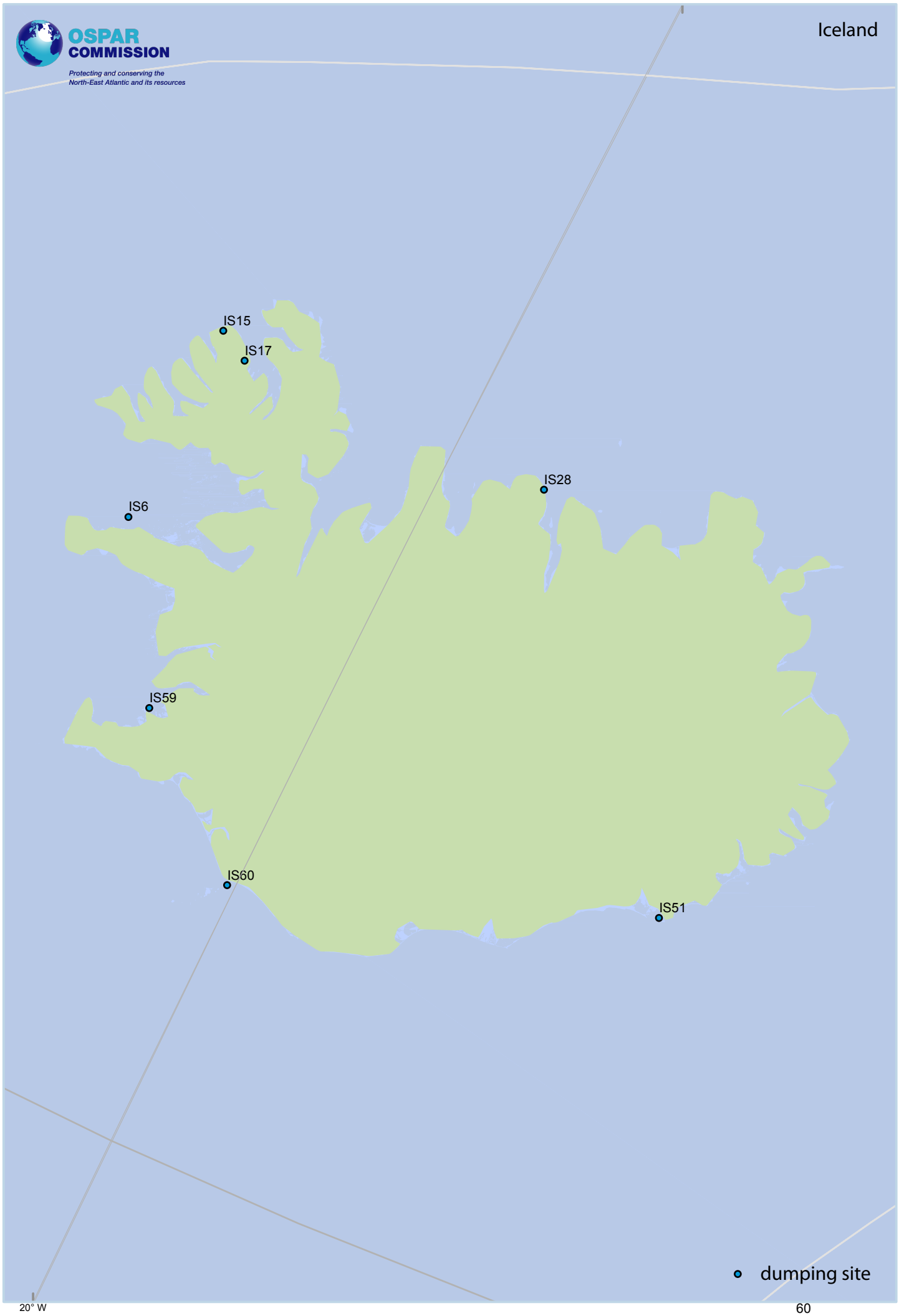
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IS6
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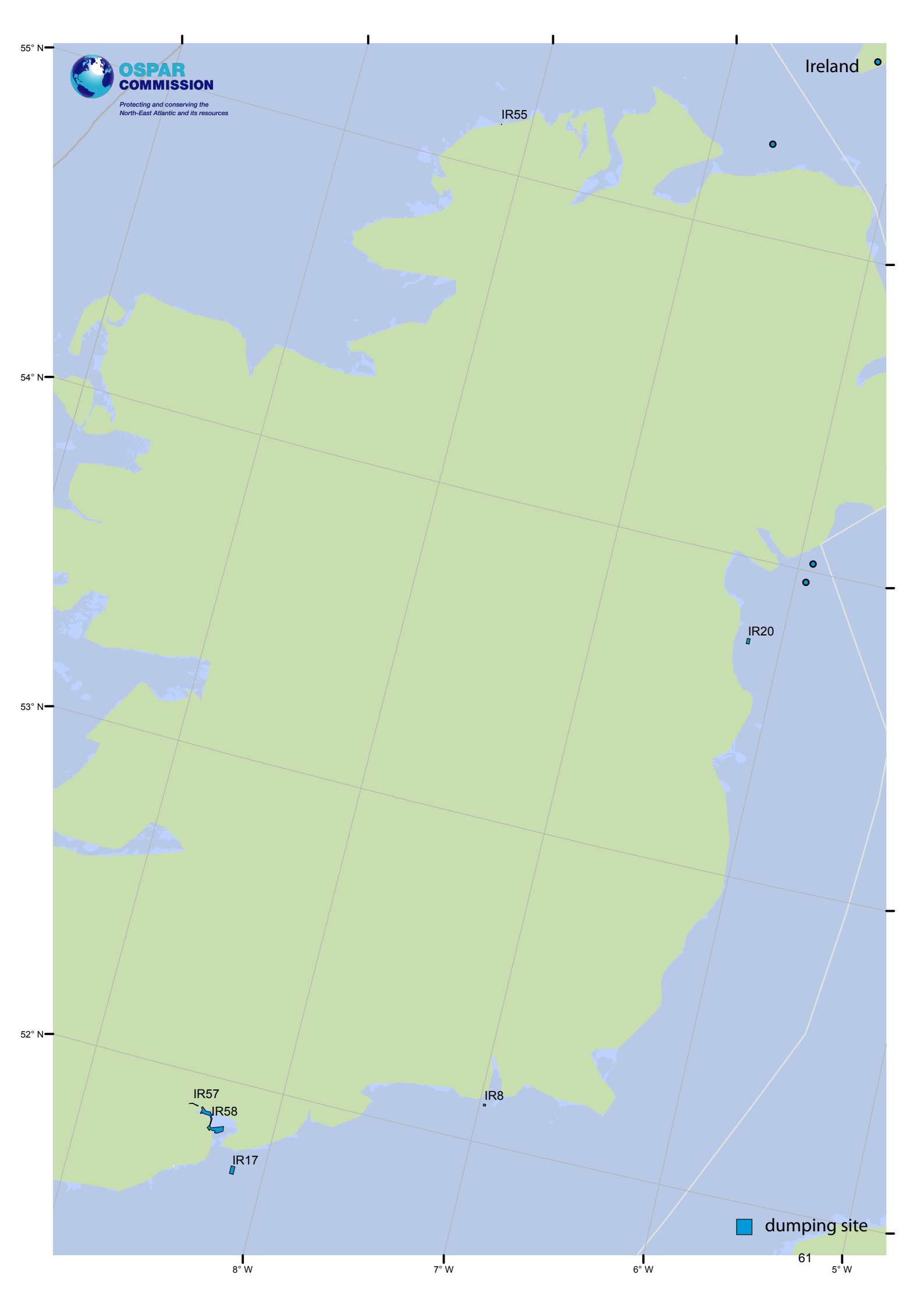
IS60
IS51
dumping site
20° W
60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North-East Atlantic and its resources
