



UNITED
NATIONS

EP

UNEP(DEPI)/MED WG.439/8



UNITED NATIONS
ENVIRONMENT PROGRAMME
MEDITERRANEAN ACTION PLAN

28 April 2017
Original: English

Meeting of the MED POL Focal Points

Rome, Italy, 29-31 May 2017

Agenda item 7: Technical Guidelines and related Assessments

Dumping Activities in the Mediterranean: Main Findings and Recommendations

For environmental and economic reasons, this document is printed in a limited number. Delegates are kindly requested to bring their copies to meetings and not to request additional copies.

UNEP/MAP
Athens, 2017

Table of Contents

1. Introduction	1
2. Main trends on regional dumping activities in the Mediterranean (a regional dimension)	2
3. List of emerging contaminants	7
4. Analysis of gaps and needs	7
5. Possible recommendations on future activities and priorities	9

List of Abbreviations/Acronyms

Ar	Arsenic
Cd	Cadmium
COP	Conference of the Parties
CP	Contracting Parties
Cr	Chromium
Cu	Copper
DBT	Dibutyltin
GES	Good Environmental Status
Hg	Mercury
IMAP	Integrated Monitoring and Assessment Programme
IMO	International Maritime Organization
IUPAC	International Union of Pure and Applied Chemistry
LC-LP	London Convention and Protocol
MBT	Monobutyltin
Ni	Nickel
PAHs	Polycyclic Aromatic Hydrocarbons
Pb	Lead
PCB	Polychlorinated Biphenyls
PCDD	Polychlorinated dibenzodioxins
PCDF	Polychlorinated dibenzofurans
TBT	Tri-Butyltin
UN Environment/MAP	UN Environment/Mediterranean Action Plan
Zn	Zinc

1. Introduction

1. The UN Environment/Mediterranean Action Plan (hereinafter referred to as MAP) Barcelona Convention has established a strong framework for the protection of marine environment from dumping activities. The Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft was adopted in Barcelona, Spain, on the 16th of February 1976. Its objective, stated in article 1, was to “to prevent and abate pollution of the Mediterranean Sea area caused by dumping from ships and aircraft”. To this end, a “black” list of materials and substances was indicated, the dumping of which in the Mediterranean is forbidden. For another list of materials and substances, dumping in the Mediterranean was subject to the issuing of a special permit by the national authority. Article 7 of the Protocol states that the Parties have to send a record of permits to the Coordinating Unit of the Mediterranean Action Plan on a yearly basis. Almost all the Contracting Parties to the Barcelona Convention, including the European Union, have ratified the Dumping Protocol.

2. The Dumping Protocol was significantly amended in Barcelona in 1995, at the same time as the Barcelona Convention. The new Protocol is called Protocol for the Prevention and Elimination of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft or Incineration at Sea. The approach of the Protocol following the 1995 amendments changes the focus of the regulation from the “black” list of materials and substances for which dumping is forbidden to a general prohibition of dumping in the Mediterranean with the exemption of a short list of materials/substances. It is thereby following the same approach as the London Convention Protocol 1996, but with a more restricted number of exempted materials. For the “permitted” materials, dumping is allowed only after having obtained a special permit. The special permit ought to be given after having taken into consideration the specific biological and natural conditions of the dumping area. Incineration at sea is also prohibited, and seabed and sub soil are also included in the general prohibition. Article 7 of the original Protocol has been omitted but since article 14.2, stating that the meeting of the Parties shall study the records of the permits, has been maintained, the Parties are still required to communicate to the Secretariat their records.

3. The 1995 amendments to the Dumping Protocol have not yet entered into force. So far, 15 Mediterranean Countries and the European Community have accepted the amendments. These are Albania, Croatia, Cyprus, Egypt, France, Italy, Malta, Monaco, Morocco, Slovenia, Spain, Syria, Tunisia and Turkey.

4. In COP15 (2008, Almeria, Spain) the Contracting Parties adopted a reporting format for the Convention and its Protocols. Accordingly, they have to submit biannual Reports to the Secretariat according to this format through the Barcelona Convention Reporting System (BCRS)¹, hereinafter referred to as Parties Reports.

