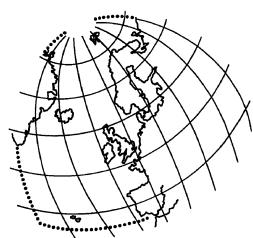


Biodiversity Series

Dumping of Wastes at Sea in 2006



**OSPAR Commission
2008**

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

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

At the time publication, Denmark had not yet provided their data for 2006.

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Report on Dumping Permits Issued in 2006

Table 1 Overview of number of permits issued, tonnes licensed and tonnes dumped in 2006

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	Vessels or aircraft	Others				
Belgium	7	0	0	0	0		28 400 000	33 494 859	(1) (3) (2) (3)
							12 555 000		
France	70	0	0	0	0	0	76 161 500	25 261 021	(1) (2)
Germany	19					4	10 257 529	26 375 000	(1) (2) (3)
							12 010 154		
Iceland	5	0	0	0	0		491 472	491 472	(1)
Ireland	12	0	0	0	0		2 650 410		(1) (2)
Netherlands	6					numerous	17 500 000	8 133 112	(1) (2)
Norway	48						1 053 982		(1)
		1					220 760	1 274 888	(2)
			1						
Portugal	8		NI	2			3 613 133	3 613 133	(1) (2)
Spain	12	0	0	0	0	0	3 322 443	1 615 801	(1) (2) (3)
Sweden	2	0	0	0		1	25 800	43 470	(1) (2)
United Kingdom	92	0	(3)	0	0	0	14 919 103	15 349 471	(1) (2) (3)

NI = No information

Table 2 Specific reporting on permits issued in 2006*

Contracting Party	Number of permits issued * per waste category				Contaminants/ Material of concern		Tonnes dumped ** (dry weight)	Reasons for classification ***	
	Dredged material	Inert Material	Vessels or aircraft	Others	Type	Level 2 (mg/kg)			
France	3				Hg Zn PCB 28 PCB 52 PCB 101 PCB 118 PCB 138 PCB 153 PCB 180	0,8 552 50 50 50 100	90 50 100 100 50	63142	
Germany (1)	1				HCB DDD DDE DDT	p,p- p,p- p,p- p,p-	0,006 0,003 0,003	5 370 205	(2) a, b, c
	1				HCB DDD DDE DDT	p,p- p,p- p,p- p,p-	0,006 0,010 0,003 0,003	801 636	(3)
	1				PAK 6 p,p-DDT PCB 52 PCB 101 PCB 138 PCB 153 PCB 180		0,003 0,003 0,003 0,006 0,012 0,015 0,006	1 551	(4)
	1				HCB pp,-DDD		0,006 0,010	141 158	(5)
Ireland	12							(1)	
Norway		3		1 (fish waste)				220 760 160	(1)
Portugal	8		2					1 409 547	

* The number of permits in this column includes the operations regulated by other means

** For dredged material the tonnes dumped refer to material exceeding level 2

for inert material - numbers of permits issued in total and tonnes dumped in total

*** Footnotes are listed at the end of the report

Amounts of Wastes Dumped at Sea in 2006

Part I

Table 3a Details of deposit sites and dumping methods

OSPAR-codes Deposit site	categories of waste				origin name of watersystem	dredged material			dredging operation type			total quantity (in metric tonnes)		
	dredged material	inert material	fish waste	vessels/ aircraft		Harbour	Estuary	Sea	capital	maintenance	dry weight	Tot. org. carbon	notes	
Belgium														
B/1	x				Pas van het Zand			x		x	658 967			
B/1	x				CDNB Zeebrugge			x		x	723 200			
B/1	x				Scheur Oost			x		x	644 692			
B/1	x				Scheur West			x		x	892 464			
B/1	x				Voorhaven Zeebrugge	x				x	872 401			
B/3	x				Pas van het Zand			x		x	144 276			
B/3	x				CDNB Zeebrugge			x		x	103 604			
B/3	x				Scheur Oost			x		x	71 592			
B/3	x				Scheur West			x		x	72 771			
B/3	x				Voorhaven Zeebrugge	x				x	113 401			
B/6	x				Haven en voorhaven Zeebrugge	x				x	1 873 967			
B/6	x				CDNB Zeebrugge			x		x	434 099			
B/6	x				Toegang Blankenberge					x	86 762			
B/9	x				Toegangsgeul Oostende			x		x	581 831			
B/9	x				Haven Oostende	x				x	231 449			
B/9	x				Jachthaven Oostende	x				x	6 385			
B/99	x				Haven Nieuwpoort	x				x	1 041			
B/99	x				Oude Vlotkom	x				x	106 945			
B/99	x				Toegangsgeul Nieuwpoort			x		x	37 496			
B/99	x				Vaargeul en havengeul Nieuwpoort			x		x	32 787			
B/1	x				Pas van het zand			x	x		1 766 241			
B/1	x				CDNB Zeebrugge			x	x		600 036			
B/1	x				Scheur Oost			x	x		1 165 667			
B/1	x				Scheur West			x	x		4 260 674			
B/1	x				Voorhaven Zeebrugge	x			x			138 348		
B/3	x				CDNB Zeebugge			x	x			31 205		
B/3	x				Voorhaven Zeebrugge	x			x			59 468		
B/6	x				Haven en voorhaven Zeebrugge	x			x			163 626		
B/6	x				CDNB Zeebrugge			x	x			238 318		
B/int1	x				Drempel van Borssele		x			x		1 292 982		
B/int1	x				Put van Terneuzen		x			x		382 056		
B/int1	x				Pas van Terneuzen		x			x		199 910		
B/int1	x				Gat Van Ossenisse 26-30		x			x		97 634		
B/int1	x				Drempel van Bath		x			x		42 528		
B/int1	x				Vaarwater boven Bath		x			x		7 176		
B/int2a	x				Drempel van Borssele		x			x		501 498		

OSPAR-codes	categories of waste				origin name of watersystem	dredged material			dredging operation type		total quantity (in metric tonnes)		
	dredged material	inert material	fish waste	vessels/ aircraft		Harbour	Estuary	Sea	capital	maintenance	dry weight	Tot. org. carbon	notes
B/int2a	x				Pas van Terneuzen		x			x	242 454		
B/int2a	x				Put van Terneuzen		x			x	239 296		
B/int2a	x				Drenmpel van Hansweert		x			x	251 652		
B/int2a	x				Overloop Valkenisse 54-58		x			x	57 362		
B/int2a	x				Drempel van Valkenisse		x			x	190 210		
B/int2a	x				Drenmpel van Bath		x			x	71 464		
B/int2a	x				Vaarwater boven Bath		x			x	42 814		
B/int2b	x				Overloop Valkenisse 54-58		x			x	28 322		
B/int2b	x				Drempel van Valkenisse1		x			x	158 166		
B/int2b	x				Drempel van Bath		x			x	14 352		
B/int2b	x				Vaarwater boven Bath		x			x	21 436		
B/int7	x				Drempel van Hansweert		x			x	850 426		
B/int7	x				Drempel van Valkenisse		x			x	400 404		
B/int7	x				Nauw van Bath		x			x	140 436		
B/int7	x				Drempel van Bath		x			x	738 918		
B/int7	x				Vaarwater boven Bath		x			x	517 308		
B/int8	x				Gat Van Ossenisse 26-30		x			x	59 498		
B/int8	x				Drempel van Hansweert		x			x	1 086 896		
B/int8	x				Overloop Valkenisse 54-58		x			x	142 694		
B/int8	x				Overloop Valkenisse 58-62		x			x	569 464		
B/int8	x				Drempel van Valkenisse		x			x	250 578		
B/int9	x				Drempel van Hansweert		x			x	1 164 930		
B/int9	x				Overloop Valkenisse 54-58		x			x	50 092		
B/int9	x				Overloop Valkenisse 58-62		x			x	15 672		
B/int9	x				Drempel van Valkenisse		x			x	590 656		
B/int9	x				Nauw van Bath		x			x	39 836		
B/int9	x				Drempel van Bath		x			x	298 608		
B/int15	x				Drempel van Valkenisse		x			x	230		
B/int15	x				Drempel van Bath		x			x	294		
B/int0	X				Containerkaai Noord		x			x	132 868		
B/int0	x				Drempel van Zandvliet		x			x	45 070		
B/int0	x				Toegangsgeul Zand/Beren sluis		x			x	315 928		
B/int0	x				Drempel van Frederik		x			x	7 570		
B/int0	x				Drempel van Lillo		x			x	64 698		
B/int0	x				Ketelplaat		x			x	5 076		
B/int0	x				Drempel van de Parel		x			x	115 930		
B/int0	x				ScheldeDijk DD		x			x	25 074		
B/int0	x				Deurganckdok		x			x	432 660		
B/int1bis	x				Containerkaai Noord		x			x	98 312		
B/int1bis	x				Drempel van Zandvliet		x			x	1 387 610		
B/int1bis	x				Drempel van Frederik		x			x	1 141 796		
B/int1bis	x				Drempel van Lillo		x			x	293 640		

OSPAR-codes	categories of waste				origin name of watersystem	dredged material			dredging operation type		total quantity (in metric tonnes)		notes
	dredged material	inert material	fish waste	vessels/ aircraft		Harbour	Estuary	Sea	capital	maintenance	dry weight	Tot. org. carbon	
B/int1 bis	x				Vaarw. Pl. Lillo		x			x	490 730		
B/int1bis	x				Toegang Kallosluis		x			x	86 706		
B/int1bis	x				Drempel van de Parel		x			x	471 690		
B/int1 bis	x				Deurganckdok		x			x	15 198		
B/int1bis	x				Drempel van Krankeloon		x			x	187 874		
B/int12	x				Containerkaai Noord		x			x	161 998		
B/int12	x				Dr. van Zandvliet		x			x	42 448		
B/int12	x				Toeg. Zand/Berensluis		x			x	266 646		
B/int12	x				Dr. van Frederik		x			x	8 610		
B/int12	x				Dr. van Lillo		x			x	65 354		
B/int12	x				Ketelplaat		x			x	3 778		
B/int12	x				Toegang Kallosluis		x			x	89 630		
B/int12	x				Dr. van de Parel		x			x	108 724		
B/int12	x				ScheldeDijk DD		x			x	22 346		
B/int12	x				Deurganckdok		x			x	534 930		
Total											33 494 859		

France													
F/05901	x					x				x	415 106	14 019	
F/05902	x					x				x	216 736	6 158	
F/05903	x					x				x	66 034	1 043	
F/05904	x					x				x	200 031	4 605	
F/06201	x					x				x	251 000	5 568	
F/06202	x					x				x	537 900	11 040	
F/07602	x					x	x				5 584 202	424 976	
F/07606	x					x				x	21 200	3	
F/07603	x					x				x	143 010	20	
F/07601	x					x				x	6 619 000	581	
F/01401	x					x				x	292 410	982	
F/05004	x					x				x	16 000	<DL	
F/05601	x					x				x	2 310	NI	
F/04404	x					x				x	9 000	207	
F/04409	x					x				x	44 100	1 235	
F/04412	x					x				x	10 300	309	
F/04401	x					x				x	2 736 000	82 984	
F/08503	x					x				x	51 016	NI	
F/08504	x					x				x	4 286	NI	
F/08506	x					x				x	39 633	1 078	
F/08507	x					x				x	2 323	NI	

OSPAR-codes	categories of waste				origin name of watersystem	dredged material			dredging operation type		total quantity (in metric tonnes)		
	dredged material	inert material	fish waste	vessels/ aircraft		Harbour	Estuary	Sea	capital	maintenance	dry weight	Tot. org. carbon	notes
F/08508	x					x			x		5 392	183	
F/08510	x					x			x		2 876	NI	
F/01701a	x					x			x		33 900	508	
F/01701b	x					x			x		100 100	1 248	
F/01702	x					x			x		13 100	39	
F/01704	x					x			x		10 775	119	
F/01706	x					x			x		62 000	558	
F/01707	x					x			x		144 200	6	
F/01709	x					x			x		5 200	85	
F/01710	x					x			x		24 900	456	
F/01711b	x					x			x		5 200	NI	
F/01715						x			x		13 300	346	
F/03301, F/03302, F/03303, F/03305, F/03306, F/03307	x					x			x		1 953 000	24 075	
F/03307, F/03308, F/03309, F/03311	x					x			x		2 245 000	341	
F/03312, F/03313, F/03314, F/03315, F/03316, F/03317	x					x			x		1 871 000	17 407	
F/03318 et F/03316	x					x			x		104 000	1 440	
F/03319	x					x			x		649 000	5	
F/06401	x					x			x		756 281	2 932	
F/06403	x					x			x		202	NI	
Total											25 261 021	604 552	

Germany													
D10	x				Dagebüll harbour	x			x		20 000	0,29	
D12	x				Husum harbour	x			x		34 000	1,53	
D13	x				Harbour and outer harbour of Büsum	x			x		18 000	0,31	
D14	x				Elbe estuary / navigation channel;outer port of the lock to the "Nord-Ostsee-Kanal" (Kiel-Canal); inner part of "Nord-Ostsee-Kanal"	x	x		x		5 372 000	143,01	(1)
											7 400 000		(2)
D15	x				Weser Estuary/navigation channel		x		x		769 000	12,20	(1)
											2 600 000		(2)
D17	x				Jade Bay/navigation channel	x	x		x		1 385 000	35,19	(1)
											1 023 000		(2)
D20	x				Outer harbour of Hooksiel	x			x		44 000	0,35	
D21	x				Wangerooge harbour	x			x		1 000	0,01	
D22	x				Spiekeroog harbour	x			x		3 000	0,05	

OSPAR-codes	categories of waste				origin name of watersystem	dredged material			total quantity (in metric tonnes)			notes	
	dredged material	inert material	fish waste	vessels/ aircraft		Harbour	Estuary	Sea	capital	maintenance	dry weight	Tot. org. carbon	
D30	x				Norderney harbour	x				x	18 000	0,42	
D32	x				Norddeich harbour	x				x	7 000	0,16	
D34	x				Ems estuary / navigation channel	x				x	2 110 000	44,96	(1)
											2 321 000		(2)
D36	x				Borkum, Minitrain harbour and approach channel of Borkum island	x				x	2 000	0,01	
D40	x				Harbour basin of river Eider flood gate system	x				x	8 000	0,15	
D43	x				Bensersiel harbour	x				x	5 000	0,07	
D45					Approach channel of Juist harbour	x				x	3 000	0,02	
D47					River quay berth Elbe; harbours of Cuxhaven	x	x			x	2 177 000		
D50					Baltrum harbour	x				x	1 000	0,01	
D51					Langeoog harbour, Bensersiel harbour and approach channel to Bensersiel harbour	x				x	4 000	0,06	
D52					Wyk harbour (Föhr)	x				x	2 000	0,02	
D54					Friedrichskoog harbour	x				x	141 000	1,44	
D56					Niedersachsenbrücke Wilhelmshaven (seaward mooring berth)	x	x			x	105 000	1,74	
D57					Hamburg Harbour	x				x	802 000	16,84	
Total											26 375 000	258,844	

Iceland

IS4	x					x				x	38 141		
IS4	x					x				x	5 612		
IS5	x					x				x	25 754		
IS44	x					x				x	8 540		
IS53	x					x				x	90 665		
IS53	x					x				x	10 074		
IS59	x					x				x	312 686		
Total											491 472		

Ireland

IRL6	x				Burford Bank			x		x	251 128		
IRL15	x				Tarbert			x		x	3 222		
IRL19	x				Dundalk Bay			x		x	27 300		
IRL20	x				Drogheda			x		x	321 727		
IRL33	x				Shannon / Foynes			x		x	22 682		
IRL45	x				Limerick	x				x	5 067		
IRL47	x				Clogherhead			x		x	190 472		
IRL52	x				Castletownbere	x				x	88 471		
IRL53	x				Shannon / Foynes		x			x	883		
Total											910 952		

