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LC-LP.1/Circ.81 16 January 2017

# CONVENTION ON THE PREVENTION OF MARINE POLLUTION BY DUMPING OF WASTES AND OTHER MATTER, 1972 AND ITS 1996 PROTOCOL

#### Final report on permits issued in 2013

- 1 A summary report on dumping activities of Contracting Parties covering the year 2013 is attached hereto.
- This report, which is attached hereto in English only, has been compiled by the Secretariat on the basis of the submissions received from Contracting Parties, directly or through regional bodies responsible for implementing instruments related to dumping or incineration of wastes at sea. Maps showing the locations of the wastes dumped have been included where provided.
- The report covers in principle only permits issued in 2013, or where indicated, data on amounts actually dumped under permits issued in 2013 or in earlier years. Note that some of the actual dumping activities envisaged in the recorded permits may have taken place after 2013.
- The permits in this report are categorized in accordance with annex 1 to the London Protocol.
- 5 The information submitted by several Contracting Parties might not be complete, because reporting through secretariats of regional conventions did not always include information covering sea areas outside that regional convention area.
- The use in this document of particular designations of countries and territories does not imply any judgement by the Secretariat as to the legal status of such countries or territories, of their authorities and institutions or of the delimitation of their boundaries.
- 7 In 2013 there were **87** States registered as Parties to the Convention and **43** States registered as Contracting Parties to the Protocol, **34** of which were also Party to the Convention. A total of **36** Parties provided reports on their dumping activities.
- 8 Contracting Parties are invited to take note of this report.



#### **REPORT ON PERMITS ISSUED IN 2013**

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Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the International Maritime Organization.

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#### **ANNEX**

Table 1: Information on reports provided on activities in 2013

Received by the Secretariat as at 16 January 2017, includes dumping activities in internal waters

Received by the Secretariat as at 16 J	anuary 20	17, includes dump	oing activities in interna
		Number	No
COUNTRY		of	Information
OGGIVITAT		Permits	Supplied
		remins	Supplied
AFGHANISTAN			Х
ANGOLA	(1)		X
ANTIGUA/BARBUDA	(1)		X
ARGENTINA	(6)	NIL	Α
AUSTRALIA	(4)	13	
AZERBAIJAN	(4)	13	Х
BARBADOS		NIL	Α
BELARUS		INIL	Х
BELGIUM	(7)	8	Α
BENIN	(1)	0	Х
BOLIVIA			X
BRAZIL		16	^
BULGARIA		10	Х
CANADA		77	^
CABO VERDE		- ''	Х
CHILE		3	^
CHINA		345	
	(3)	143	
- HONG KONG, CHINA	(3)	143	V
COSTA RICA			X
COTE D'IVOIRE			
CROATIA			X
CUBA			X
CYPRUS CONCO			X
DEM. REP. CONGO	(= 0)	07	X
DENMARK	(7,9)	37	V
DOMINICAN REP.		-	X
EGYPT		5	X
EQUATORIAL GUINEA ESTONIA	(4)	NIL	Α
FINLAND	(1)	NI	
FRANCE	(5)	73	
GABON		13	
GEORGIA	(4)		X
GERMANY	(1)	53	X
GERMANY	(7) (1)	55	Х
GREECE	(1)		X
GUATEMALA			X
HAITI			X
HONDURAS			X
HUNGARY			X
ICELAND	(7)	10	^
	(7)	10	Х
ISLAMIC REPUBLIC OF IRAN IRELAND	(7)	5	^
ITALY	(7)	6	
JAMAICA		NIL	
JAPAN		23	
JORDAN			X
KENYA			X
KIRIBATI			X
LIBYA			X
LUXEMBOURG	(0)	4	X
MALTA	(8)	1	