Ireland
IR55
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dumping site
55° N
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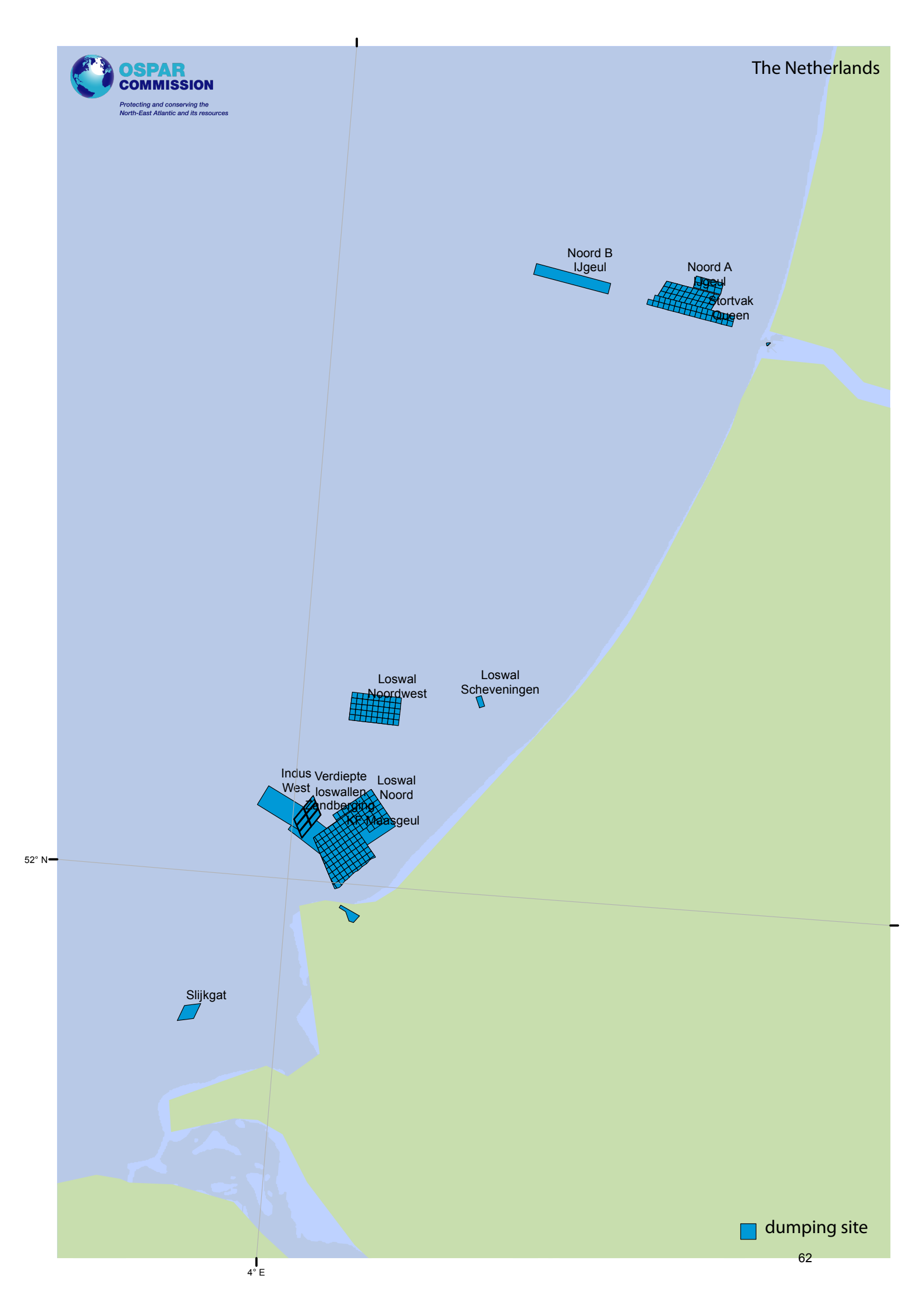
8° W
7° W
6° W
5° W
61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The Netherlands