OSPAR-codes	categories of waste				origin name of watersystem	dredged material			dredging operation type		total quantity (in metric tonnes)		
Deposit site	dredged material	inert material	fish waste	vessels/ aircraft		Harbour	Estuary	Sea	capital	maintenance	dry weight	Tot. org. carbon	notes
Netherlands													
NL-6 Scheveningen	x					x				x	313 953		
NL-7 IJmuiden	x					x				x	2 039 783		
NL-8 Rotterdam	x					x				x	3 298 255		
NL-10 Eastern Sceldt													
NL-11 Western Sceldt													
NL-13 Waddensea West	x					x	x			x	267 972		
NL-14 Waddensea East	x					x	x			x	1 233 697		(1)
NL-15 Ems-Dollard	x					x	x			x	979 452		(1)
Total											8 133 112		

Norway													
1 Østfold	x				Oslofjord	x				x	3 600		
2 Østfold	x				Oslofjord	x				x	250		
3 Østfold	x				Oslofjord	x				x	100		
4 Østfold	x				Oslofjord	x				x	150		
5 Østfold	x				Oslofjord	x				x	550		
6 Østfold	x				Oslofjord	x				x	420		
7 Østfold	x				Oslofjord	x				x	500		
8 Østfold	x				Oslofjord	x				x	250		
9 Østfold	x				Oslofjord	x				x	625		
10 Østfold	x				Oslofjord	x				x	500		
11 Østfold	x				Oslofjord	x				x	600		
12 Oslo og A	x				Oslofjord	x				x	196 000		(1)
13 'Vestfold	x				Oslofjord	x				x	480		
14 'Vestfold	x				Oslofjord	x				x	240		
15 'Vestfold	x				Oslofjord	x				x	1 120		
16 'Vestfold	x				Oslofjord	x				x	480		
17 'Vestfold	x				Oslofjord	x				x	560		
18 'Vestfold	x				Oslofjord	x				x	1 360		
19 Vestfold	x				Oslofjord	x				x	1 040		
20 Vestfold	x				Oslofjord	x				x	1 040		
21 Vestfold	x				Oslofjord	x				x	816		
22 Vestfold	x				Oslofjord	x				x	1 040		
23 'Vestfold	x				Oslofjord	x				x	1 280		
24 'Vestfold	x				Oslofjord	x				x	1 280		
25 Vestfold	x				Oslofjord	x				x	1 120		
26 'Vestfold	x				Oslofjord	x				x	1 020		
27 Vestfold	x				Oslofjord	x				x	510		
28 Buskerud	x				Oslofjord	x				x	745 904		
29 Telemark	x				Skagerak	x				x	1 600		
30 Aust-Agder	x				Skagerak	x				x	25		

OSPAR-codes	categories of waste				origin name of watersystem	dredged material			dredging operation type		total quantity (in metric tonnes)		notes
	dredged material	inert material	fish waste	vessels/ aircraft		Harbour	Estuary	Sea	capital	maintenance	dry weight	Tot. org. carbon	
31 Vest-Agder	x				Skagerak	x				x	1 600		
32 Vest-Agder	x				Skagerak	x				x	1 120		
33 Vest-Agder	x				Skagerak	x				x	1 088		
34 Vest-Agder	x				Skagerak	x				x	160		
35 Vest-Agder	x				Skagerak	x				x	1 520		
36 Hordaland	x				North Sea	x				x	2 800		
37 Hordaland	x				North Sea	x				x	2 400		
38 Hordaland	x				North Sea	x				x	560		
39 Sogn & fj	x				North Sea	x				x	4 680		
40 Møre & Romsd	x				Norwegian Sea	x				x	3 520		
41 Møre & Romsdal					Norwegian Sea	x				x	7 200		
42 Møre & Romsdal	x				Norwegian Sea	x				x	1 120		
43 Sør-Trøndelag	x				Norwegian Sea	x				x	10 000		
44 Sør-Trøndelag	x				Norwegian Sea	x				x	16 000		
45 Nord-Trøndelag					Norwegian Sea						200		(2)
46 Nordland	x				Norwegian Sea	x				x	236 000		(3)
47 Nordland	x				Norwegian Sea	x				x	16 000		
48 Nordland	x				Norwegian Sea	x				x	1 750		(3)
49 Nordland					Norwegian sea	x					160		(4)
50 Troms	x				Barents Sea	x				x	2 550		
Total											1 274 888		

Portugal

P/1	x				Leixões	x			?		466 700		
P/2	x				Foz do Douro	x			?		39 000		
P/3	x				Aveiro	x			?		1 560 000		
P/4	x				Lisboa	x			?		1 157 563		
P/5	x				Lisboa	x			?		18 980		
P/6	x				Setubal	x				x	143 000		
P/7	x				Setubal	x				x	143 000		(1)
P/8	x				Açores	x	x		?		84 890		
Total											3 613 133		

Spain

E/1	x				Pasajes	x			x		12 614	683,99	
E/2	x				Bilbao	x			x		49 292	229,67	
E/4B	x				Llanes	x			x		18 700	NI	
E/4C	x				Candás	x			x		17 500	NI	
E/5	x				Avilés	x	x		x	x	242 607	4 010,36	
E/5B	x				San Juan de la arena	x			x		975	NI	
E/5C	x				Navia				x		25 123	NI	
E/8	x				Vilagarcía	x			x		94 366	NI	

OSPAR-codes	categories of waste				origin name of watersystem	dredged material			dredging operation type		total quantity (in metric tonnes)		notes
	dredged material	inert material	fish waste	vessels/ aircraft		Harbour	Estuary	Sea	capital	maintenance	dry weight	Tot. org. carbon	
E/8	x				Rianxo	x					36 563	NI	
E/10	x				Huelva	x			x	x	18 198	NI	
E/10	x				El Terrón	x			x		150 648	NI	
E/12	x				Cádiz				x	x	949 215	NI	
Total											1 615 801	4 924,02	

Sweden													(1) - (6)
SWE/11	x				Göteborg, Kattegat	x				x	7 200	ND	
SWE/11	x				Fiskebäck, Kattegat	x				x	1 500	ND	
SWE/10	x				Fiskebäck, Kattegat	x				x	750	ND	
near SWE/12	x				Träslövsläge, Kattegat	x					348	NI	
SWE/13	x				Falkenberg, Kattegat	x				x	6 672	NI	
SWE/20	x				Båstad, Kattegat	x					27 000	ND	
Total											43 470		

UK													
CR030					Moray Firth	x				x	8 154		
CR040					Spey Bay/Moray Firth	x				x	10 508		
CR050					Grampian Coast	x				x	3 105		
CR080					Grampian Coast	x				x	0		
CR110					Dee River	x				x	88 050		
DM001					Cumbria Coast	x				x	17		(1)
DV010					Kent Coast	x	x	x	x	x	163 443		
DV011					Kent Coast	x				x	405		
DV040					Rother River and Kent Coast	x				x	30 577		
FI015					Shetland Coast	x				x	0		
FI055					Shetland Coast		x			x	0		
FI080					Shetland Coast	x				x	0		
FI100					Ham Voe	x				x	875		
FO010					South Esk River	x				x	4 570		
FO020					Tayside Coast	x				x	7 091		
FO028					Firth of Tay	x				x	46 021		
FO036					Firth Of Forth	x				x	2 250		
FO038					Firth Of Forth	x				x	9 118		
FO041					Firth Of Forth	x				x	20 889		
FO042					Firth Of Forth	x				x	17 236		
FO043					Firth Of Forth	x				x	17 233		
FO044					Firth Of Forth	x			x	x	474 999		
FO080					Tweed River	x				x	6 026		
HE050					Loch Broom		x			x	2 065		
HU015					Humberside Coast	x				x	4 229		
HU020					Humber River	x				x	83 942		

OSPAR-codes	categories of waste				origin name of watersystem	dredged material			dredging operation type		total quantity (in metric tonnes)		
	dredged material	inert material	fish waste	vessels/ aircraft		Harbour	Estuary	Sea	capital	maintenance	dry weight	Tot. org. carbon	notes
HU030					Humber River	x				x	617 343		
HU040					Humber River	x				x	3 623		
HU041					Humber River	x				x	5 258		
HU060					Humber River	x	x	x		x	2 029 737		
HU080					Humber River	x	x			x	192 832		
HU090					Humber River	x	x			x	264 395		
HU112					Humber River		x			x	13 706		
HU143					Great Ouse River	x	x			x	42 280		
HU150					Yare River	x	x			x	10 242		
HU170					Witham River	x	x	x		x	26 093		
HU199					Orwell River	x				x	128 691		
HU201					Humber River		x		x		0		
HU202					Norfolk Coast			x	x		195 269		
IS040					Anglesey Coast	x				x	7 317		
IS102					Dee River, Wales		x	x		x	336 985		
IS110					Mersey River	x	x			x	174 282		
IS120					Mersey River/Liverpool Bay	x		x		x	202 679		
IS128					Mersey River		x			x	391 315		
IS140					Mersey River	x	x	x		x	1 476 854		
IS150					Mersey River/Liverpool Bay	x	x		x		1 836		
IS170					Wyre River	x				x	515 129		
IS192					Lune River	x				x	2 263		
IS200					Morecambe Bay	x		x		x	292 975		
IS205					Cumbria Coast	x		x		x	457 573		
IS240					Cumbria Coast	x				x	0		
IS241					Cumbria Coast	x				x	58 862		
IS245					Cumbria Coast	x				x	38 784		
IS251					Cumbria Coast			x		x	0		
IS595					Belfast Lough		x			x	435 227		
IS636					Down Coast	x				x	0		
IS650					Down Coast	x				x	0		
IS671					Carlingford Lough	x				x	14 030		
LU010					Camel River	x				x	1 167		
LU055					Somerset Coast	x				x	2 888		
LU070					Avon River	x	x			x	66 190		
LU080					Avon River	x	x			x	76 237		
LU083					Avon River	x	x			x	24 503		
LU084					Avon River	x	x			x	26 919		
LU085					Avon River	x	x			x	32 249		
LU086					Avon River	x	x			x	2 711		
LU110					Taff R./Severn Est.	x				x	247 411		
LU115					Severn Estuary	x				x	14 756		

OSPAR-codes	categories of waste				origin name of watersystem	dredged material			dredging operation type		total quantity (in metric tonnes)		
	dredged material	inert material	fish waste	vessels/ aircraft		Harbour	Estuary	Sea	capital	maintenance	dry weight	Tot. org. carbon	notes
LU130					Tawe & Neath Rivers/Swansea Bay	x	x	x		x	771 081		
LU140					Usk River	x				x	113 551		
LU168					Milford Haven	x	x		x	x	40 347		
LU169					Milford Haven	x	x		x	x	128 272		
LU190					Milford Haven		x			x	2 040		
MA010					Loch Ryan	x				x	0		
MA016					Firth of Clyde	x				x	0		
MA021					Firth Of Clyde	x				x	90 545		
MA025					Firth Of Clyde	x				x	6 051		
MA030					Islay Coast	x				x	9 888		
MA050					Firth Of Clyde	x				x	25 853		
MA060					Firth Of Clyde	x				x	0		
MA501					Foyle River	x				x	12 082		
MA545					Foyle River	x				x	46 603		
PL031					Tamar River & Kingsbridge Estuary	x	x			x	0		
PL060					Fowey River/Cornwall Coast South	x	x			x	27 109		
PL072					Penrhyn River	x				x	3 775		
PL075					Falmouth Harbour/Truro River/Mounts Bay	x				x	5 242		
PO070					Teign River	x				x	0		
PO090					Teign River	x			x		0		
TH005					Waveney River	x				x	31 082		
TH034					Orwell River		x		x	x	5 334		
TH037					Orwell River	x	x			x	16 126		
TH052					Orwell/Stour Rivers + Thames Estuary	x	x	x		x	1 390 690		
TH053					Orwell River	x	x			x	18 903		
TH062					Blackwater River		x			x	246		
TH070					Thames Estuary			x	x		1 120		
TH080					Thames Estuary			x	x		97 891		
TH140					Kent Coast	x				x	61 448		
TH146					Kent Coast	x				x	0		
TH147					Kent Coast	x				x	0		
TH207					Orwell River	x	x			x	55 890		
TH208					Orwell River	x	x			x	49 609		
TH209					Orwell River	x	x			x	20 771		
TH210					Orwell River	x	x			x	0		
TH211					Orwell River	x	x			x	127 626		
TY022					Coquet River	x				x	0		
TY025					Coquet River		x			x	0		
TY042					Northumberland Coast	x			x	x	89 675		
TY070					Tyne River	x	x		x	x	553 157		
TY081					Tyne River	x	x		x	x	196 967		
TY090					Wear River	x	x			x	107 681		

OSPAR-codes	categories of waste				origin name of watersystem	dredged material			dredging operation type		total quantity (in metric tonnes)		notes
	dredged material	inert material	fish waste	vessels/ aircraft		Harbour	Estuary	Sea	capital	maintenance	dry weight	Tot. org. carbon	
TY130					Durham Coast	x	x			x	17 718		
TY150					Tees River/Hartlepool Bay	x	x	x	x		193		
TY160					Tees River/Hartlepool Bay	x	x	x		x	1 139 569		
TY180					Esk River	x		x	x	x	18 614		
TY181					North Yorkshire Coast			x		x	0		
TY190					North Yorkshire Coast	x			x	x	34 564		
WI010					Ouse River (E.Sussex)	x		x		x	19 672		
WI020					East Sussex Coast	x				x	16 017		
WI031					Sussex Coast	x				x	61 619		
WI035					Sussex Coast			x		x	1 864		
WI045					Chichester Harbour	x	x			x	1 762		
WI060					So'ton Water, IoW, Portsmouth...	x	x	x	x	x	253 532		
WI064					Portsmouth Harbour	x				x	0		
WI080					So'ton Water, IoW etc.	x				x	14 129		
WI090					So'ton Water, IoW etc.			x	x		2 421		
WI110					Poole Harbour	x	x	x	x	x	228 527		
IS015					New Quay, Wales						1 203		
Total											15 349 471		

OSPAR-cod	in tonnes													in kilogrammes													
	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
WI090	0	0	0,037	0,100	0,038	0,045	0,047	0,194	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0,041	0,178	
WI110	0,026	0,009	1,487	2,878	2,394	3,262	1,821	8,794	0,492	0,003	0,006			0	0	0	0	0	0	0	0	0	0	0	5,162	0,568	
IS015																											
Total	5,626	4,757	282,320	747,772	507,974	1 034,471	432,563	2 418,327	7 029,237	42,394	142,624			4,812	2,794	4,783	3,942	9,593	12,562	17,341	115,764	45,384	0,057	0,019	0,280	1 078,697	206,674

PART II

GENERAL INFORMATION

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

ADDITIONAL INFORMATION

(Referring to Part II of the Format for Annual Reporting on Dumping Operations at Sea adopted at BDC 2001)

1. Deposit site

France

In 2006, France did not used new deposits sites:

The following site does not have a valid permit any more and will not be used in the future: F/08502: Noirmoutier en l'île, l'Herbaudière, La Pointe.