COUNTRY	T	1		1
Permits			Number	No
MARSHALL ISLANDS (1) NIL (1) MEXICO (1) X MONACO (1) X MONACO (1) X MONACO (1) X MONTENEGRO (1) X MOROCCO (1) X MAURU (1) X METHERLANDS (7) NI NEW ZEALAND (1) X MISERIA (1) X MISERIA (1) X MISERIA (1) X MORWAY (7) 13 (1) MORWAY (1) M	COUNTRY		of	Information
MEXICO			Permits	Supplied
MEXICO				
MONACO	MARSHALL ISLANDS	(1)	NIL	
MONTENEGRO				
MOROCCO				
NAURU	MONTENEGRO			X
NETHERLANDS	MOROCCO			X
NEW ZEALAND				X
NIGERIA   X   NORWAY   (7)   13		(7)		
NORWAY			4	
OMAN         X           PAKISTAN         X           PANAMA         X           PAPUA NEW GUINEA         X           PERU         X           PHILIPPINES         94           POLAND         17           PORTUGAL         (7)         28           REPUBLIC OF KOREA         12         12           RUSSIAN FEDERATION         X         SAINT KITTS AND NEVIS         (1)         X           SAINT LUCIA         X         SAINT VINCENT AND THE GRENADINES         X           SAINT VINCENT AND THE GRENADINES         X         X           SAUDI ARABIA         (1)         X           SEYCHELLES         X         X           SIERRA LEONE         X         X           SLOVENIA         NIL         X           SOLOMON ISLANDS         X         X           SOUTH AFRICA         9         9           SPAIN         26         X           SURINAME         X         X           SWEDEN         53         X           SWITZERLAND         X         X           SYRIAN ARAB REPUBLIC         X         X           TONGA         X         X				X
PAKISTAN         X           PANAMA         X           PAPUA NEW GUINEA         X           PERU         X           PHILIPPINES         94           POLAND         17           PORTUGAL         (7)         28           REPUBLIC OF KOREA         12           RUSSIAN FEDERATION         X           SAINT KITTS AND NEVIS         (1)         X           SAINT LUCIA         X         X           SAINT VINCENT AND THE GRENADINES         X         X           SAUDI ARABIA         (1)         X           SERBIA         (2)         X           SEYCHELLES         X         X           SIERRA LEONE         X         X           SLOVENIA         NIL         X           SOLOWIN SLANDS         X         X           SOUTH AFRICA         9         9           SPAIN         26         X           SURINAME         X         X           SWEDEN         53         X           SWITZERLAND         X         X           SYRIAN ARAB REPUBLIC         X         X           TONGA         X         X           <	NORWAY	(7)	13	
PANAMA	OMAN			X
PAPUA NEW GUINEA	PAKISTAN			X
PERU	PANAMA			X
PHILIPPINES	PAPUA NEW GUINEA			X
POLAND				X
PORTUGAL	PHILIPPINES		94	
REPUBLIC OF KOREA	POLAND		17	
RUSSIAN FEDERATION   X   SAINT KITTS AND NEVIS   (1)	PORTUGAL	(7)	28	
SAINT KITTS AND NEVIS	REPUBLIC OF KOREA		12	
SAINT LUCIA   X   SAINT VINCENT AND THE GRENADINES   X   SAUDI ARABIA   (1)   X   SERBIA   (2)   X   X   SEPURELLES   X   X   SEPURELLES   X   X   SIERRA LEONE   X   SIERRA LEONE   X   SIERRA LEONE   X   SOLOMON ISLANDS   X   SOUTH AFRICA   9   SPAIN   26   SURINAME   X   SWEDEN   53   SWITZERLAND   X   SWEDEN   53   SWITZERLAND   X   SYRIAN ARAB REPUBLIC   X   TONGA   X   TRINIDAD AND TOBAGO   (1)   X   TUNISIA   X   UKRAINE   NIL   UNITED ARAB EMIRATES   X   UNITED KINGDOM   138   UNITED KINGDOM   138   UNITED KINGDOM   NIL   VEMEN   NIL   NIL   VEMEN   NIL   NIL   VEMEN   NIL   NIL   VEMEN   NIL   NIL   NIL   NIL   VEMEN   NIL	RUSSIAN FEDERATION			Х
SAINT VINCENT AND THE GRENADINES	SAINT KITTS AND NEVIS	(1)		Х
SAUDI ARABIA		` '		Х
SAUDI ARABIA	SAINT VINCENT AND THE GRENAD	INES		Х
SEYCHELLES	SAUDI ARABIA			Х
SEYCHELLES	SERBIA	(2)		Х
SIERRA LEONE		` '		Х
SOLOMON ISLANDS   X   SOUTH AFRICA   9   SPAIN   26   SURINAME   X   SWEDEN   53   SWITZERLAND   X   SYRIAN ARAB REPUBLIC   X   TONGA   X   TRINIDAD AND TOBAGO   (1)   X   TUNISIA   X   UKRAINE   NIL   UNITED KINGDOM   138   UNITED KINGDOM   138   UNITED REPUBLIC OF TANZANIA   X   UNITED STATES   55   VANUATU   VEMEN   (1)   X   X   X   X   X   X   X   X   X				
SOLOMON ISLANDS   X   SOUTH AFRICA   9   SPAIN   26   SURINAME   X   SWEDEN   53   SWITZERLAND   X   SYRIAN ARAB REPUBLIC   X   TONGA   X   TRINIDAD AND TOBAGO   (1)   X   TUNISIA   X   UKRAINE   NIL   UNITED KINGDOM   138   UNITED KINGDOM   138   UNITED REPUBLIC OF TANZANIA   X   UNITED STATES   55   VANUATU   VEMEN   (1)   X   X   X   X   X   X   X   X   X	SLOVENIA		NIL	
SOUTH AFRICA   9   SPAIN   26   SURINAME   X   SWEDEN   53   SWITZERLAND   X   SYRIAN ARAB REPUBLIC   X   TONGA   X   TRINIDAD AND TOBAGO   (1)   X   TUNISIA   X   UKRAINE   NIL   UNITED KINGDOM   138   UNITED KINGDOM   138   UNITED REPUBLIC OF TANZANIA   X   UNITED STATES   55   VANUATU   YEMEN   (1)   X   TOTAL   1,267   TOTAL				Х
SPAIN   26			9	
SWEDEN   53     SWITZERLAND   X     SYRIAN ARAB REPUBLIC   X     TONGA   X     TRINIDAD AND TOBAGO   (1)   X     TUNISIA   X     UKRAINE   NIL     UNITED ARAB EMIRATES   X     UNITED KINGDOM   138     UNITED REPUBLIC OF TANZANIA   X     UNITED STATES   55     VANUATU   NIL     YEMEN   (1)   X     TOTAL   1,267			26	
SWITZERLAND   X	SURINAME			Х
SYRIAN ARAB REPUBLIC	SWEDEN		53	
SYRIAN ARAB REPUBLIC	SWITZERLAND			Х
TONGA				
TUNISIA X  UKRAINE NIL  UNITED ARAB EMIRATES  UNITED KINGDOM 138  UNITED REPUBLIC OF TANZANIA X  UNITED STATES 55  VANUATU NIL  YEMEN (1) X  TOTAL 1,267				
TUNISIA X  UKRAINE NIL  UNITED ARAB EMIRATES  UNITED KINGDOM 138  UNITED REPUBLIC OF TANZANIA X  UNITED STATES 55  VANUATU NIL  YEMEN (1) X  TOTAL 1,267		(1)		
UKRAINE NIL UNITED ARAB EMIRATES X UNITED KINGDOM 138 UNITED REPUBLIC OF TANZANIA X UNITED STATES 55 VANUATU NIL YEMEN (1) X TOTAL 1,267		` '		
UNITED ARAB EMIRATES			NIL	
UNITED KINGDOM 138  UNITED REPUBLIC OF TANZANIA X  UNITED STATES 55  VANUATU NIL  YEMEN (1) X  TOTAL 1,267			<del></del>	Х
UNITED REPUBLIC OF TANZANIA X UNITED STATES 55 VANUATU NIL YEMEN (1) X  TOTAL 1,267			138	i î
UNITED STATES				Х
VANUATU NIL YEMEN (1) X  TOTAL 1,267			55	i î
YEMEN (1) X  TOTAL 1,267				1
TOTAL 1,267		(1)		Х
·		( · /		~
·				
·				
,				
,	TOTAL		1 267	
Contracting rantes not reporting.	Contracting Parties not reporting:		1,201	60