5. As part of the work on the assessment of implementation of the Dumping Protocol and the update of two Dumping Protocol Guidelines (on dredged materials and placement for artificial reefs), as requested by the Contracting Parties to the Barcelona Convention in COP19, held in 2016 in Athens, Greece, the MAP Programme of Work (PoW) 2061-2017 has given a mandate to the Secretariat to undertake a comprehensive assessment of the Parties Reports for the period 2005-2015 and identify main gaps and needs relating to dumping activities in the Mediterranean region. This work would allow to strengthen the implementation of the Dumping Protocol and the reporting by the Contracting Parties and also facilitate the entry into force of the 1995 amendments.

6. To this end, the Secretariat, with technical support from a regional expert, scrutinized existing data and information provided by the Contracting Parties in the framework of the reporting exercises for the biennia 2008-2009, 2010-2011, 2012-2013, and 2014-2015, as well as available data and information provided by the Mediterranean countries that are Parties to the London Convention and

¹ <http://www.info-rac.org/en/activities/bcrs>

Protocol (LC-LP).

7. This document is composed of four main parts. The first part provides information, based on the Parties Reports, on legal and regulatory aspects of the implementation of the Dumping Protocol as well as on the number of permits and quantities of material dumped in the Mediterranean between 2005 and 2015. The second part identifies a list of emerging contaminants deriving from dumping operations. The third part of the report identifies main gaps and needs relating to the reporting under the Dumping Protocol. Finally, the last part includes possible recommended actions to be considered at the national and regional levels.

8. It should be noted that the present report is based on existing information, which in many cases is not complete. Therefore, the findings of the report may change in the future, as more complete information and data are expected to be received by the Contracting Parties.

2. Main trends on regional dumping activities in the Mediterranean (a regional dimension)

9. According to the above, the data and information analysis are shown in tables and figures as follows:

- (a) Table (1) highlights the overall regional status of the implementation of each legal, regulatory and administrative category of the reporting format;
- (b) Table (2) highlights the overall regional synopsis of dumping operations;
- (c) Figure (1) illustrates the evolution of number of permits for dumping of dredged materials in the region between 2005-2015;
- (d) Figure (2) illustrates the evolution of quantity of dredged materials dumped according to permits in the region between 2005-2015;
- (e) Figure (3) illustrates the evolution of number of permits for placement of vessels in the region between 2005-2015;
- (f) Figure (4) illustrates the evolution of number of vessels placed according to permits in the region between 2005-2015;
- (g) Figure (5) illustrates the evolution of number of permits of "solid" dumped in the region between 2005-2015;
- (h) Figure (6) illustrates the evolution of Tons of "solid" dumped in the region between 2005-2015.