Département	Dumping sites	Latitude	Longitude	Maritime area	Last used in
Nord (59)	F/05901	51,0703 N	2,1595 E	La Manche	2006
	F/05902	51,0975 N	2,1833 E		2006
	F/05903	51,0858 N	2,3000 E		2006
	F/05904	51,0803 N	2,3442 E		2006
Pas-de-Calais (62)	F/06201	50,9850 N	1,8195 E		2006
	F/06202	50,7695 N	1,5060 E		2006
Seine Maritime (76)	F/07601	49,4567 N	0,0650 E		2006
	F/07602	49,5517 N	0,0233 E		2006
	F/07603	49,9653 N	1,0930 E		2006
	F/07604	49,9167 N	0,7167 E		2005
	F/07605	49,7900 N	0,3278 E		2005
Calvados (14)	F/07606	50,0967 N	1,3200 E		2006
	F/01401	49,3188 N	-0,2080 E		2006
	F/01402	49,4000 N	-0,7500 E		2005
	F/01403	49,4167 N	-1,0128 E		2005
	F/01405	49,3690 N	0,0682 E		2005
	F/01406	49,4002 N	-0,0218 E		2005
	F/01407	49,3080 N	-0,1045 E		2005
	F/01408	49,3417	-0,4627 E		2005

		N			
Manche (50)	F/05001	48,8375 N	-1,6542 E		2005
	F/05002	48,8247 N	-1,6008 E		2005
	F/05003	49,6467 N	-1,6042 E		2001
	F/05004	49,5725 N	-1,8758 E		2006
	F/05005	49,7812 N	-1,5637 E		2005
Ile et Vilaine (35)	F/03501	48,7105 N	-2,1185 E		2005
Finistère (29)	F/02907	48,5833 N	-3,8333 E		2005
	F/02906	47,9750 N	-4,5583 E		2003
Morbihan (56)	F/05601	47,6667 N	-3,4333 E	Océan Atlantique	2006
	F/05602	47,4462 N	-2,8882 E		2005
	F/05603	47,4930 N	-3,1950 E		2005
Loire Atlantique (44)	F/04401	47,1617 N	-2,3733 E		2006
	F/04402	47,0945 N	-2,2325 E		2005
	F/04404	47,3667 N	-2,6083 E		2006
	F/04405	47,3430 N	-2,5250 E		2001
	F/04406	47,3323 N	-2,6013 E		2005
	F/04407	47,3323 N	-2,5347 E		2005
	F/04408	47,2500 N	-2,4167 E		2005
	F/04409	47,2417 N	-2,3360 E		2006
	F/04411	47,1645 N	-2,2167 E		2005
	F/04412	47,1027 N	-2,1238 E		2006
Vendée (85)	F/08501	47,0708 N	-2,3855 E		2005
	F/08502	47,0285 N	-2,3075 E		2005
	F/08503	46,8722 N	-2,2062 E		2006
	F/08504	46,8042 N	-2,3058 E		2006
	F/08505	46,6225 N	-2,0600 E		2005
	F/08506	46,6925 N	-1,9443 E		2006
	F/08507	46,6973 N	-1,9470 E		2006
	F/08508	46,4610 N	-1,8092 E		2006
	F/08509	46,4885 N	-1,7745 E		2005

	F/08510	46,4367 N	-1,6707 E		2006
	F/08511	46,4333 N	-1,6728 E		2005
Charente Maritime (17)	F/01701a	46,1350 N	-1,2317 E		2006
	F/01701b	46,1327 N	-1,2377 E		2006
	F/01702	46,0167 N	-1,1883 E		2006
	F/01704	46,2228 N	-1,3837 E		2006
	F/01705	45,7933 N	-1,2350 E		2005
	F/01706	46,1367 N	-1,1728 E		2006
	F/01707	45,9397 N	-0,9512 E		2006
	F/01708	46,1850 N	-1,2467 E		2000
	F/01709	45,6167 N	-1,0328 E		2006
	F/01710	46,0000 N	-1,3183 E		2006
	F/01711	46,0000 N	-1,3183 E		2006
	F/01712	45,9733 N	-1,2283 E		2005
	F/01714	46,1397 N	-1,5427 E		2005
	F/01715	46,0362 N	-1,3588 E		2006
Gironde (33)	F/03301	44,9547 N	-0,5408 E		2006
	F/03302	44,9607 N	-0,5392 E		2006
	F/03303	44,9653 N	-0,5385 E		2006
	F/03305	45,0118 N	-0,5860 E		2006
	F/03306	45,0182 N	-0,5950 E		2006
	F/03307	45,0937 N	-0,6665 E		2006
	F/03308	45,1495 N	-0,6963 E		2006
	F/03309	45,1913 N	-0,7172 E		2006
	F/03310	44,5892 N	-1,3017 E		2004
	F/03311	45,2325 N	-0,7338 E		2006
	F/03312	45,2777 N	-0,7453 E		2006
	F/03313	45,3698 N	-0,7892 E		2006
	F/03314	45,3997 N	-0,8242 E		2006
	F/03315	45,4277 N	-0,8523 E		2006

	F/03316	45,4577 N	-0,8890 E		2006
	F/03317	45,4870 N	-0,9197 E		2006
	F/03318	45,5957 N	-1,0792 E		2006
	F/03319	45,5992 N	-1,3325 E		2006
	F/03320	44,5500 N	-1,3300 E		2004
	F/03323	44,6378 N	-1,2358 E		2005
	F/03333	44,6650 N	-1,1142 E		2005
	F/03334	44,7021 N	-1,1166 E		2005
Landes (40)	F/04001	43,6510 N	-1,4517 E		2005
Pyrénées Atlantiques (64)	F/06401	43,5333 N	-1,5667 E		2006
	F/06402	43,5050 N	-1,5467 E		2005
	F/06403	43,5292 N	-1,5135 E		2006
	F/06404	43,4122 N	-1,6770 E		2005
	F/06405	43,5275 N	-1,5147 E		2005

Iceland

The following sites were used in 2005 but not in 2006:

IS2, IS24, IS33, IS41, IS46, IS51, IS52, IS54.

The following sites were not used in 2005, but used in 2006:

IS4, IS5, IS44, IS53.

Ireland

The locations of the deposit sites in Ireland are indicated in Part II-Figure 4 and their co-ordinates in Table 1 to that figure. Two new sites were added in 2006 (IRL 52 and 53).

Norway

Number of deposit sites per county in Norway for 2006 in the OSPAR Convention area:

Number County	2006		
	Dredged material	Inert material	Other waste
1 Østfold	11		
2 Akershus/Oslo	1		
3 Vestfold	15		
4 Buskerud	1		
5 Telemark	1		
6 Aust-Agder	1		
7 Vest-Agder	5		
8 Rogaland	0		
9 Hordaland	3		
10 Sogn og Fjordane	1		
11 Møre og Romsdal	3		
12 Sør-Trøndelag	2		
13 Nord-Trøndelag	0	1*	
14 Nordland	2**	1**	1***
15 Troms	1		
16 Finnmark	0		
Total	47	2	1

* = concrete quay fundaments

** = 2 of these 3 permits yield both dredged materials and inert materials

*** = fish waste

Spain

Several new deposit sites have been incorporated with respect to previous years. Table 1 includes the OSCOM codes for these new sites with its geographical coordinates and updated the information of sites used in 2006

Table 1. Geographical coordinates (WGS 84) for Spanish deposit sites

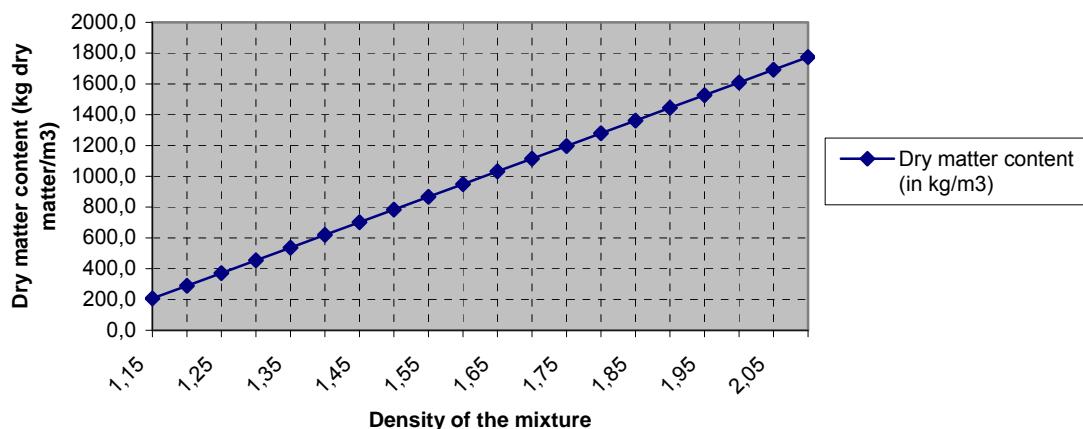
OSCOM-code	Latitude	Longitude
E/1	43° 21,3' N	1° 54,7' W
E/2	43° 26' N	3° 6' W
E/4B	43° 25,2' N	4° 44,5' W
E/4C	43° 35'18" N	5° 44'18" W
E/5	43° 36,8' N	5° 56,8' W
E/5B	43° 36' N	6° 3,7' W
E/5C	43° 34,3' N	6° 42,5' W
E/8	42° 25' N	9° 2' W
E/10	36° 58' 8" N	6° 53' 8" W
E/12	36° 30' 30" N	6° 24' 30" W

Two maps have been reported showing the geographical location of deposit sites. The first map is a general view while the second one is a view of detail of the northern Spanish Coast.

Sweden

All dumping sites have been used before. However, dumping site SWE/20 has not previously been reported to OSPAR.

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'Intérêt 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 marin sediments, by extraction with CC14 in Infra Red.

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

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 PAH₆.(benzo[ghi]perylene; benzo[a]pyrene; fluoranthene; indeno[1,2,3-cd]pyrene; benzo[b]fluoranthene; benzo[k]fluoranthene)

Ireland

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.

In many cases the material dumped at particular sites originates from more than one area. Sediment analysis is carried out by independent laboratories and consequently the limits of detection vary.

The limits of detection requested from laboratories are:

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

Notes:

In some instances the material dumped at a particular site can comprise sediment dredged from various dredging locations. Often a contaminant may be detected in the sediment from one location dumped at a dumpsite whilst the same contaminant from another location (dumped at the same site) is below the detection limits. In such cases the amount of the substance dumped is given as a maximum (e.g. 0,10 tonnes + <0,02 tonnes is quoted as <0,12 tonnes).

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

Heavy metals analysis

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

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

For As:

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

For Hg:

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

Poly-chlorinated-biphenyls

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

Polyaromatic hydrocarbons

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

Organic matter

For this parameter we have used two types of techniques.

- As volatile solids:

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

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

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

- As Total organic carbon (TOC):

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

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

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

United Kingdom

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	Perlylene
Benzo[a]pyrene	C3-Naphthalenes	Phenanthrene
Benzo [b] fluoranthene	Chrysene	Pyrene
Benzo[e]pyrene	Dibenz[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), 25 pp.
- Jones, B.R. and Laslett, R.E. (1994) Methods for analysis of trace metals in marine and other samples. Aquatic Environmental Protection: Analytical Methods, MAFF Directorate of Fisheries Research, Lowestoft, (11), 29 pp.

- Kelly, C.A., Law, R.J., and Emerson, H.S. (2000) Methods of analysing hydrocarbons and polycyclic aromatic hydrocarbons (PAH) in marine samples. Science Series, Aquatic Environmental Protection: Analytical Methods, CEFAS Lowestoft. (12), 18pp.
- Law, R.J., Fileman, T.W. and Portmann, J.P. (1988) Methods of analysis of hydrocarbons in marine and other samples. Aquatic Environmental Protection: Analytical Methods, MAFF Directorate of Fisheries Research, Lowestoft, (2), 25 pp.
- Waldock, M.J., Waite, M.E., Miller, D., Smith, D.J. and Law, R.J. (1989) The determination of total tin and organotin compounds in environmental samples. Aquatic Environmental Protection: Analytical Methods, MAFF Directorate of Fisheries Research, Lowestoft, (4), 25 pp.

3. Toxicity

4. Quality assurance of analyses of dumped material

a. Do the laboratories carrying out the analyses undertake: <i>Contracting Parties responding "Yes" to this question are indicated under the respective columns with their country abbreviation.</i>	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;	Be, F, Is UK		De, Se, Ie
(ii) periodic comparative analysis of laboratory reference materials and certified reference materials;	Be, F, IS, Se UK		De, Ie
(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;	Be, F, Is, Se UK		De, Ie
(iv) periodic participation in interlaboratory comparison exercises, including, where possible, international comparison exercises;	B, F (at least yearly), Is Se, UK		De, Ie
Do the laboratories carrying out the analyses undertake: <i>Contracting Parties responding "Yes" to this question are indicated under the respective columns with their country abbreviation.</i>	All	None	Some

a. Do the laboratories carrying out the analyses undertake: <i>Contracting Parties responding "Yes" to this question are indicated under the respective columns with their country abbreviation.</i>	All	None	Some
(v) periodic participation in national and, where possible, international laboratory proficiency schemes, under which: <ul style="list-style-type: none"> • 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. 	<i>Be, F (only in national comparison exercises), NL Se, UK</i>		<i>De, Ie</i>

- 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).

"Some" has been marked in a(i) for Sweden because of difficulties in obtaining reference samples.

- 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).

Belgium has reported that their laboratories follow the EN ISO/IEC 17025.

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

Belgium has encountered no difficulty.

Sweden reported that although information about laboratory was lacking in some cases, it can be assumed that all laboratories were accredited. There are, however, uncertainties about sampling quality.

Notes to table on Quality Assurance of dumped material

Norway: the Country Administrations have often not filled in information on quality assurance of analyses for dumped material. Reporting in this respect is very inconsistent. Norway has therefore not filled in point a. in the table. In general well established laboratories are used, but formal quality assurance is often missing.

5. Other relevant information

France

52 dumping sites among 82 regulated sites were used in 2006.

33 dumping permits among 70 issued permits were used in 2006.

FOOTNOTES TO ALL TABLES

Table 1

Belgium

- (1) Maintenance dredging.
- (2) Capital dredging
- (3) All permits are issued for 2 years. The tonnes licensed are maximum amounts per year.

France

- (1) The number valid permits in 2006 is lower than in 2005 for the following reasons:
 - (a) In many cases, a sole permit has been granted for several sites; this applies for example to sites F/03301 to F/03319 (17 in total).
 - (b) Some permits which have been granted for punctual dumping operations have not been renewed in 2006.

The tonnes licensed, as in table 1, represent the total licensed quantity during the whole length of validity of the 70 permits (most permits are granted for a period of between 5 and 10 years).

Iceland

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

Germany

- (1) This quantity refers to silt.
- (2) Permits for dredging/dumping of dredged material are issued by the competent authorities of the Federal States (Länder). Permits are not issued for dredging/dumping activities of the German Federal Water and Shipping Directorate (the Directorate does not issue permits for its own activities). However the dredging/dumping activities of the Directorate are governed by national regulations which are in accordance with OSPAR and LC requirements.
- (3) This quantity refers to sand.

Ireland

- (1) 3 x WID, therefore no specific dumping site.
- (2) 12 permits were issued in 2006:
 - 3 of these were for Plough Dredgign, and therefore are not associated with specific dumpsites.
 - 4 were amended permits for extended periods of validity.
 - 1 was an amendment for addition of a new dumpsite.
 - 1 was an amendment for an addition vessel.
- (3) The amount licenced was substantially more than the amount dumped. This is because most applications contained substantial amounts for contingency.
- (4) Total amount licenced is calculated in wet weight, and an average moisture content is taken to recalculate as dry weight.

Netherlands

- (1) Permits issued for dumping of dredged materials at sea are licensed in cubic metres (not metric tonnes).
- (2) Permits 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.