<sup>(1)</sup> Countries are Party to the London Protocol only (bolded)

<sup>(2)</sup> Formerly reported under Yugoslavia

<sup>(3)</sup> China ratification is effective in respect of Hong Kong, China, which is however, reporting independently

<sup>(4)</sup> In 2013 there were 87 Parties to the Convention and 43 to the Protocol, 34 of who are also Party to the Convention (shaded)

<sup>(5)</sup> NI - no information received on number of permits, only amounts disposed (6) NIL - Report submitted, no dumping permits issued

<sup>(7)</sup> Reported as part of the OSPAR annual report on dumping of wastes and other matter

<sup>(8)</sup> Information or part thereof submitted by agent/surveyor/monitor

<sup>(9) 37</sup> new permits and 66 valid multi-year permits under OSPAR areas

Permits issued in 2013 for disposal at sea

Table 2.1 Fast Atlantic and adjacent waters (Northern and North Western Europe and Africa)

Maintenance dredging	Location of site(s)
	1/
DENMARK   Dredged material   37   1   2   2   2   2   2   2   2   2   2	
DENMARK   Dredged material   37	
DENMARK   Dredged material   37	
Dredged material   3	
Dredged material   3	
FINLAND   Dredged material	ı, Kattegat, Skagerrak
FINLAND   Dredged material	nean Sea
FINLAND	
Maintenance diredging	lean Sea
Maintenance diredging	
Maintenance dredging	othnia and Archipelago
Capital dredging   Maintenance and capital dredging	
FRANCE   Dredged material   Maintenance dredging   66   24,724,771   North East 130,044   Mediterra 2,844   Mediterra 2,844	nland
Maintenance dredging	
Maintenance dredging	
130,044   Mediterra	
Capital dredging   5	st Atlantic and North Sea
Capital dredging	
ICELAND   Dredged material	st Atlantic and North Sea
Inert material   2	
Inert material   2	
IRELAND   Dredged material   5	
TALY	
TALY	
TALY   Dredged material	not specified
Maintenance dredging	,
Capital dredging	
NETHERLANDS         Dredged material         7/         NI         32,000,000           NORWAY         Dredged material Inert material         8         103,722 0           POLAND         Dredged material         17         574,034 Baltic Se           PORTUGAL         Dredged material         26 3,763,614 0         2 176,970           SOUTH AFRICA         Dredged material Maintenance dredging         1 160,378 0         South Ea South Ea South Ea South Ea	ea
NORWAY         Dredged material lnert material         8         103,722           POLAND         Dredged material         17         574,034         Baltic Se           PORTUGAL         Dredged material         26         3,763,614         4         2         176,970           SOUTH AFRICA         Dredged material Maintenance dredging Capital dredging         1         160,378 (2)         30,812         South Ea	ea
NORWAY         Dredged material lnert material         8         103,722           POLAND         Dredged material         17         574,034         Baltic Se           PORTUGAL         Dredged material         26         3,763,614         4         2         176,970           SOUTH AFRICA         Dredged material Maintenance dredging Capital dredging         1         160,378 (2)         30,812         South Ea	
Inert material   8/   5   0   0	
Inert material   8/   5   0   0	
POLAND         Dredged material         17         574,034         Baltic Se           PORTUGAL         Dredged material         26         3,763,614         4         2         176,970           SOUTH AFRICA         Dredged material         3/         3/         4         3/         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         5         6         7         2         8         6         7         2         1         1         1         1         1         1         1         1         1         1         1         1         1         2 </td <td></td>	
PORTUGAL         Dredged material         26         3,763,614         2         176,970           SOUTH AFRICA         Dredged material         3/         3/         4         1         160,378         5         South Ea           Capital dredging         1         93,612         393,612         South Ea	
PORTUGAL         Dredged material         26         3,763,614         2         176,970         2         2         176,970         2         2         3,763,614         2         2         1,769,970         2         3,763,614 <td>9</td>	9
SOUTH AFRICA   Dredged material   3/2	•
SOUTH AFRICA   Dredged material   3/2	
SOUTH AFRICA  Dredged material  Maintenance dredging  Capital dredging  1 160,378 1 93,612  South Ea	
Maintenance dredging 1 160,378 Capital dredging 1 93,612 South Ea	
Capital dredging 1 93,612 South Ea	
	st Atlantic
SPAIN Dredged material 6/	st Atlantic
SPAIN   Dredged material 6/	
Maintenance dredging 18 1,361,717	
4 175,843 Mediterra	nean Sea
Capital dredging 4 607,407	
SWEDEN Dredged material 3/	K # 4 D # D
	k, Kattegat, Baltic Proper,
Capital dredging 21 4,334,027 Bothnian	sea
UNITED KINGDOM Dredged material 135	
Maintenance dredging 6,015,410 634,965 1,743,086 1,598,560 Humber,	Bristol Channel.
Capital dredging 2,643,113 158,393 1,852,884 30,256 Malin Set	
Fish waste 1 1,179	
Organic material of natural origin 2 2,120	