Noord B
IJgeul
Noord A
IJgeul
Stortvak
Queen
Loswal
Noordwest
Loswal
Scheveningen
Indus
West
Verdiepte
loswallen
Loswal
Noord
Zandbergingsgebied
K.F. Maasgeul
52° N
Slijkgat
4° E
dumping site


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Norway
Kvalvika
70° N
Løksfjorden
Hamnes,
Skagøysundet
Lyngen
Aursfjorden
mellom Kvernelva
og Perhansanes
Risøysundet,
vest for
Litle Flesa
Stamsund
Festvåg
fergekai
Mellom
Ytterkvarøya
og Langøya
Strindfjorden
Selje
hamn
Frøysjøen
Bulandet
Nishammaren
Steiehalsen
Solund
Verft
Torsbukti,
Leikanger
60° N
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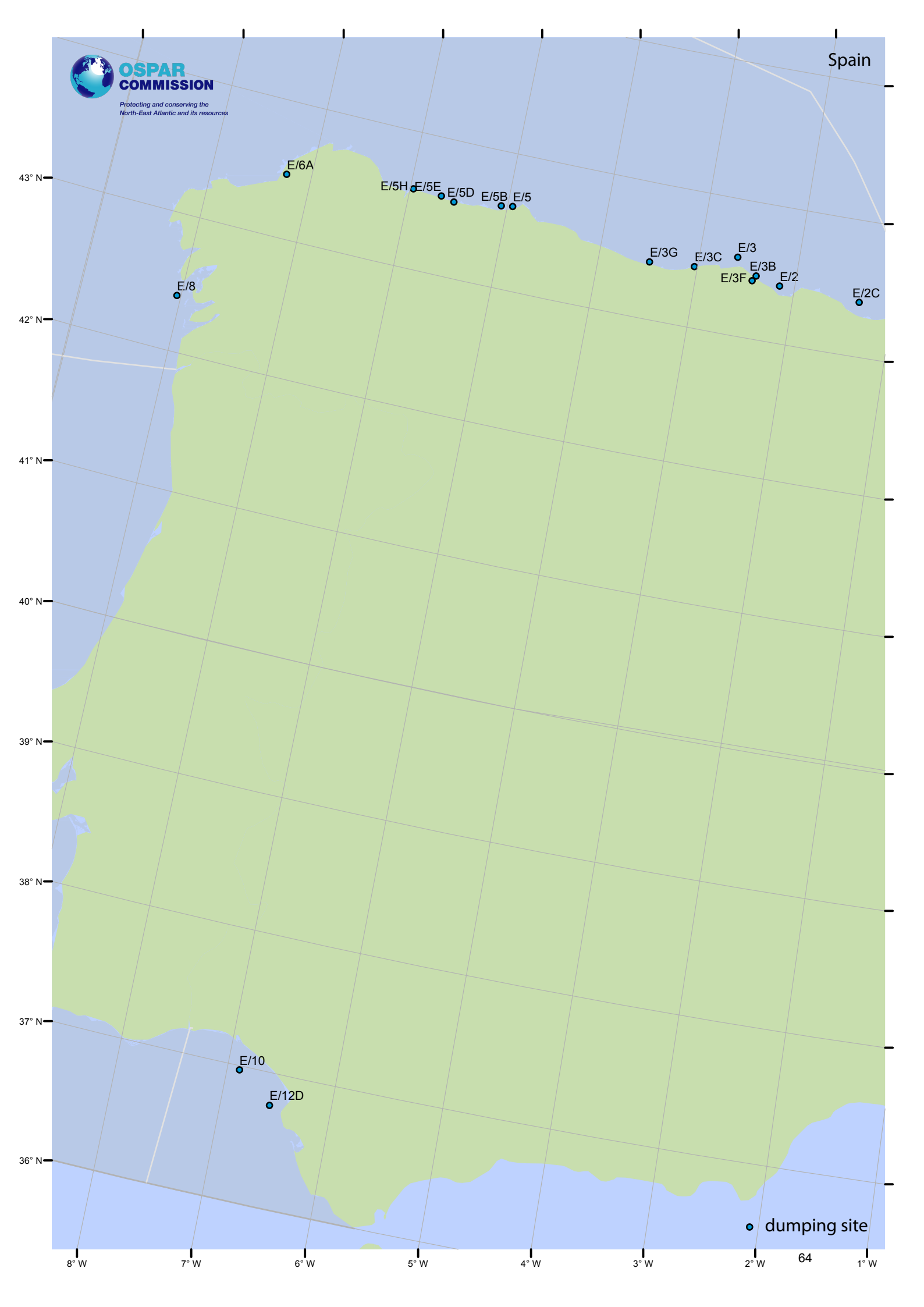
dumping site
10° E
20° E
63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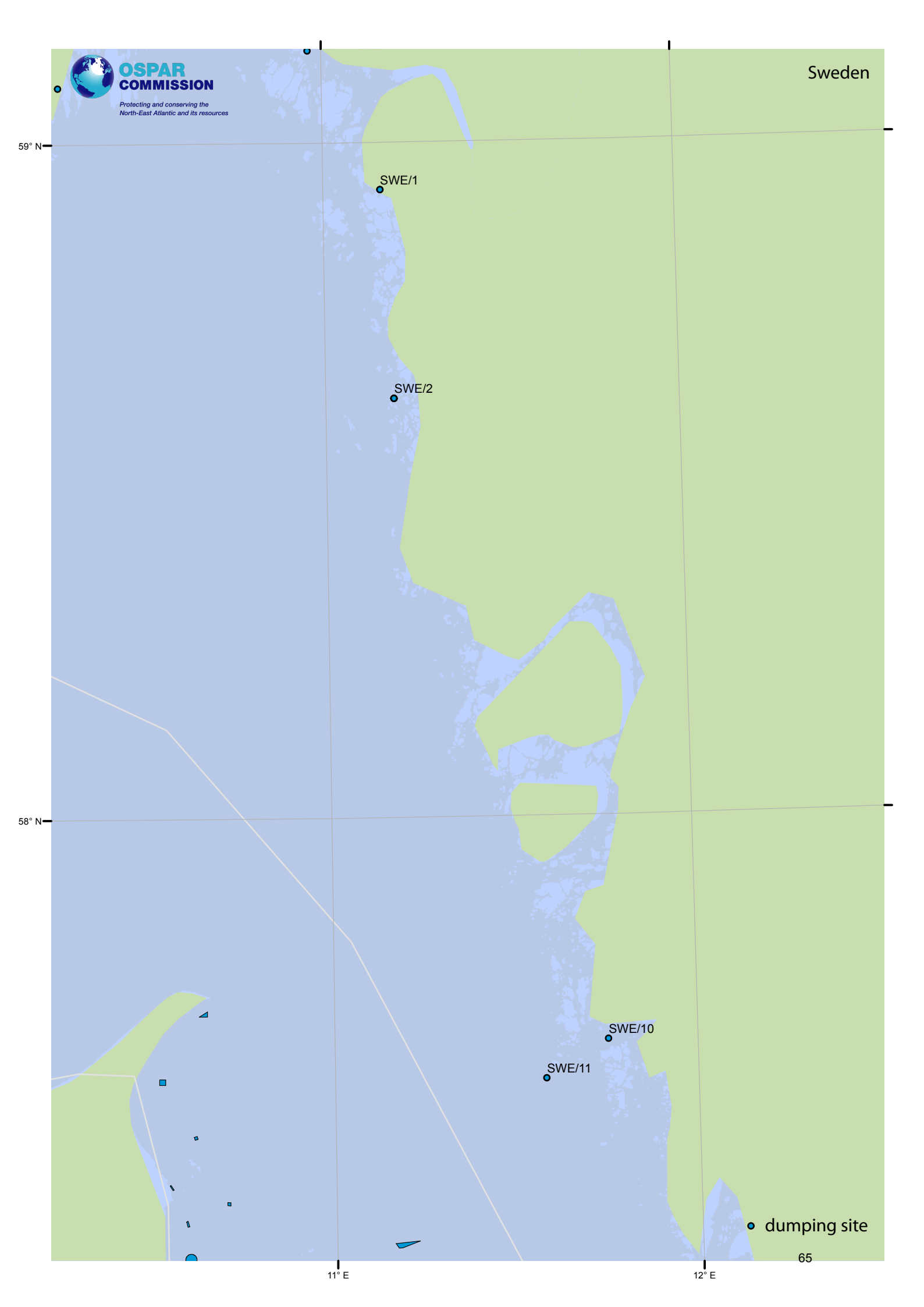
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SWE/11
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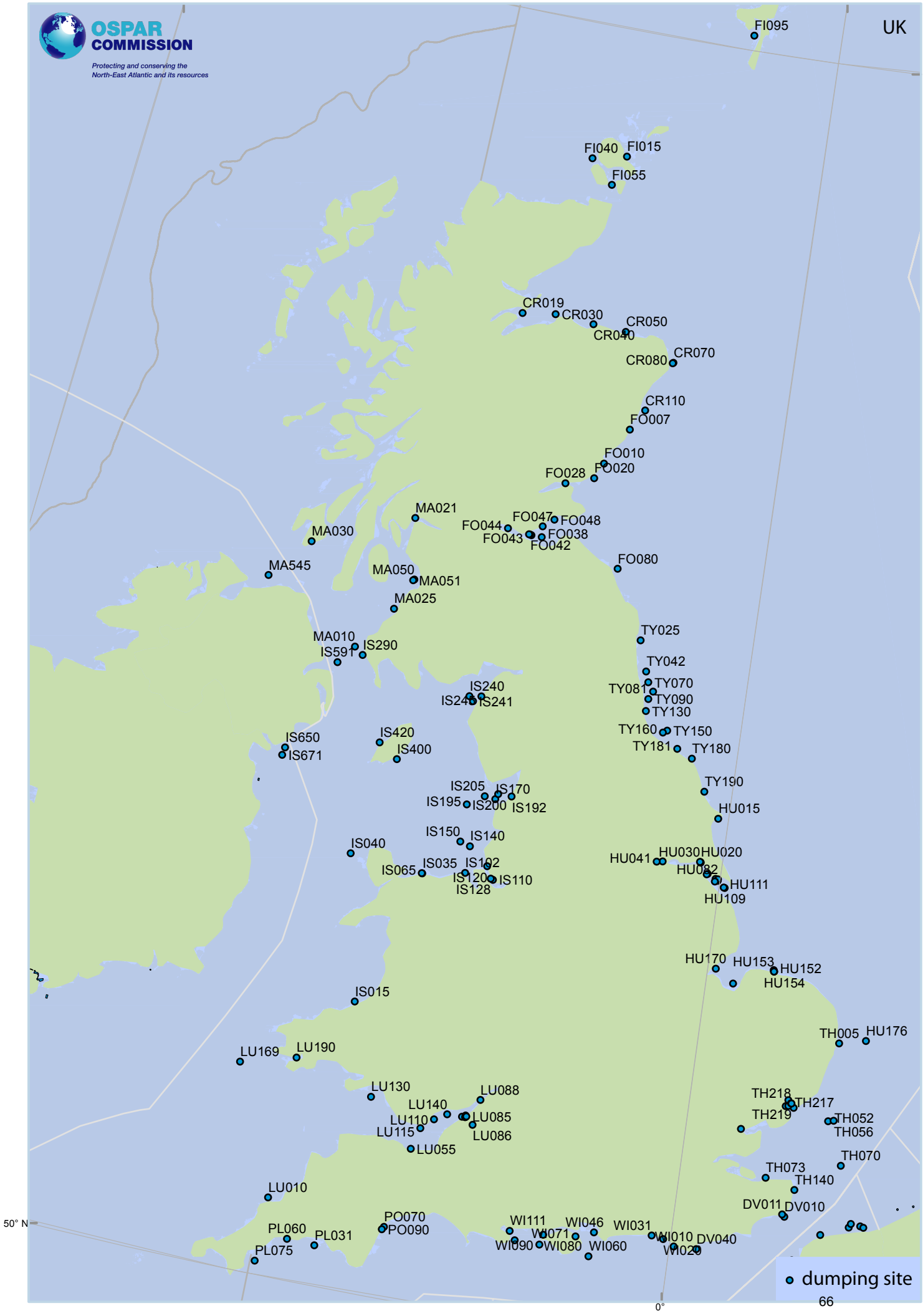
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PL060
PL031
PL075
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WI046
WI031
WI071
WI010
DV040
WI090
WI080
WI060
WI020
50° N
0°
dumping site
66

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