Norway

- (1) Inert materials are mainly rocks. In addition a little bit of sand.
- (2) Inert material in the form of uncontaminated plant material from the bottom of a lake

Portugal

- (1) the OSPAR Heads of Delegation (HOD) at their regular meeting in May 2008 noted that the vessel "CP VALOUR" was a Bermuda registered container vessel (length overall 172m, gross tonnage 15,145) that ran aground in the Azores while on a liner voyage from Montreal, Canada to Valencia, Spain. Portugal explained that the sinking of the "CP VALOUR" on 9 December 2005 was an accident and not a deliberate act. This accident happened after an attempt to refloat the vessel. Unforeseen difficulties during the towing attempt and rough weather conditions at sea finally caused the sinking of the vessel sank. It is located 21 miles from the coast, NW of the Faial island, at a depth of 1600 meters. The coordinates are: Longitude 29° 03' 36" and Latitude 38° 49' 36". CP Valour was abandoned on 25 December 2005, after all the IMO classified hazardous cargo had been safely removed, along with 450 cubic meters of oil and water from her bunker tanks.
- (2) HOD further noted that the vessel "LIMPOPO" was a Portuguese navy ship. It sank in 2006 during a NATO test-firing exercise. The ship was a patrol vessel; the length was 44m, the width 7.7m and the weight 310 ton. The coordinates are: WSW off "Cabo de S. Vicente", Longitude 10° 45' 00" and Latitude 35° 40' 00". The final site of the sinking is an area outside the OSPAR Convention area (according to the national authority IPTM).

Spain

- (1) In 2006 a new permit was issued for Cádiz Harbour (OSCOM code E/12).
- (2) In the following cases the disposal operations of dredging works started (and licensed) in previous years:
 - Pasajes (OSCOM code E/1) in year 2005
 - Avilés (OSCOM code E/5) in year 2005
 - Navia (OSCOM code E/5c) in year 2002. This permit was issued for the period 2002-2006.
 - Villargarcía Harbour (OSCOM code E/8) in year 2004. This permit includes the period until 2007
 - Huelva Harbour (OSCOM code E/10): in year 2003, including the period until 2010.
- (3) Permits are issued on a cubic meters basis. The dry licensed amounts are estimated using the mean content of the dumped material to "back calculate" the dry licenced tonnages.

Sweden

- (1) All permits are to be reported also to HELCOM.
- (2) 43 000 m³ licensed and 580 m³ dumped illegally. One of the two permits issued in 2006 was used already in 2006. The conversion factor between cubic m and tonnes was assumed to be 0,6.

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 licenses 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 2005 under a 3 year licence issued in December 2005 to run from 1st February 2006 to 31 January 2009, ie. 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. 1 203 tonnes of fish waste was deposited under this licence during 2006.

Table 2

Germany

- (1) Action levels and contaminant concentrations reported in footnotes (2) a, b, c and (3) (4) and (5) refer to the fine-grained fraction < 20 µm.
- (2) The dredged material disposed of at the deposit site code 14 derived from three dredging areas with different characteristics and concentrations exceeding action level 2 labelled as a, b, c.
- a. Dredging areas from Elbe-km 680,5 to 709
- Although HCB, pp-DDE and pp-DDD concentrations exceed action level 2 slightly, disposal in the Elbe estuary was allowed, as no contaminants are added to the estuary. Sediments are dredged and relocated within short distance. A considerable amount of dredged material disposed of is returned by the currents, and therefore the same material has to be dredged and disposed of repeatedly. The concentrations of HCB, pp-DDE and pp-DDD in the dredged material and in suspended particulate matter of the Elbe are very similar. There is no local source for these contaminants in the dredging area, however they originate from the upper reaches of the Elbe.
- The average concentrations of contaminants exceeding action level 2 and the related amount of dredged material are shown in Table I below in column (1) a).
- b. + c. Dredging areas from Elbe-km 639 to 680,5
- 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 concentration of contaminants and the related amount of dredged material are shown in Table I in columns (1) b) and c).
- (3) The maintenance of the Hamburg Seaport requires continuous dredging of the access channels to the harbour basins. According to the concept of management of dredged material established by the authority for economic and environmental affairs of the City of Hamburg, disposal of dredged material not exceeding given quality criteria can be carried out in the Elbe downstream of Hamburg only during winter time. About 1 Mio m³/a of highly contaminated dredged material is deposited on land, partially after mechanical treatment of the material. In summer 2005, there was an increasing need for dredging in order to keep accesses to the harbour basins open. However, disposal in the river Elbe in summer was not permitted, since it could severely affect the water quality (e.g. oxygen depletion). Moreover, it is suspected that large amounts of dredged material disposed of downstream of Hamburg is transported back to the harbour area. In order to reduce the need for dredging, the Hamburg Port Authority intended to remove part of the material from the sediment cycle and deposit it on land. However, it was not possible to increase the capacity of the sediment treatment plant.
- Thus, in summer 2005, the Federal State Schleswig-Holstein helped out with a permit for disposing of 0,8 Mio m³ of dredged material in 2005 and a further 3,7 Mio m³ in the period 2006 to 2008 at a sediment disposal site in the Southern German Bight, provided the permit conditions of Schleswig-Holstein were met. A long term sediment management concept is being developed. Disposal of dredged material is accompanied by a comprehensive monitoring program.
- (4)+(5) Concentrations referring to the fine fraction <20 µm exceed action level 2, established by the Federal Waterways Authorities. However, as concentrations referring to the fraction <2000 µm do not exceed action levels according to the Management Concept for Dredged Material of the government of Schleswig-Holstein (1996), the Federal State of Schleswig-Holstein granted a permit. Moreover, the total amount of the dredging material is quite small, and at disposal sites, there is no economic use by fishing or tourism.

Table I: Concentrations of contaminants which exceed action level 2 in the fraction < 20 µm

Reasons for classification	(1)			(2)	(3)	(4)
	a)	b)	c)			
Contaminants (in fraction <20 µm)						
HCB (mg/kg)	0,0062	0,016	0,017	0,020		0,013
p,p-DDT (mg/kg)		0,010	0,010	0,012	0,014	
p,p-DDD (mg/kg)	0,012	0,028	0,023	0,027		
p,p-DDE (mg/kg)	0,004	0,007	0,008	0,011		0,005
PAK 6 (mg/kg)*					3,79	
PCB 52 (mg/kg)					0,004	
PCB 101(mg/kg)					0,008	
PCB 138 (mg/kg)					0,017	
PCB 153 (mg/kg)					0,017	
PCB 180 (mg/kg)					0,008	
Tonnes disposed of (dry weight)	4 191 199	518 696	660 310	801 636	1 551	141 158

*) PAK 6: fluoranthene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, benzo(ghi)perylene,

Ireland

- (1) No material of concern dumped using guidance levels available at time of licensing.

Norway

- (1) Fish waste from processing on land

Table 3 a

Germany

- (1) Silt.
(2) Sand, exempted from chemical analyses.

Netherlands

- (1) The amounts for deposit sites NL-10 and 11 (Eastern and Western Sceldt) were not available at the time of reporting.

Norway

- (1) The dredging in Oslo harbour is part of an environmental remediation project. Contaminated sediments are removed from shallow areas where they are shifted around by passenger ships, traffic, etc., and deposited in a deepwater disposal site in an already contaminated area nearby. The contaminated sediments will then be capped. The activities started in early 2006 and will be terminated in 2008. Deposited material will be capped by clean material in the second half of 2008.
(2) Concrete quay fundaments.
(3) Combined permits covering partly sediments and partly inert materials like stone, etc.
(4) Fish waste from processing on land.

Sweden

- (1) All dumpings reported here are also to be reported to HELCOM.
- (2) Dumping site SWE/11, Vinga (N 57° 36,64', E 11° 34,88'). Dumped volume: 12 000 m³. Dumping permit issued in 2001.
- (3) Dumping sites SWE/11, Vinga (N 57° 36,64', E 11° 34,88') and SWE/10, Hakefjorden (N 57° 40,03', E 11° 45,21'). Dumped volumes: 2 500 m³ and 1 250 m³, respectively. Dumping permit issued in 2005.
- (4) Illegal dredging and dumping. Dumping site near N 57° 4,96', E 12° 9,03'. Dumped volume 580 m³.
- (5) Dumping site SWE/13 (N 56° 51', E 12° 20,5'). Dumped volume 11 120 m³ mainly consisting of clay. Dumping permit issued in 2006.
- (6) Dumping site SWE/20 (N 56° 28', E 12° 50'). The dredged material consisted of sand. The regional authority has not (yet) received a final report on the dumping, so the values presented here are based on the permit. The dumping is supposed to have taken place in 2006 and the dumped volume is estimated to be 18 000 m³. Dumping permit issued in 2005.

United Kingdom

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

Table 3 b

Germany

- (1) The figures for the total load in Table 3b for the sites 14, 15, 17 and 34 have been calculated on the basis of the silt fraction only. The quantity of the associated sand fraction which is exempted from analysis according to § 5.2 of the OSPAR Guidelines for the Management of Dredged Material (Ref. No.: 1998-20) is given as additional information in the footnotes to Table 3a.

Iceland

- (1) No samples exceeded level 2 and in general, analysed values are within the range observed in unpolluted sediments in the relevant region. Therefore, calculation of loads are not considered relevant.

Netherlands

- (1) The amounts for deposit sites NL-10 and 11 (Eastern and Western Sceldt) were not available at the time of reporting.
- (2) Individual PCBs are determined but not reported since a limit is introduced from sum PCB 7

Norway

- (1) In most cases loads have not been determined as analyses have not been carried out. Most permits are given in areas where there is no reason to expect contamination of sediments. Instead of making a table full of "ND = not determined", Norway has only included those sites where loads have been calculated.
- (2) The dredging in Oslo harbour is part of an environmental remediation project.. Contaminated sediments are removed from shallow areas where they are shifted around by passenger ships, traffic, etc., and deposited in a deepwater disposal site in an already contaminated area nearby. The contaminated sediments will then be capped. The activities started in early 2006 and will be terminated in 2008. Deposited material will be capped by clean material in the second half of 2008.

Spain

- (1) Detection limits for PCBs: 0,001 mg/kg.
- (2) Detection limits for PCBs: 0,02 mg/kg(
- (3) Detection limits for PAHs: 0,1 mg/kg.
- (4) There is no information for dredged material quality in the case of Bilbao Port (E/2).

Sweden

- (1) Corresponds to footnote (2) in Table 3a.
- (2) Corresponds to footnote (3) in Table 3a. The masses dumped at SWE/10 contain much less than 0,1 kg PCB and less than 0,1 kg TBT.
- (3) Corresponds to footnote (5) in Table 3a. Sn: 16 kg.

LEGEND TO ALL TABLES

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

Figure 1a - Dumping sites of dredged material in Belgium in 2006

Dumping and dredging sites

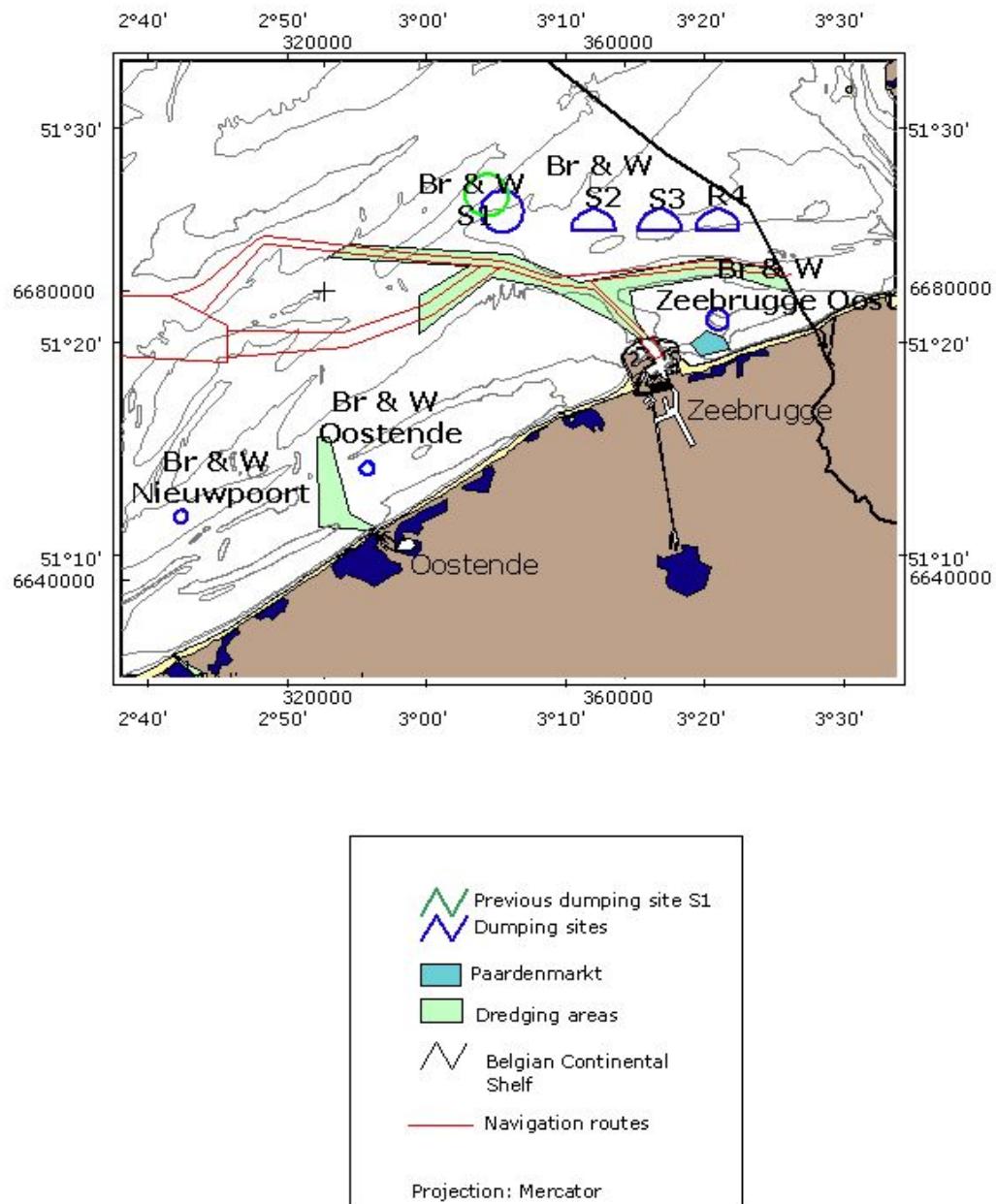


Figure 1b Dumping of dredged material carried out in Belgium in 2006 at B/INT 0-5, 6-9 (Internal waters)