<sup>//</sup> Figures refer to Maps in Appendix and to dumpsite codes indicated in these maps (not included in draft).
2/ Dumped amount in tonnes dry-weight, unless otherwise indicated.
3/ Amount reported in cubic meters (V) and unless specified, converted to tonnes dry-weight by 1.3 xV.
4/ Part of the quantity was dumped on land.
5/ Multi-year permits (2013-2014-2015).
6/ Permitted quantity for dumping.
7/ Amount reported in wet weight.
8/ 182,800 tonnes licensed, no material disposed.

#### Permits issued in 2013 for disposal at sea

		Number of Quantity licensed or disposed (in tonnes) 2/					Location
Type of waste		permits	South West	East Asian	Indian		of site(s)
***		issued	Pacific	Seas	Ocean	Other	1/
					092.250	226.060	Book Stroit
waintenance dredging	4/	4			902,239		
							Gulf of Carpentaria
						001,000	Our or ourportuna
Capital dredging	5/	4			14,141,319	964,185	Coral Sea
						167,852	Western Pacific
Sewage sludge	6/	3			1,167 m3	391,000 litres	Coral Sea
/							
	7/	0			4 huove	2 hurials	Southern Ocean
	"				4 buoys	2 buildis	Oddinem Ocean
organio material or natural origin		_					
Oredged material	3/						
		38				44,343,000	Bohai Sea and Yellow Sea
		257					East China Sea
Maintenance and capital dredging		50					South China Sea
Dredged material	3/						
Maintenance and capital dredging		143		31,215,089			
							L
							Red Sea
Platform	8/	1					Red Sea
Dec dec d acete del							
		40				0.007.040	M D:6- O
							Western Pacific Ocean and adjacent waters
ment morganic geological material		4				1,200,730	and adjacent waters
Spoilt cargo	0/						
	9/						
Damaged com in bulk		1			1,028		Arabian Sea
	10/						
		1	176,545				
							0 4 14 4 5 16
		1					South West Pacific
							South West Pacific
Wortai remains		'					South West Facilic
Oredged material	3/	2		2.340			
		_		_,			
		84		109,800			
Sand deriving from dredging operation		1		6,120 m3			
Other							
Sediments		7		6,800			
		_		0.47.0-			
organio materiai di naturai drigili				255			
Oredged material							
	3/	5			2,981.966		
Spoilt cargo							
Coal	11/	1			10,000		
/essel							
Aft section of a vessel wreck	11/	1					Indian Ocean
	Jessels and platforms or other man- made structures at sea Mid water buoys Drganic material of natural origin Dredged material Maintenance and capital dredging Dredged material Maintenance and capital dredging Dredged material Maintenance dredging Dredged material of natural origin Non-toxic waste/organic slop/molasses nert inorganic geological material Sand deriving from dredging operation Dredged material Maintenance dredging Sediments Dredged material Maintenance dredging Dredged material	Maintenance dredging  Capital dredging  Sewage sludge  Assesses and platforms or other man- nade structures at sea Mid water buoys  Oredged material Maintenance and capital dredging Oredged material Maintenance and capital dredging  Oredged material Maintenance and capital dredging  Oredged material Maintenance dredging  Oredged material Maintenance dredging  Damaged corn in bulk  Oredged material Maintenance dredging  Oreganic material of natural origin Montal remains  Oredged material Sand derving from dredging operation Other Sediments  Oredged material Maintenance dredging  Oredged material Maintenance dredging	Maintenance dredging 4/ 4  Capital dredging 5/ 4  Sewage sludge 6/ 3  Vessels and platforms or other mannade structures at sea Mid water buoys 7/ 0  Oredged material of natural origin 25/ 0  Oredged material 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/	Maintenance dredging 4/ 4  Capital dredging 5/ 4  Sewage sludge 6/ 3  Vessels and platforms or other mannade structures at sea Mid water buoys 7/ 0  Oredged material of natural origin 2  Oredged material 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/	Maintenance dredging 4/ 4  Capital dredging 5/ 4  Sewage sludge 6/ 3  Ressels and platforms or other mannade structures at sea Mid water buoys 7/ 0  Dredged material 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/ 3/	Maintenance dredging	Maintenance dredging         4/         4         982,259         228,060         1,685,003         1,1,695,003         1,1,695,003         1,1,695,003         1,1,167 m3         391,000 litres         837,883         837,883         837,883         84,185         167,652         837,883         84,185         167,652         837,883         84,185         167,652         839,1,000 litres         964,185         167,652         839,1,000 litres         964,185         167,652         839,1,000 litres         20