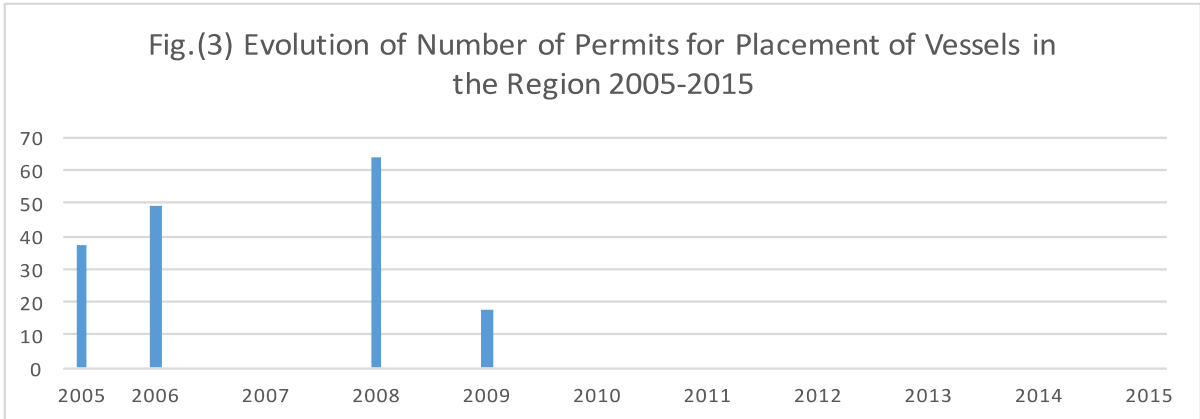
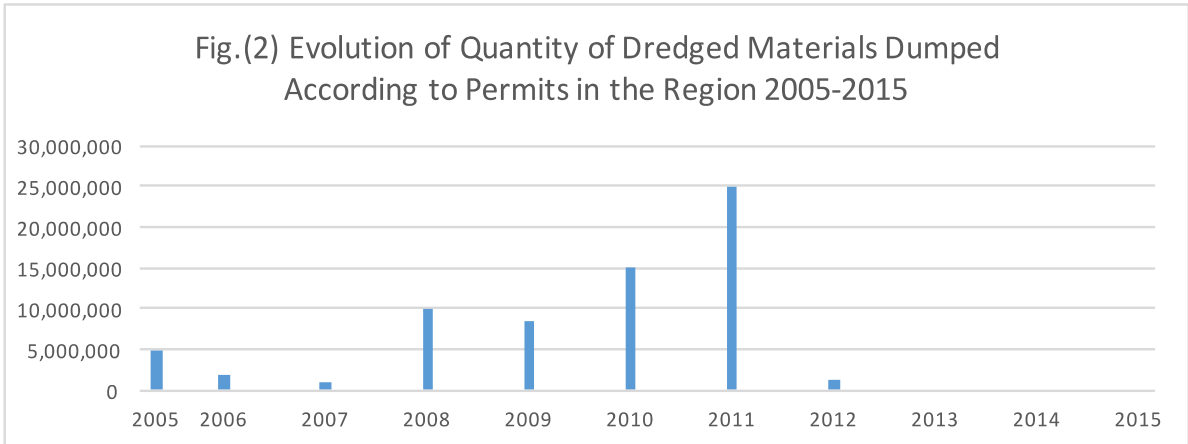
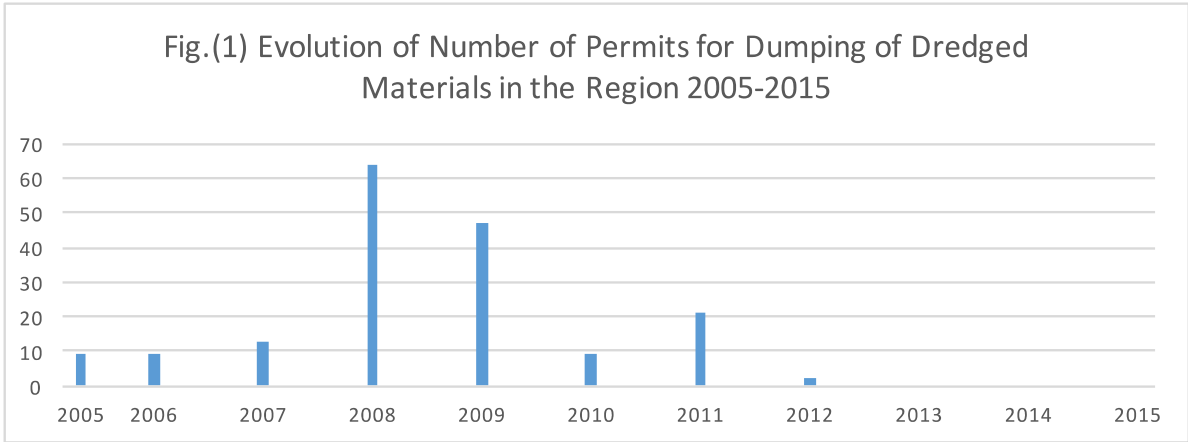
Table 1. Overall regional status of the implementation of each legal, regulatory and administrative category of the reporting format