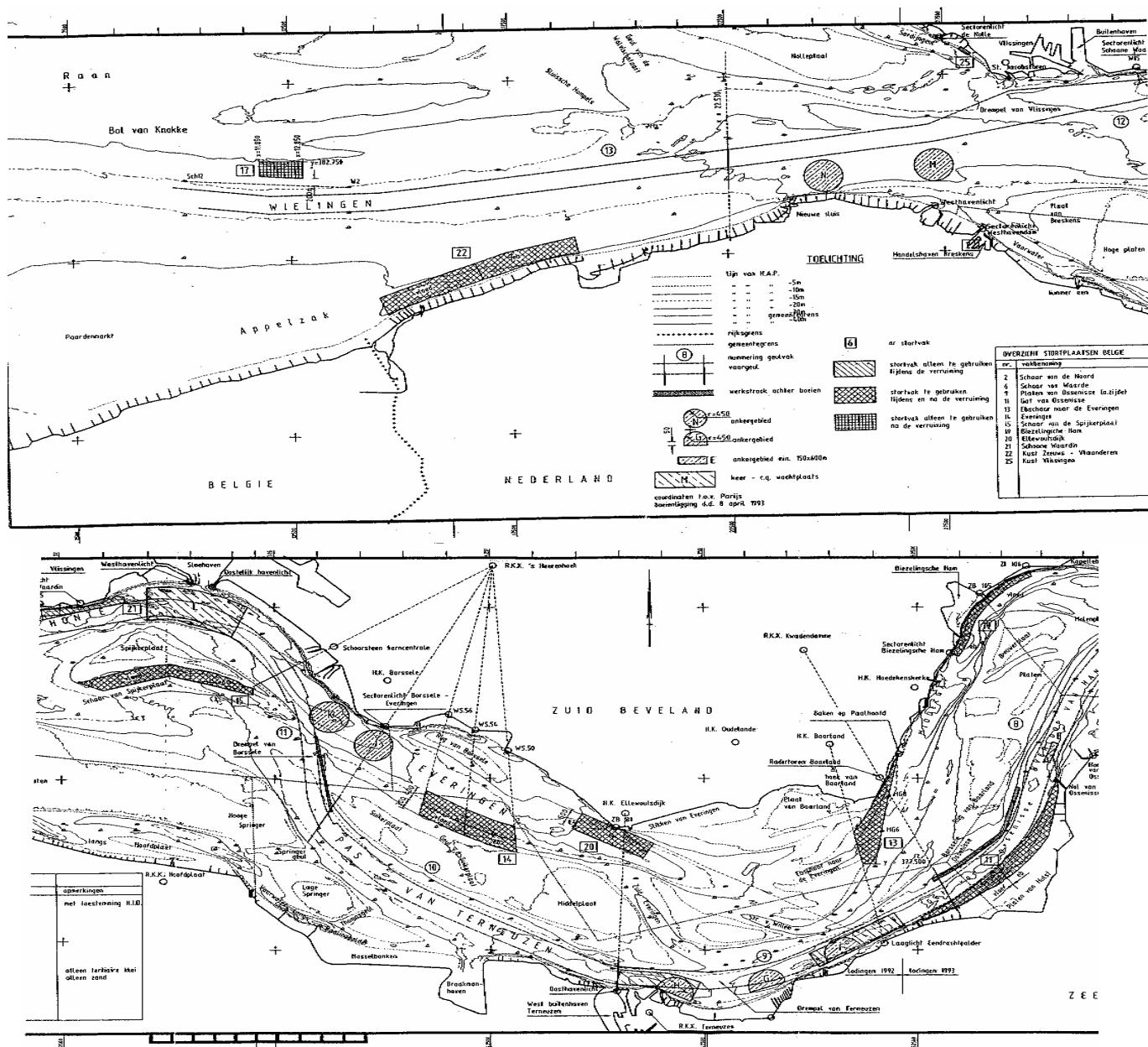


Figure 2a: Dumping sites of dredged material in France in 2006 (English Channel)

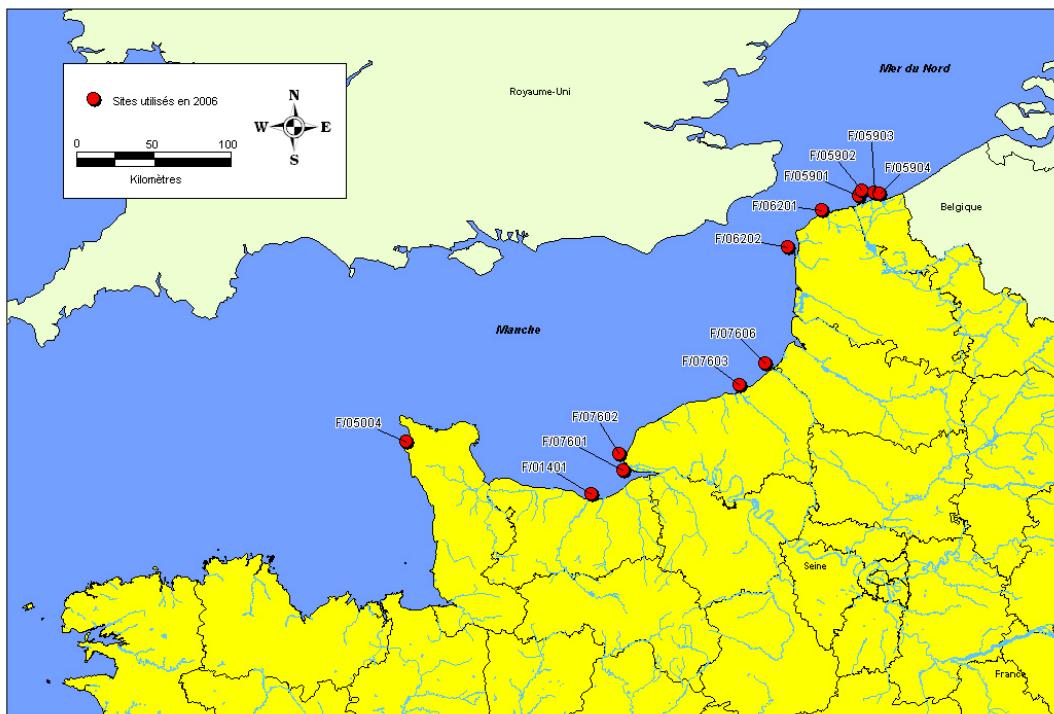


Figure 2b: Dumping sites of dredged material in France from 2000 to 2006 (English Channel)

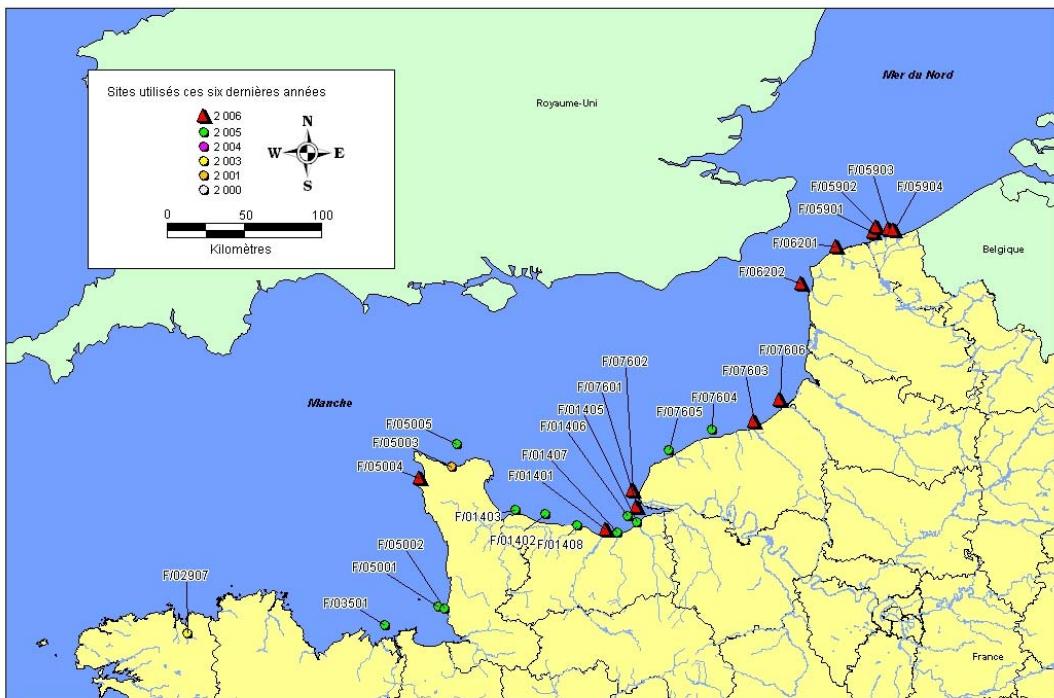


Figure 2c: Dumping sites of dredged material in France from 2000 to 2006 (Atlantic Ocean)

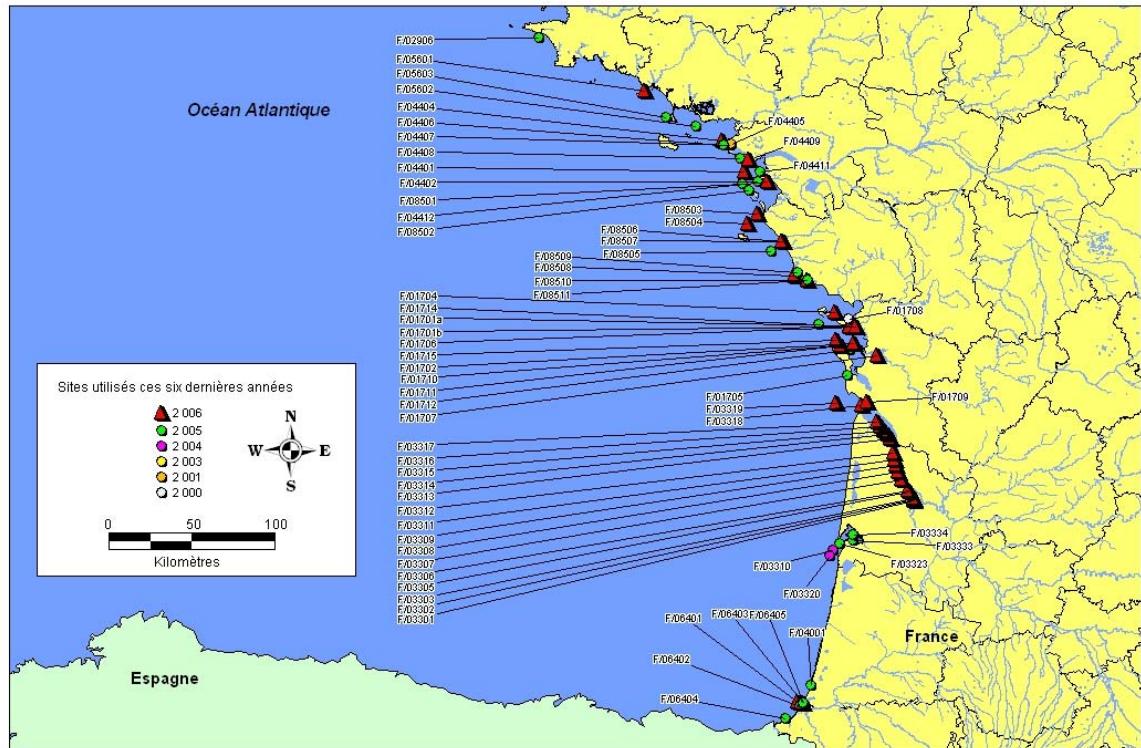


Figure 2d: Dumping sites of dredged material in France from 2000 to 2006 (Atlantic Ocean)