### Permits issued in 2013 for disposal at sea

Table 2.3: West Atlantic, Eastern Pacific and adjacent waters (North, Central, South America and Caribbean)

			Number of	Quantity licensed or disposed (in tonnes) 2/				Location
Country	Type of waste		permits	W Atlantic	E Pacific	Arctic	Other	of site(s)
			issued	Ocean	Ocean	seas	areas	1/
BRAZIL	Dredged material	3/	16	19,700,765				South Atlantic Ocean
CANADA	Dredged material	4/, 5/						
	Maintenance dredging		37	557,281	2,907,105			
	Capital dredging			2				
	Inert material		7		127,851			
	Fish waste		33	17,367	282			
CHILE	Dredged material	3/	2		88,140			
	Vessel (M/N Ocean Breeze)		1		30,067			
FRANCE	Dredged material							
	Maintenance dredging		2	3,550,314				Western Atlantic
UNITED STATES	Dredged material	3/						
	Maintenance dredging		45				23,216,851	Atlantic Ocean, Gulf of Mexico,
	Capital dredging		7				3,434,661	Pacific Ocean
	Vessel	6/	3	46			17	Pacific Ocean

<sup>1/</sup> Map figures, where appropriate, refer to maps in appendix and to dumpsite codes indicated (not included in draft).

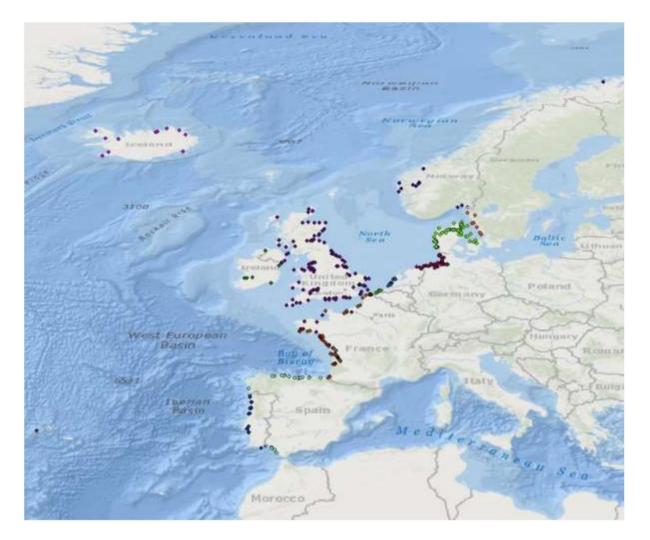
<sup>2/</sup> Dumped amount in tonnes dry-weight (i.e., dredged material).

<sup>3/</sup> Dumped amount in cubic meters (V) and unless specified, converted to tonnes dry-weight by 1.3 x V.

<sup>4/</sup> Permitted quantity.

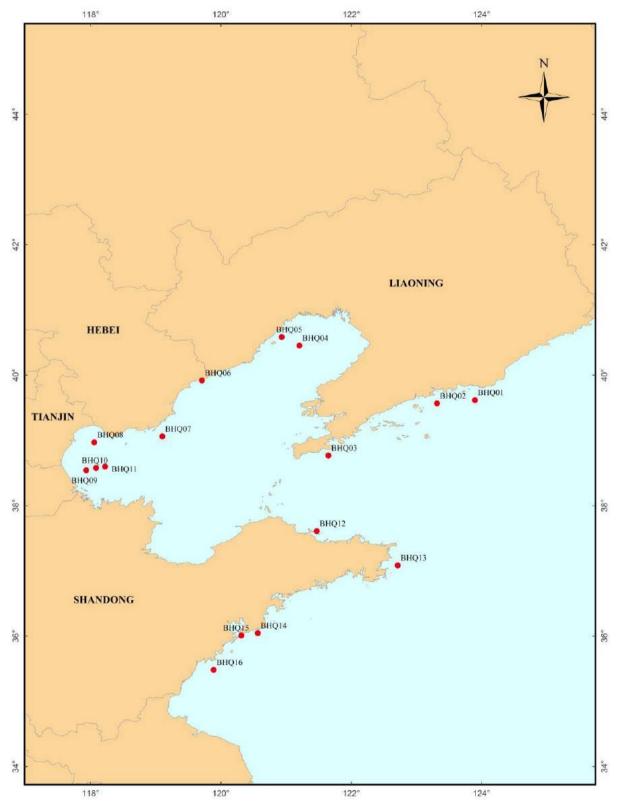
<sup>5/</sup> Includes one permit issued under article 8.2 of the London Protocol, see LC-LP.1/Circ.57.

<sup>6/</sup> Three vessels were dumped. The weight of one vessel was indicated as 'unknown' in the Contracting Party's annual report.



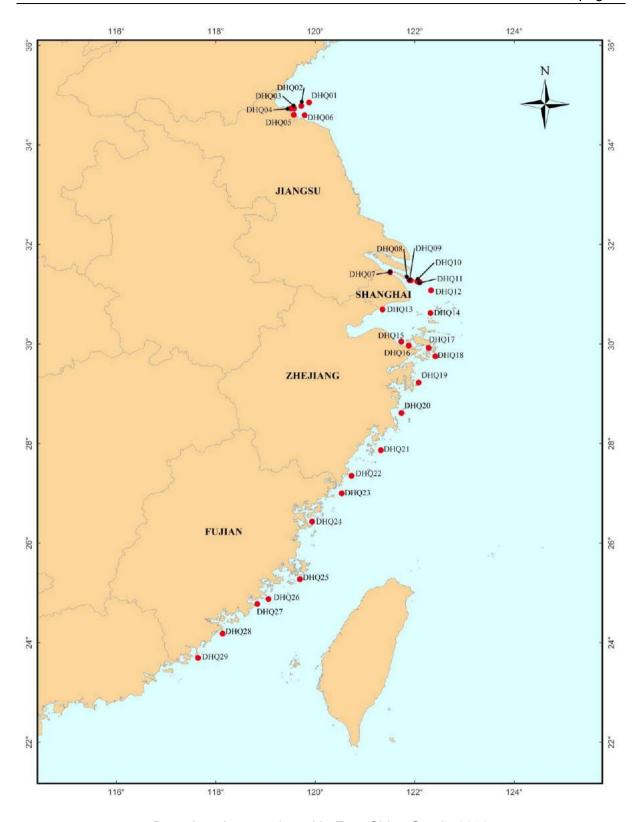
Map 1: Dumping sites in the OSPAR region 2013

From: OSPAR annual report on dumping of wastes or other matter at sea in 2013, available online at <a href="http://www.ospar.org/documents?v=33573">http://www.ospar.org/documents?v=33573</a>



Map 2: Dumping sites in China 2013

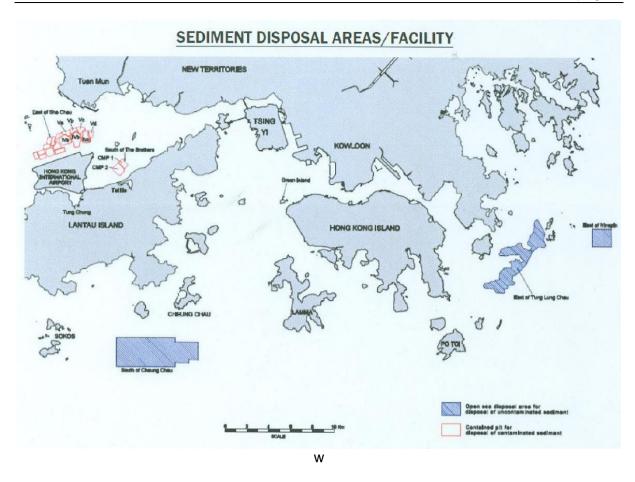
Dumping sites monitored in Bohai Sea & Yellow Sea in 2013



Dumping sites monitored in East China Sea in 2013

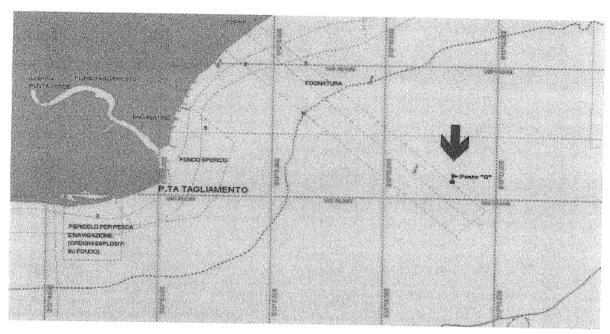


Dumping sites monitored in South China Sea in 2013



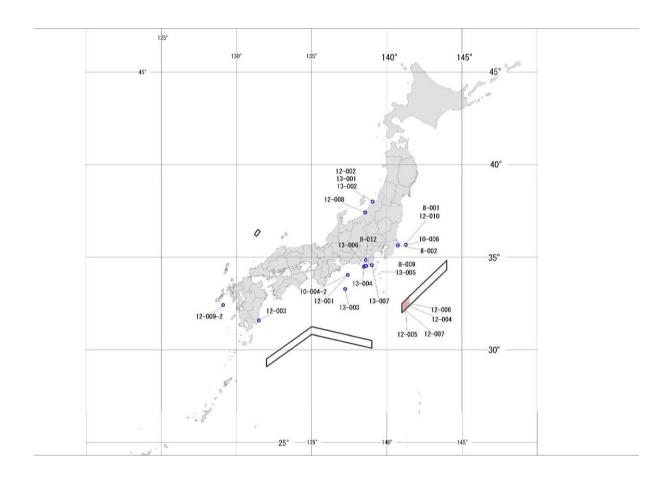
Sediment disposal areas/facility, Hong Kong, China