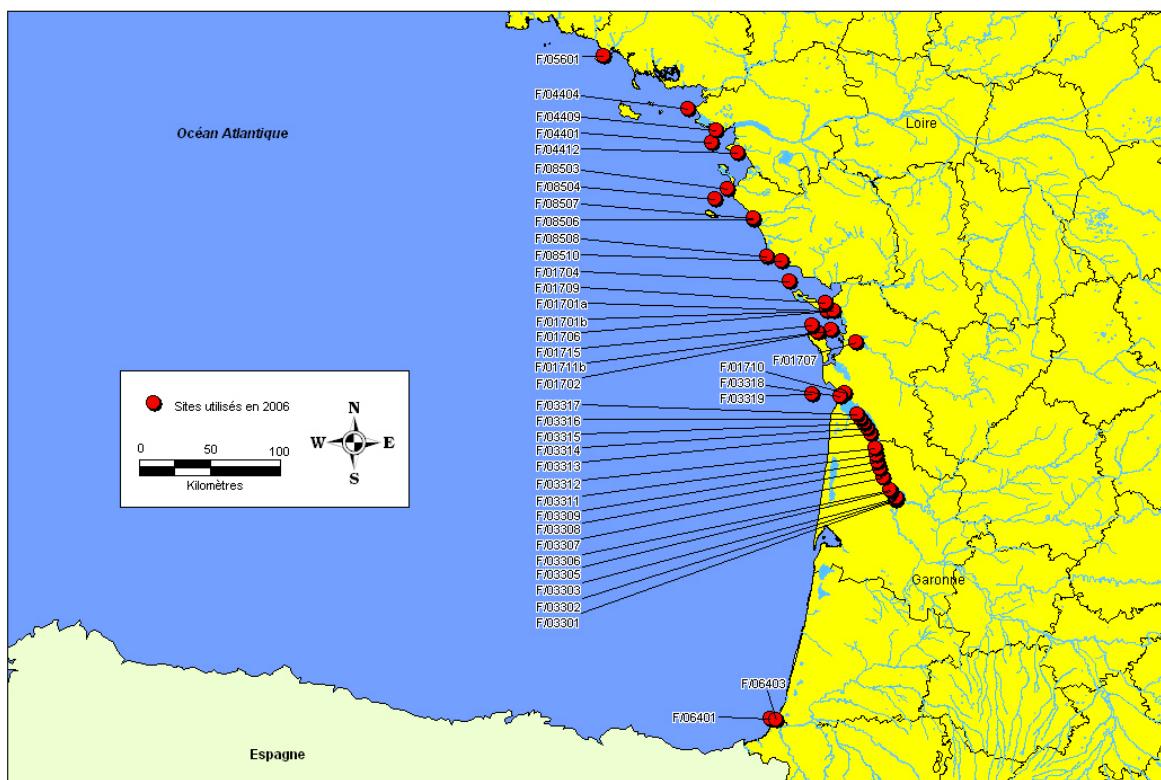


Figure 3: Dumping sites of dredged material in Germany in 2006

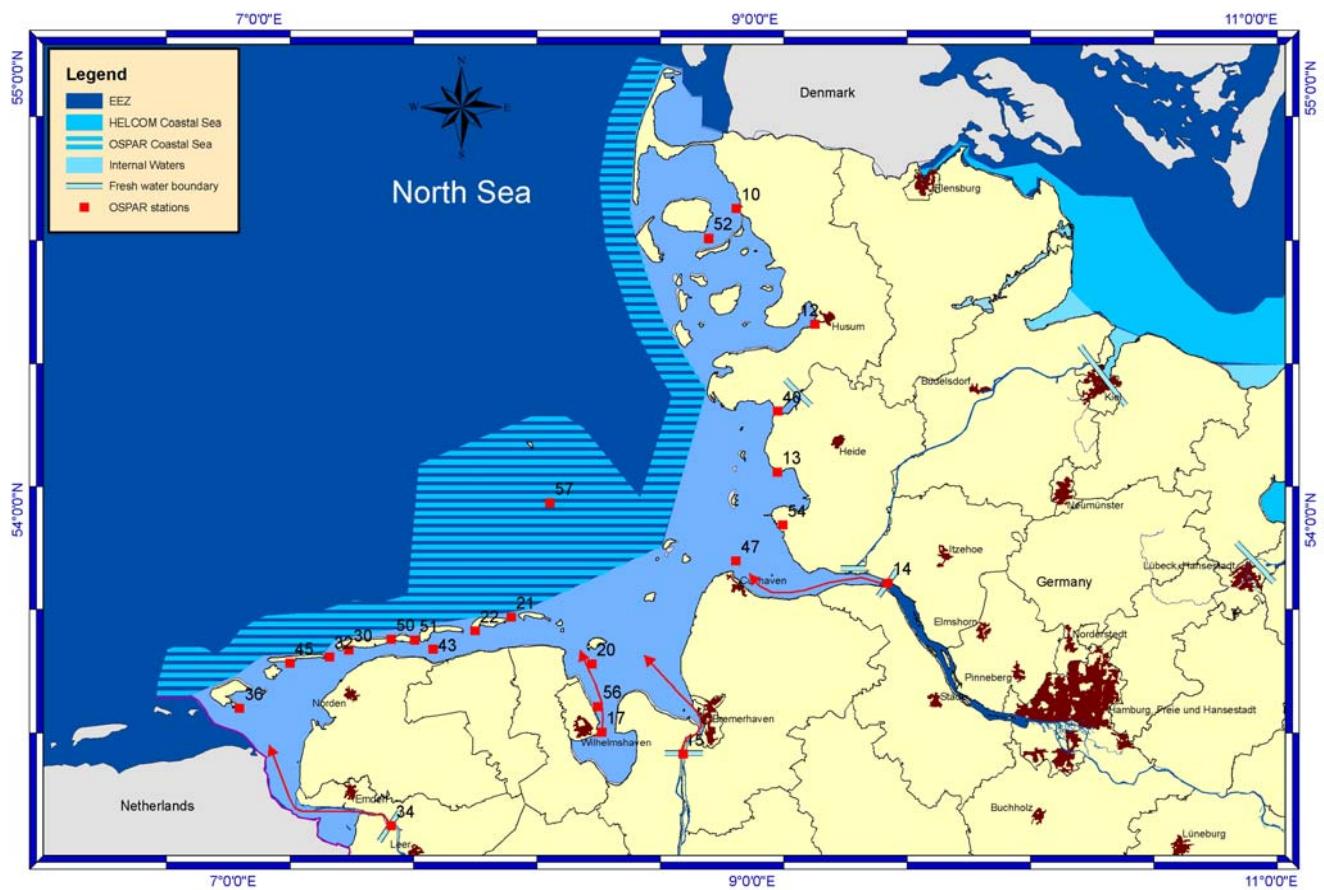
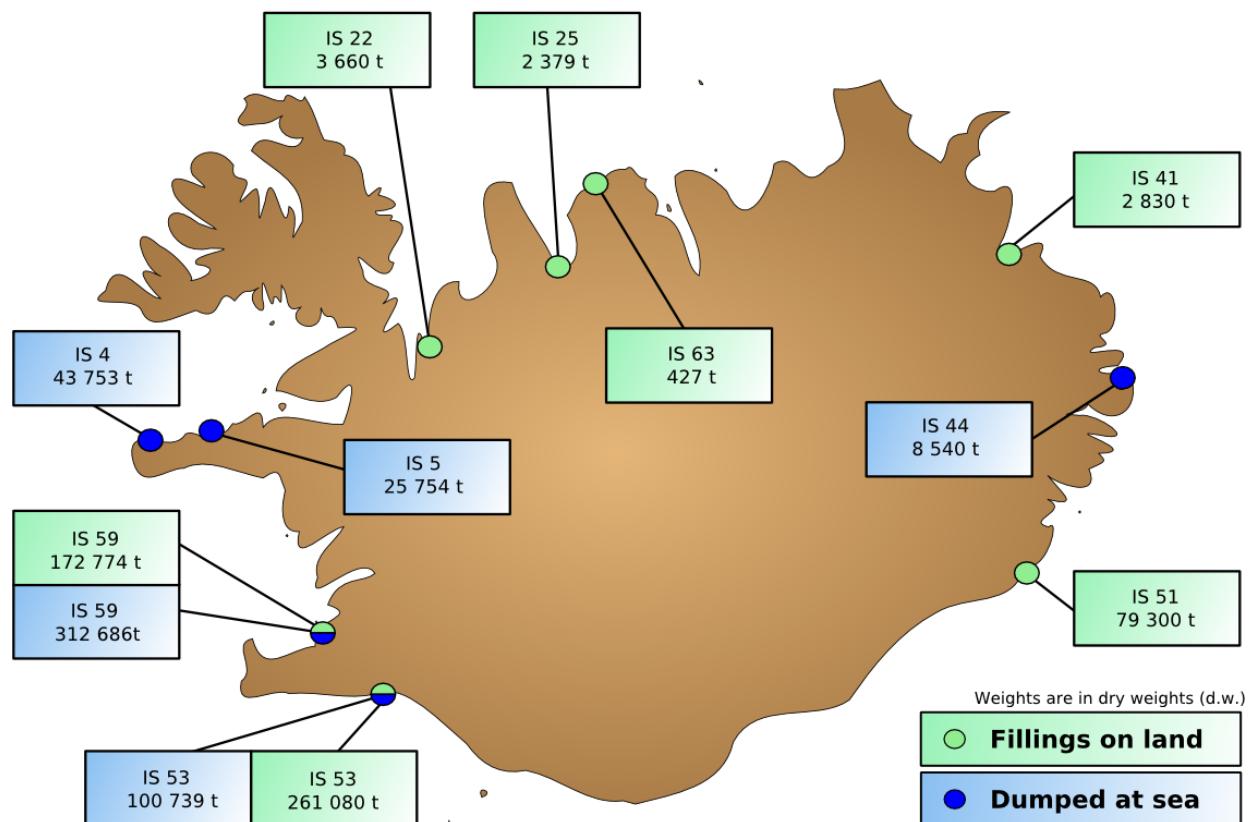


Figure 4: Dumping sites of dredged material in Iceland in 2006

Disposal of dredged material in Iceland 2006



The figure shows approximate positions of dumping sites for dredged material in Iceland for the given year. Dumping sites are labelled using OSPAR codes, weights are given in dry weights (metric tonnes).

FIGURE 5: Dumping sites of dredged material in Ireland in 2006.

Co-ordinates of the sites are given in Table 1.

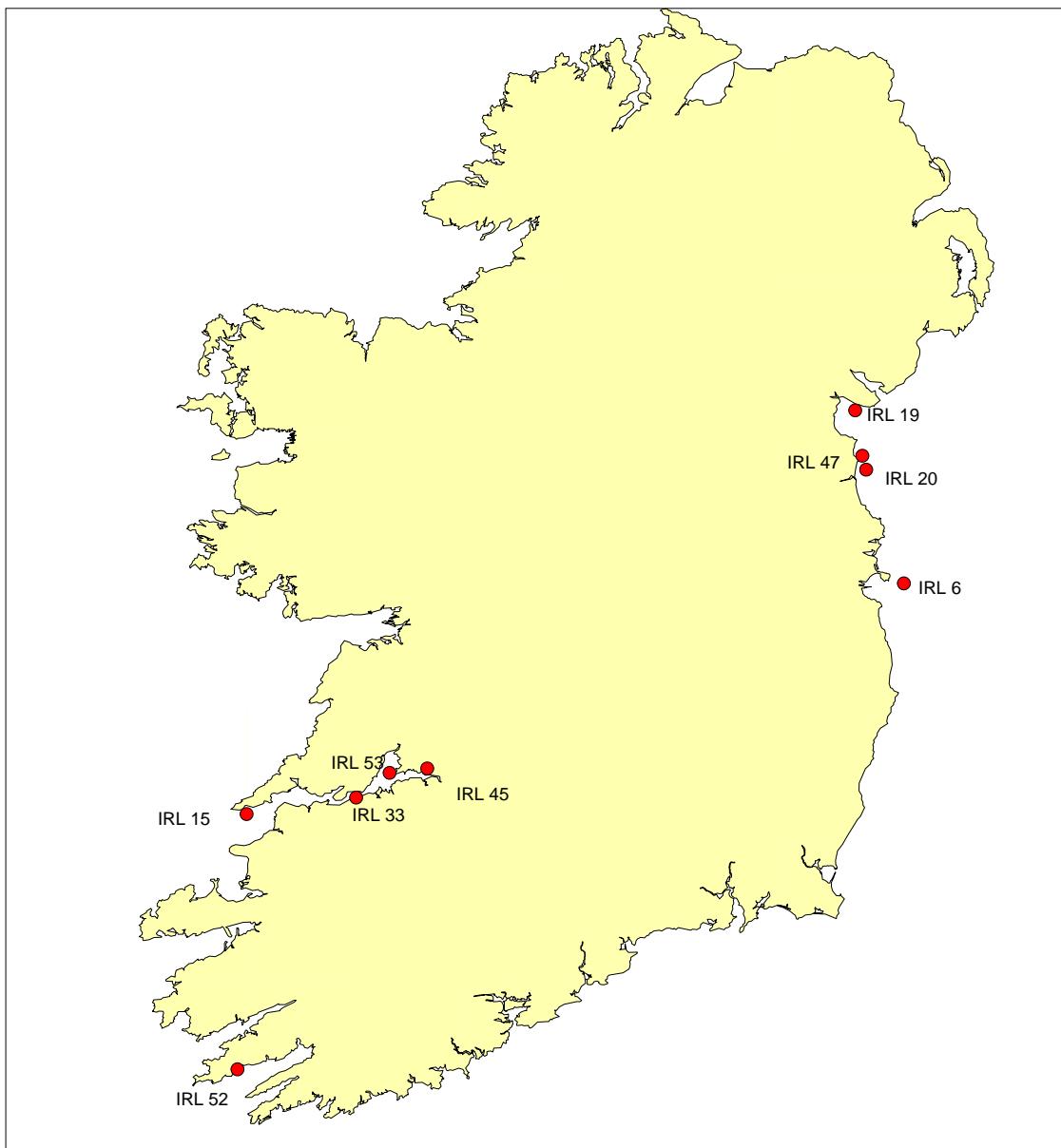
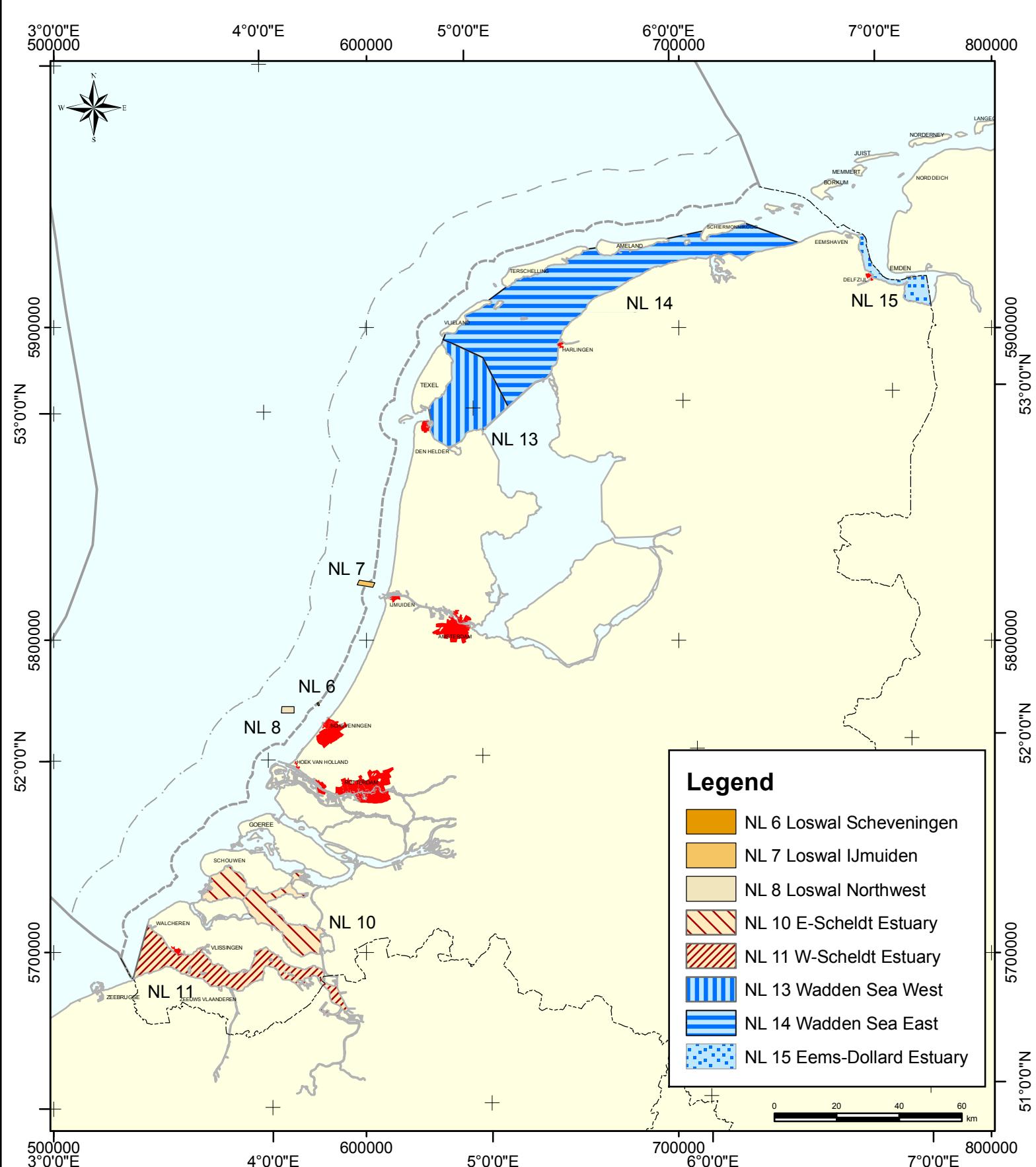


Table 1.

Dumpsite Code	Longitude	Latitude
IRL 6	-6.05	53.32
IRL 15	-9.35	52.58
IRL 19	-6.18	53.95
IRL 20	-6.18	53.75
IRL 33	-9.143	52.622
IRL 45	-8.736	52.674
IRL 47	-6.224	53.764
IRL 52	-9.977	51.605
IRL 53	-8.848	52.678



Ministerie van Verkeer en Waterstaat



Rijkswaterstaat

FIGURE 6: APPROXIMATE POSITION OF THE DUMPING SITES FOR DREDGED MATERIALS IN OSLO CONVENTION WATERS USED IN 2006 BY THE NETHERLANDS

Producent : AMIG	Schaal : 1 : 1.600.000	Datum : 01 - 07 - 2006
Afdeling : AMIG	Formaat : A4 Portret	Data actueel tot : 01 - 07 - 2006
Bronvermelding : RWS Noordzee	Projectie : UTM zone 31, ED50	Tekeningnummer : NZAM 2003 - 0136

Figure 7- Dumping sites of dredged material in Norway in 2006

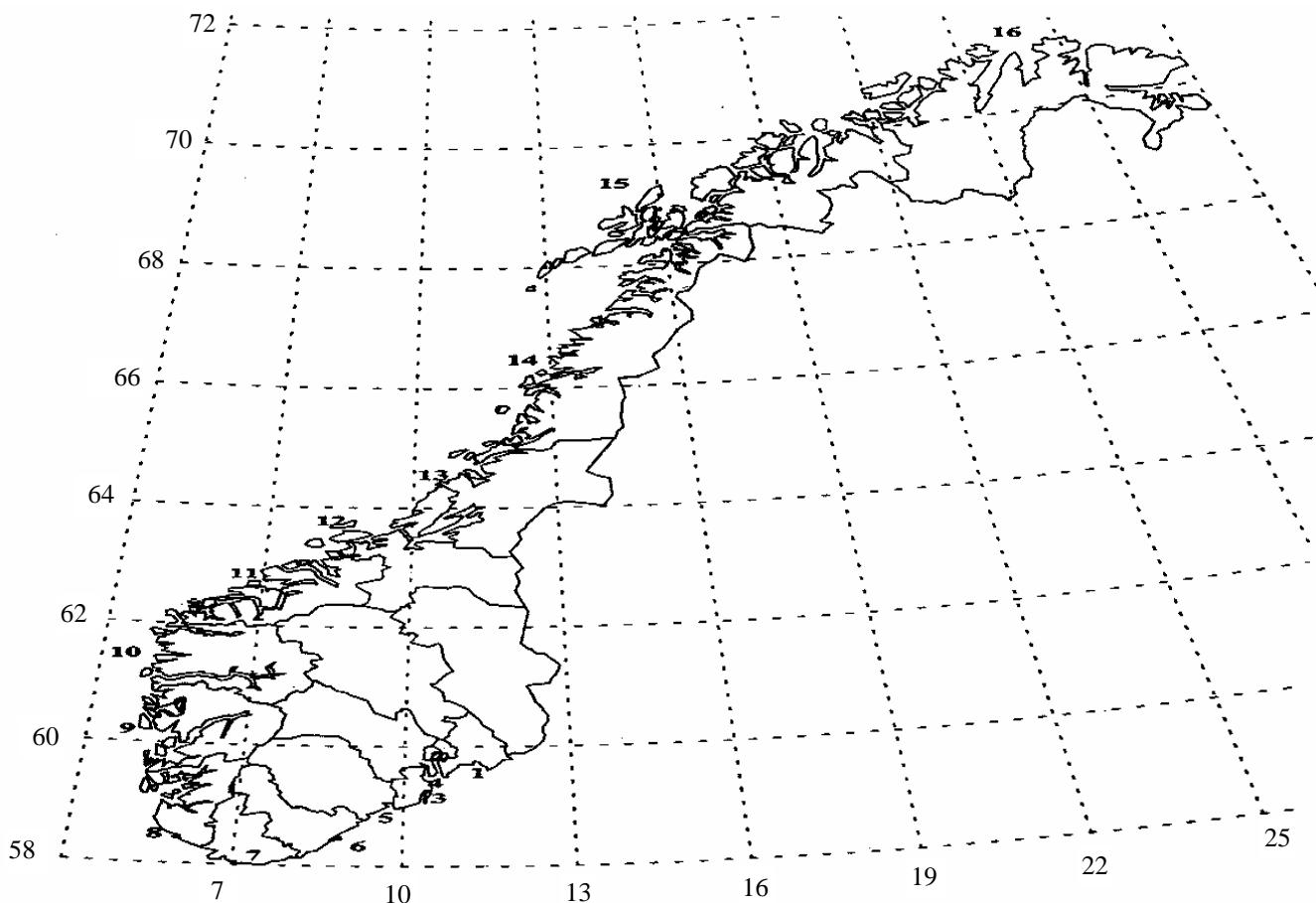


Figure 1. Map of Norway showing latitude (58-72°N, left side) and longitude (7-25°E, bottom). The different counties along the coast are indicated.