Map 3: Dumping sites in Italy 2013



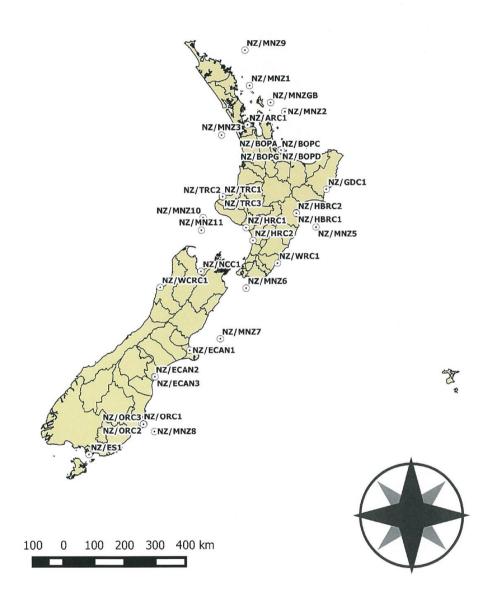
ZONA DI SVERSAME	NTO DEI MATERIALI DI	ERIVANTI DAI DRAGAGGI
AREA CIRCOLARE	Centro nel	punto "G"
Lunghezza raggio di metri 250	Lat.: 45°38,32'N	Long.: 13° 11,20'E