1:Østfold, 2:Akershus/Oslo, 3:Vestfold, 4:Buskerud, 5:Telemark, 6:Aust-Agder, 7:Vest-Agder, 8:Rogaland, 9:Hordaland, 10:Sogn og fjordane, 11:Møre og Romsdal, 12:Sør-Trøndelag, 13:Nord-Trøndelag, 14:Nordland, 15:Troms, 16:Finnmark.

Dredged material: N/1-7, 9-12, 14-15

Inert material: N/13-14

Fish waste: N/14

Total amounts: 1 053 982 tonnes

Total amounts: 220 760 tonnes

Figure 8a: Dumping sites of dredged material in Portugal in 2006 (Azores)

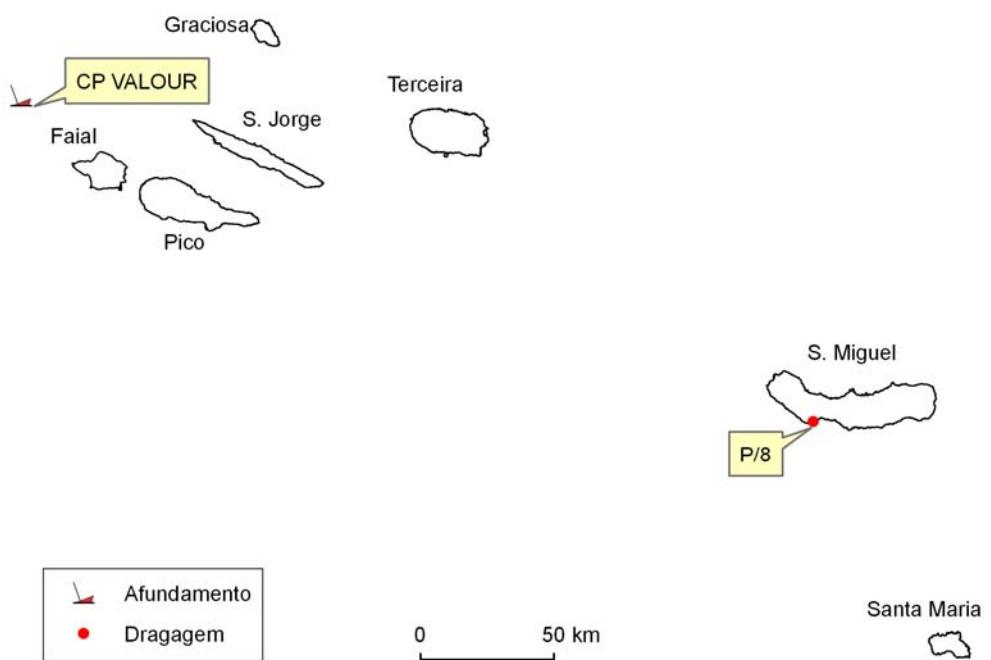


Figure 8b: Dumping sites of dredged material in Portugal in 2006 (Mainland)

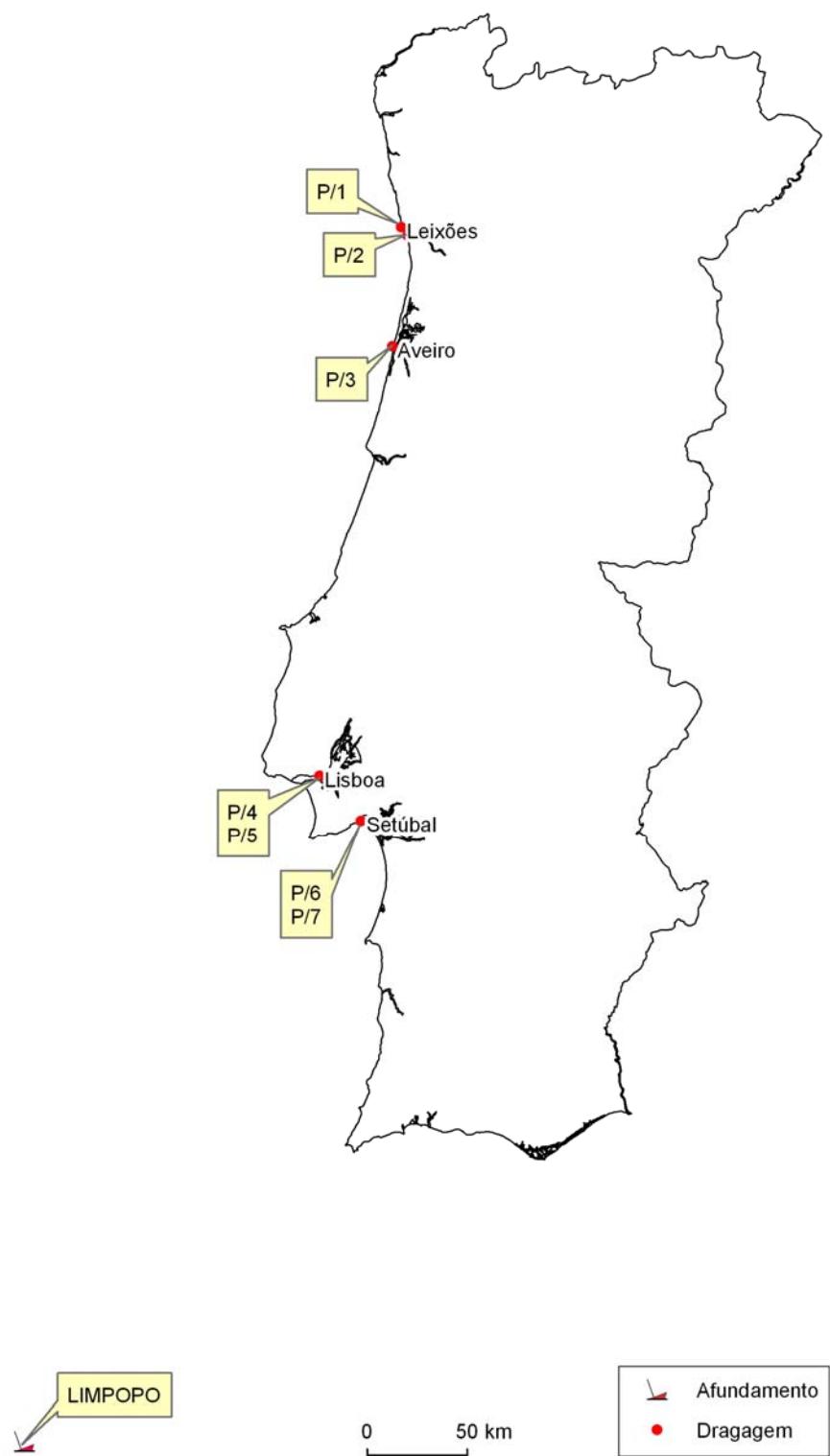


Figure 9a: Dumping sites of dredged material in Spain in 2006

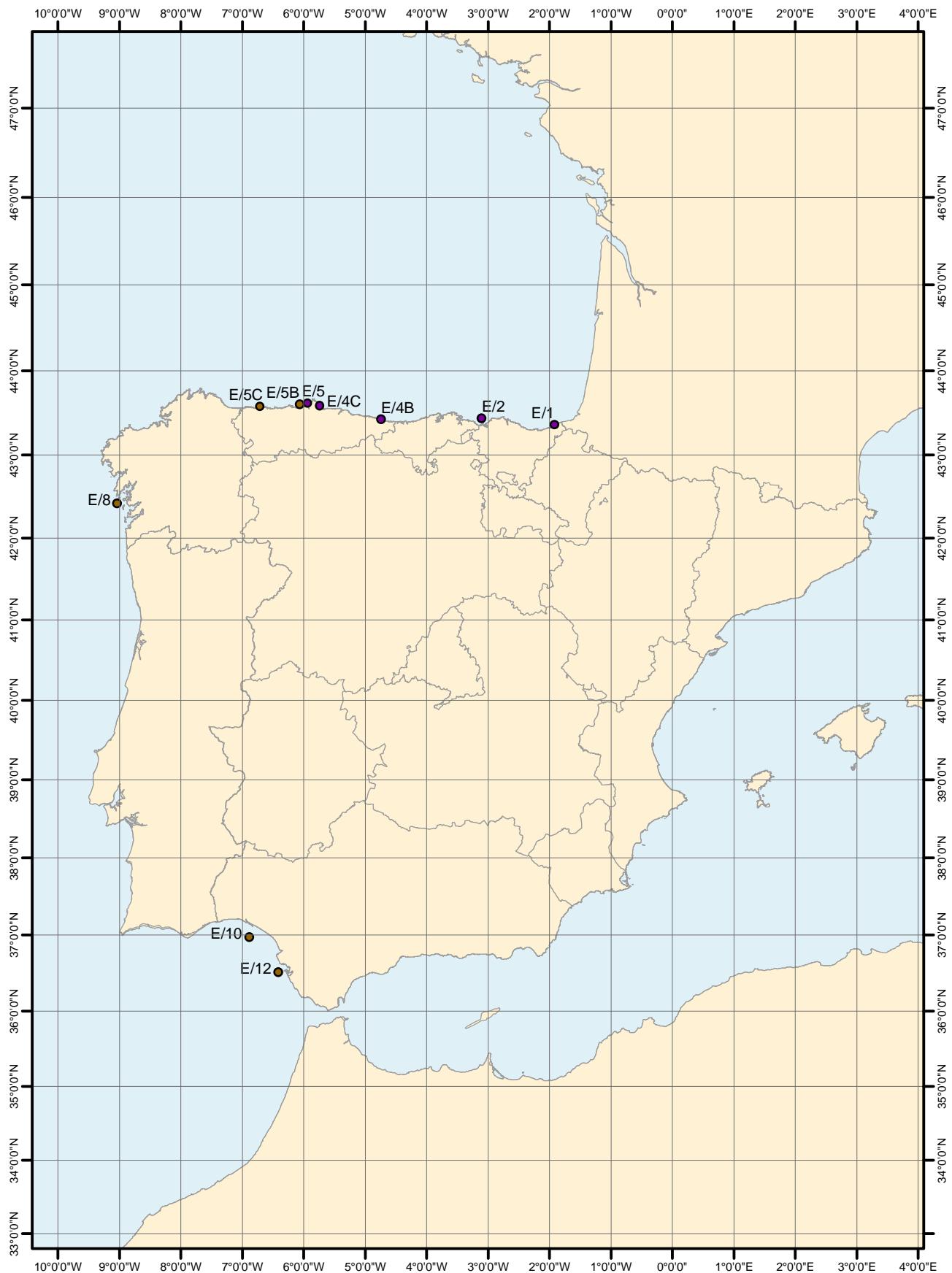


Figure 9b: Dumping sites of dredged material in Northern Spain in 2006

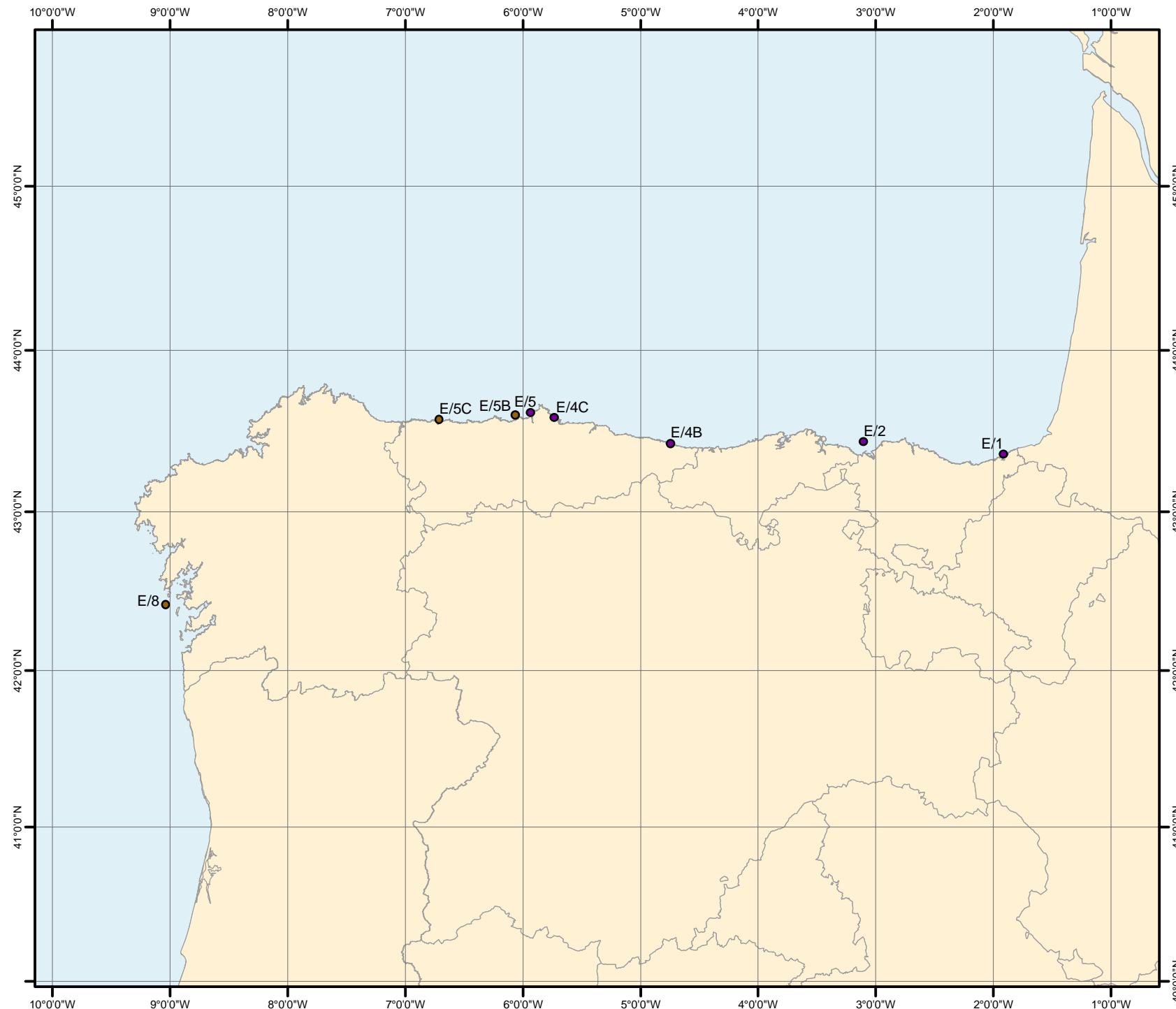


Figure 10a - Dumping sites of dredged material in the UK in 2006 (Northeastern England)