Map 4: Dumping sites in Japan 2013

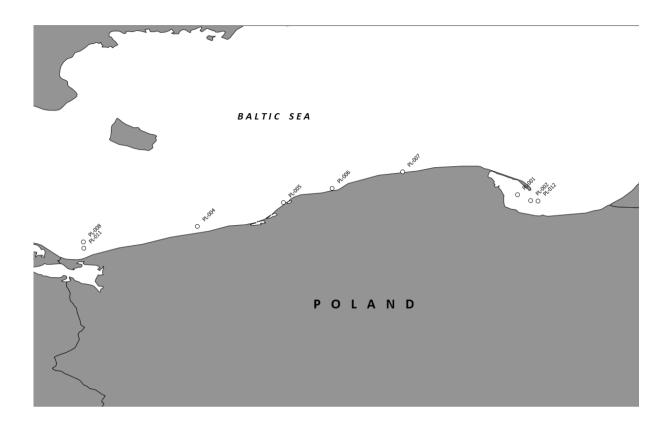


Map 5: Dumping sites in New Zealand 2013

## **New Zealand Marine Disposal Sites**



Map 6: Dumping sites in Poland 2013



Refective Boach Reads

Referring Bay

Harbour Reads

Port of Richards Bay

Dissipative-intermediate

Dissipative-intermediate

Dissipative-intermediate

Dissipative-intermediate

Reads

Referring Bay

Note The Control of Richards Bay

Dissipative-intermediate

Dissipative-intermediate

Reads

Referring Bay

Port of Richards Bay

Dissipative-intermediate

Dissipative-intermediate

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Referring Bay

Port of Richards Bay

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Port of Richards Bay

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Page 10

SAAQ2 Richards Bay
Rivers\_Coastal

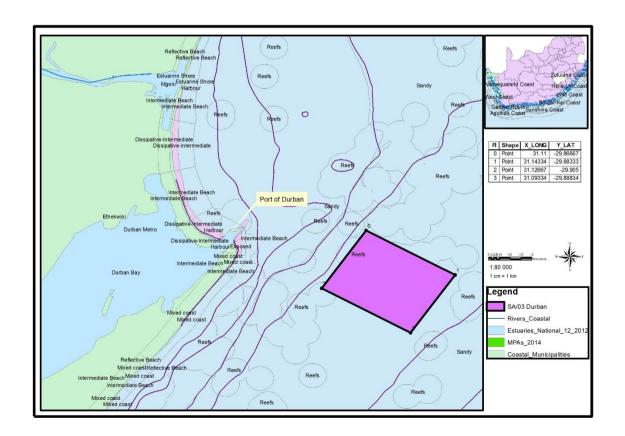
Estuaries\_National\_12\_2012

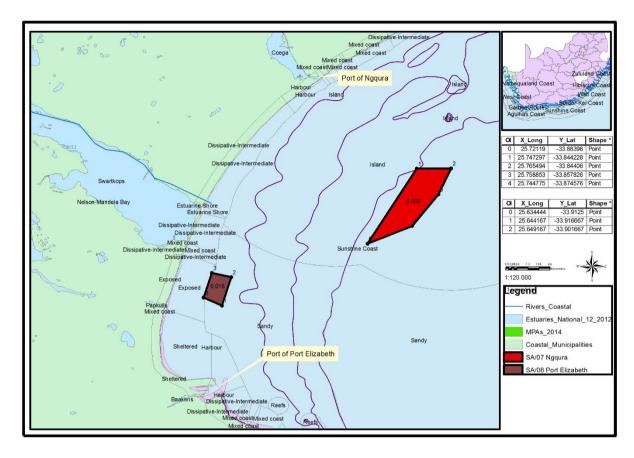
MPAg\_2014

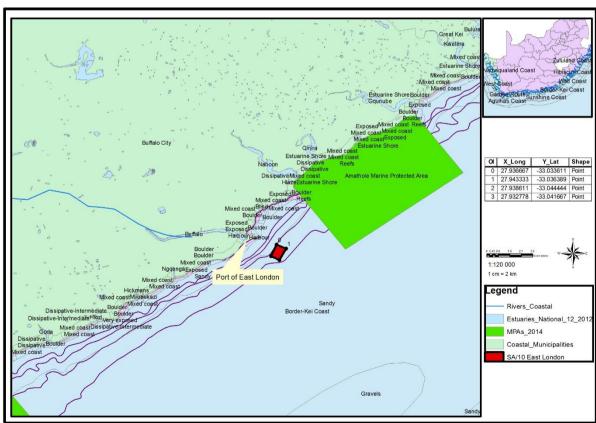
Coastal Municipalities

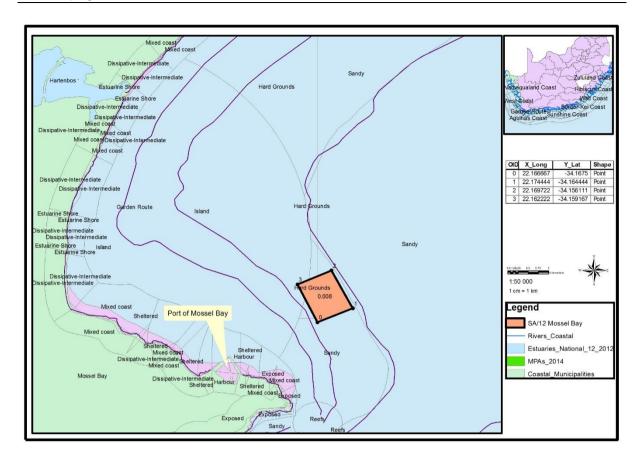
Intermediate Bacch

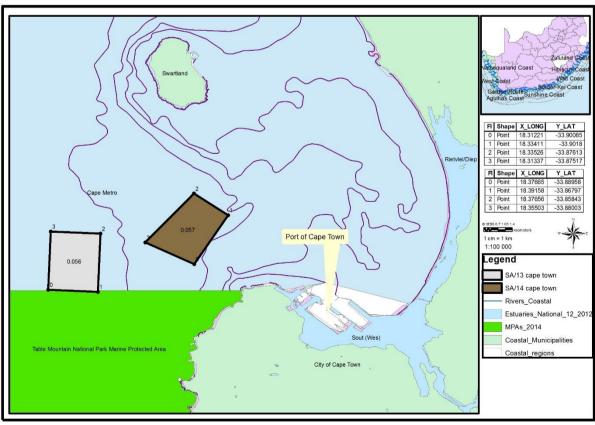
Map 7: Dumping sites in South Africa 2013







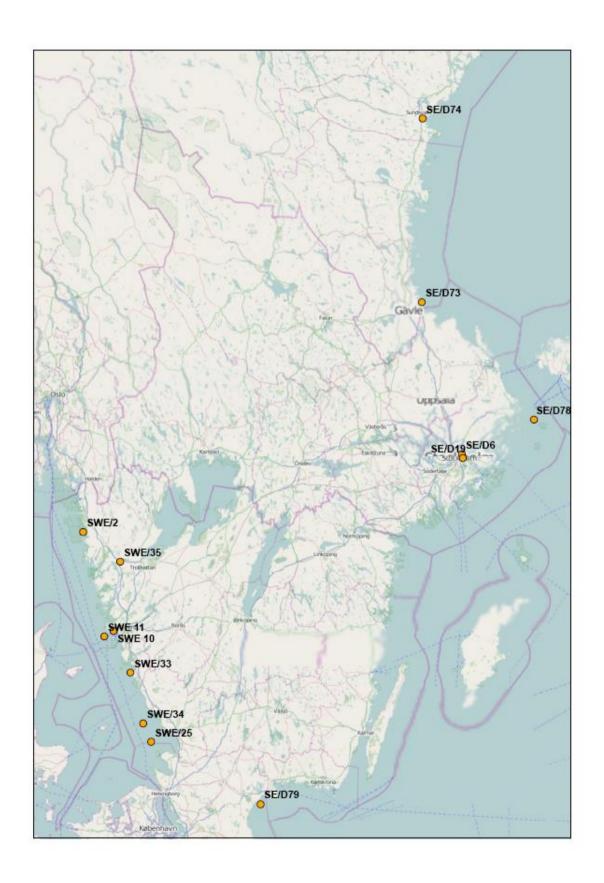




Map 8: Dumping sites in Spain 2013

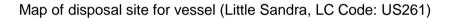


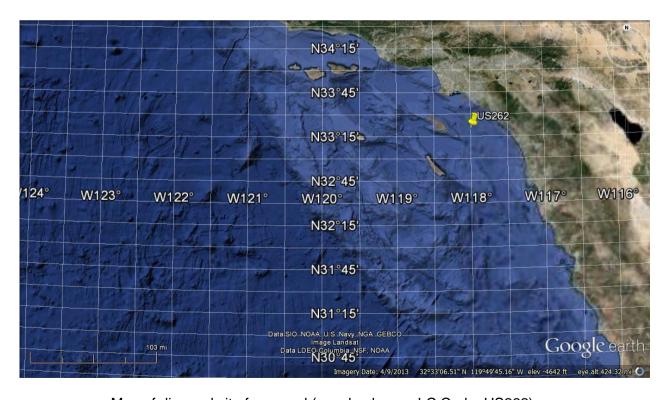
Map 9: Dumping sites in Sweden 2013



N44°45'
N44°45'
N43°45'
N43°45'
N43°45'
N43°45'
N43°45'
N43°15'
N42°45'
N42°45'
N42°45'
N42°45'
N42°45'
N44°45'
N42°45'
N44°45'

Map 10: Dumping sites in the United States 2013





Map of disposal site for vessel (wooden barge, LC Code: US262)



Map of disposal site for vessel (Infinity, LC Code: US263)