Marine disposal sites in Northeastern England. Site codes and quantities deposited in tonnes dry weight, in 2006. All tonnages are for dredged materials unless otherwise stated

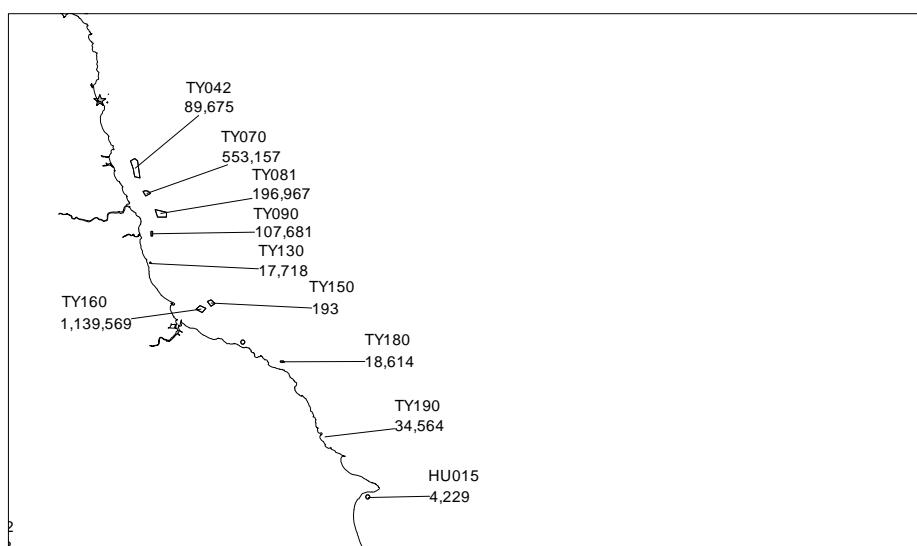


Figure 10b - Dumping sites of dredged material in the UK in 2006 (Eastern England)

Marine disposal sites in Eastern England. Site codes and quantities deposited in tonnes dry weight, in 2006. All tonnages are for dredged materials unless otherwise stated

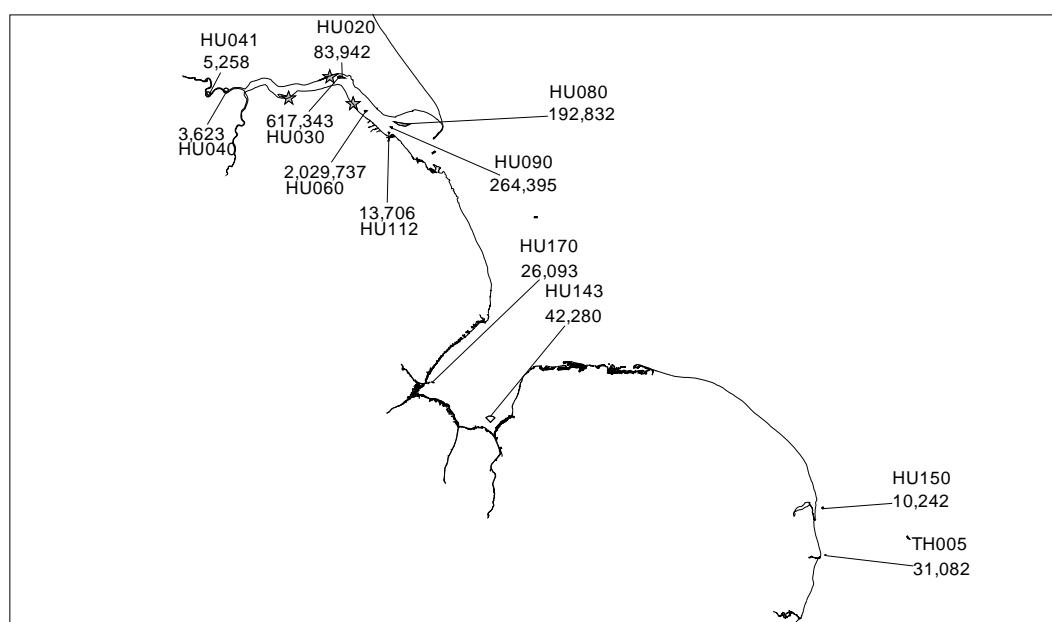


Figure 10c - Dumping sites of dredged material in the UK in 2006 (Southern England)

Marine disposal sites in Southern England. Site codes and quantities deposited in tonnes dry weight, in 2006. All tonnages are for dredged materials unless otherwise stated

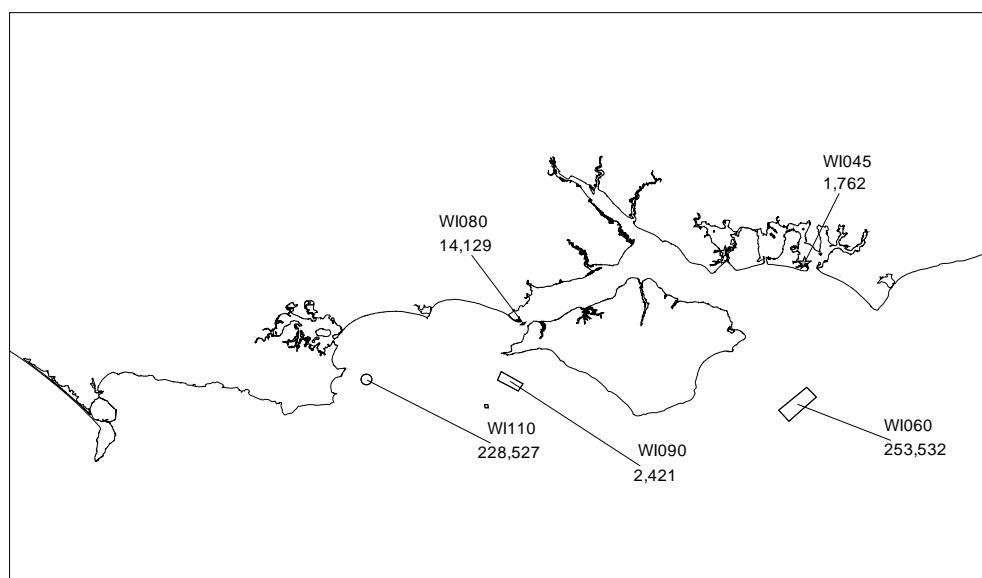


Figure 10d - Dumping sites of dredged material in the UK in 2006 (Southwestern England)

Marine disposal sites in Southwestern United Kingdom. Site codes and quantities deposited in tonnes dry weight, in 2006. All tonnages are for dredged materials unless otherwise stated

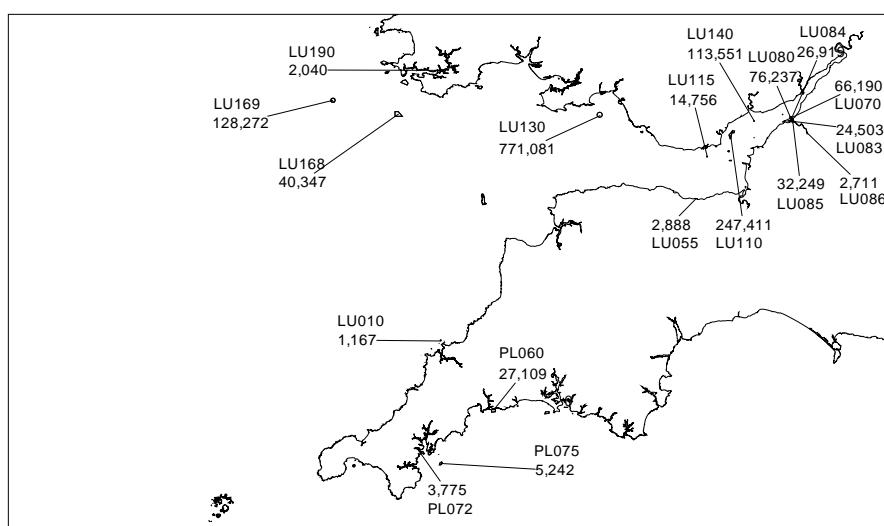


Figure 10e- Dumping sites of dredged material in the UK in 2006 (Irish Sea)

Marine disposal sites in the Irish Sea. Site codes and quantities deposited in tonnes dry weight, in 2006. All tonnages are for dredged materials unless otherwise stated

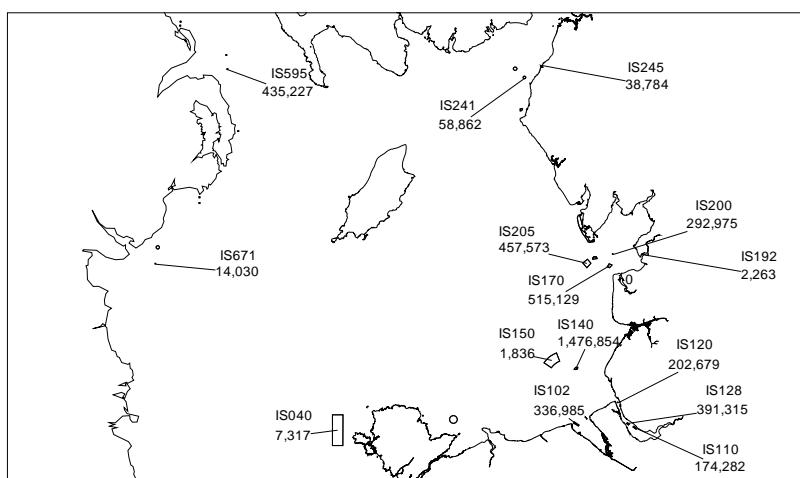


Figure 10f - Dumping sites of dredged material in the UK in 2006 (Western Scotland)

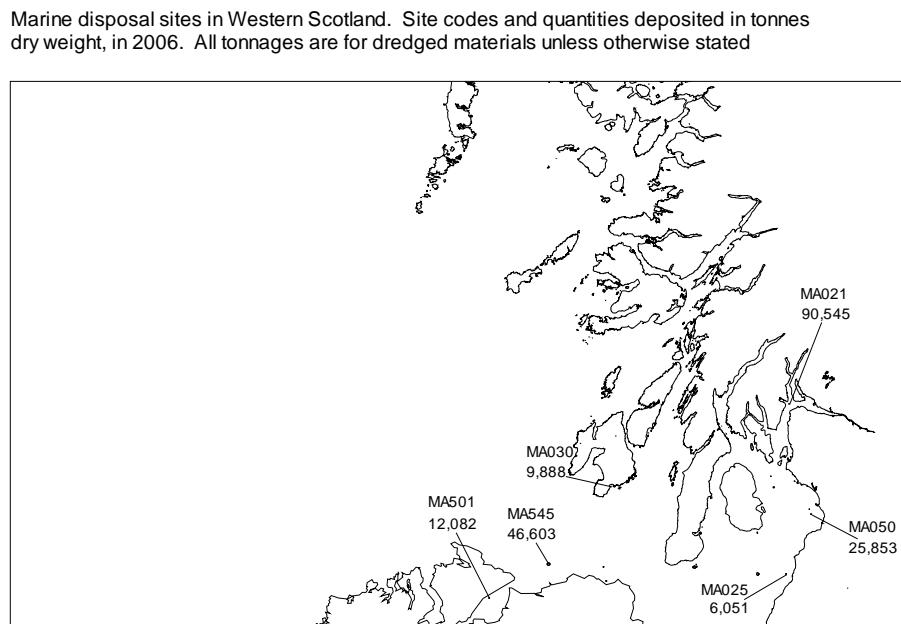


Figure 10g - Dumping sites of dredged material in the UK in 2006 (Northern Scotland)

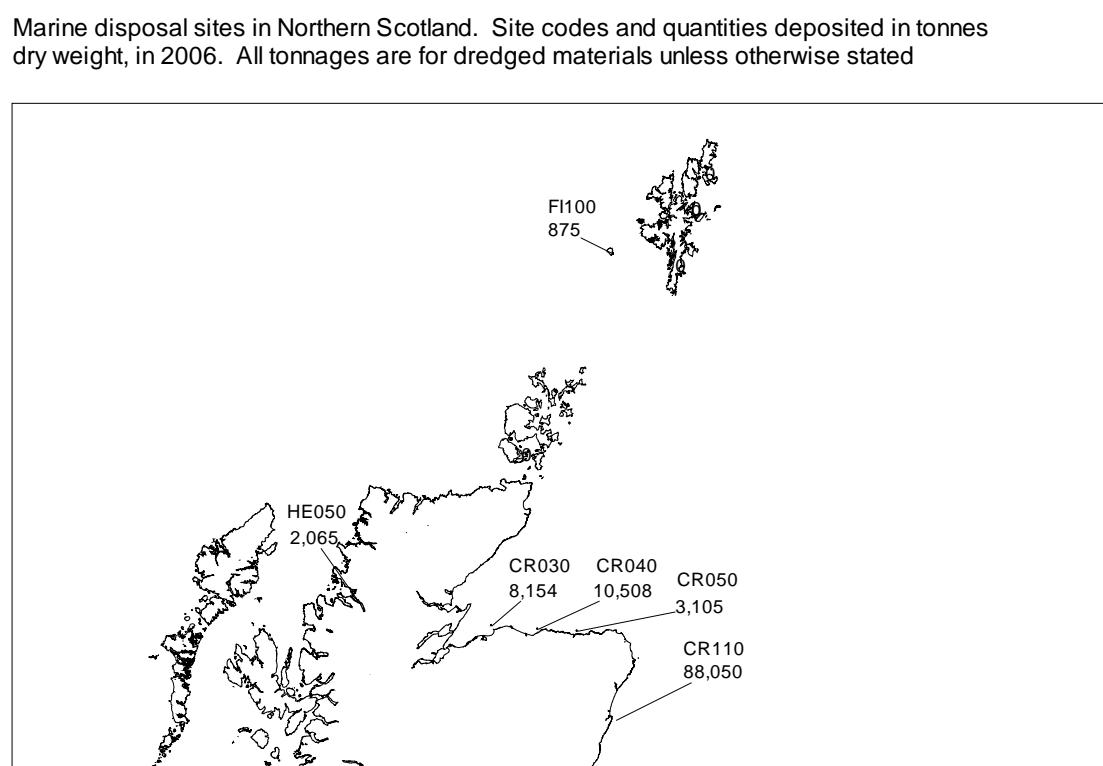


Figure 10h - Dumping sites of dredged material in the UK in 2006 (Eastern Scotland)

Marine disposal sites in Eastern Scotland. Site codes and quantities deposited in tonnes dry weight, in 2006. All tonnages are for dredged materials unless otherwise stated