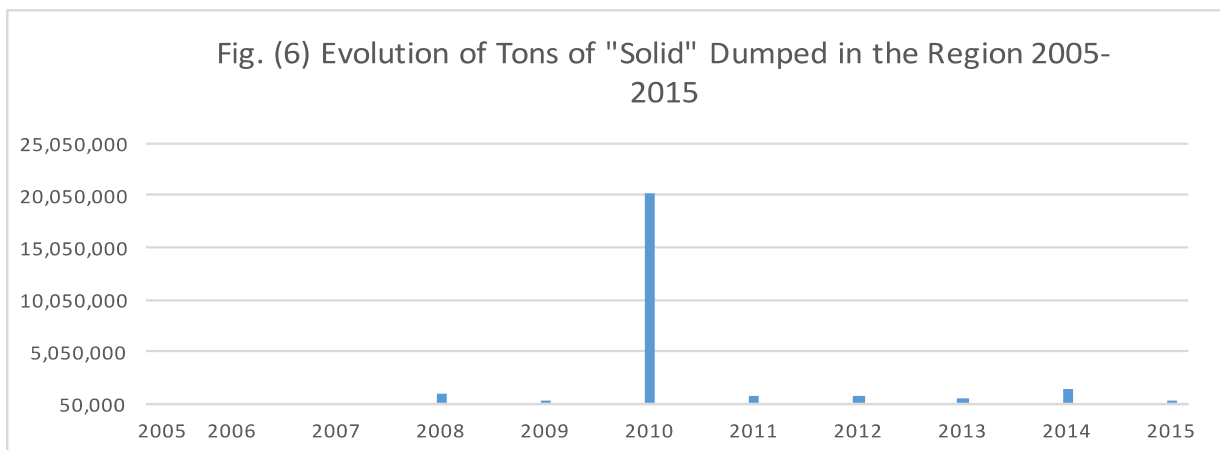
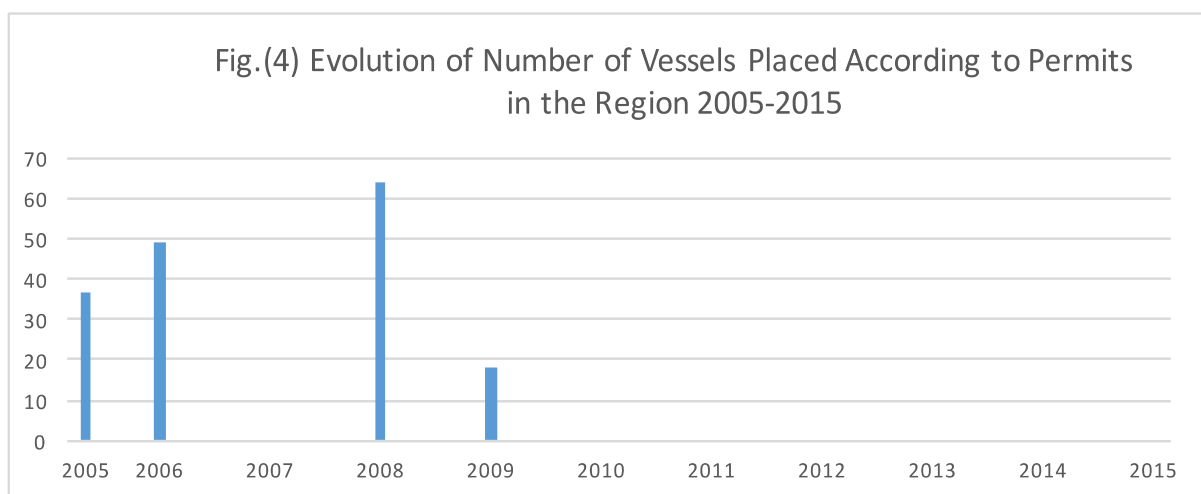
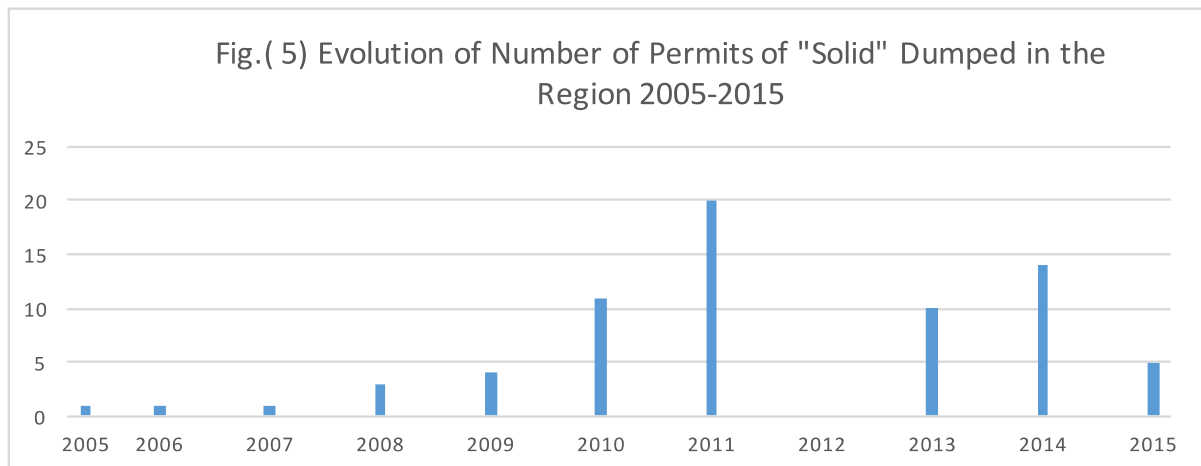
	Legal System	% Yes	% No	% No Data	% In Process
	Prohibition of dumping of wastes and other materials with the exception of those listed in Article 4.2	52	1	47	
Art.4 para.2	Dumping of wastes and materials listed in Article 4.2 is subject to a prior special permit by competent authorities in conformity with the requirements spelled out in the Annexes to the Protocol and the related Guidelines adopted by the Meetings of the Contracting Parties	57	1	42	
Art.7	Prohibition of incineration at sea	57	1	42	
Art.11 (a)	Application of measures to implement this Protocol to ships and aircrafts registered in the territory of the reporting Party or flying its flag	52	5	38	5
Art.11(b)	Application of measures to implement this Protocol to ships and aircrafts loading in the territory of the Party wastes or other materials intended for dumping	47,6	4,7	42,8	4,7
Art.11(c)	Application of measures to implement this Protocol to ships and aircrafts believed to be engaged in dumping in areas under national jurisdiction	47,6	4,7	42,8	4,7
Art.12	Issuing of instructions to maritime inspection ships and aircraft and other appropriate services to report to the relevant national authorities any incidents or conditions giving rise to suspicions that dumping in contravention to the Protocol had occurred or was about to occur	52,3		42,8	5
Art.4	Notification procedures as provided for in the Guidelines on the dumping of uncontaminated inert material and on the dumping of platforms and other man-made structures, adopted by the Meetings of the Contracting Parties in 2003 and 2005	33,3	4,7	52,3	9,5
Art.5	Authorization(s) and permit(s) issued and related technical data (Art. 5)	25		75	
	Allocation of resources for the establishment of institutions and monitoring programmes				
	Issue the permits provided for in Art.5 of the Protocol, Annexes and the respective Guidelines, and keep records of the nature and quantities of the waste or other matter, dumping location and method	38		47,6	10
	Establishment of an appropriate programme to monitor the conditions of the sea for the purpose of the Protocol as per the requirements of the respective Guidelines	33,3	9,5	52,3	5
	Occurrences of dumping in cases of force majeure under the terms of Article 8 of the Protocol, if any	15		85	
	Critical situations under the terms of Art. 9	19		81	
	Enforcement measures related to the provisions described in column 2 of Table VI	15		85	
	Decision-making procedure for issuing a permit	15		85	
	Establishment of the monitoring programmes	15		85	
	Effectiveness indicators for Dumping Protocol	5		95	

Table 2. Overall regional synopsis of dumping operations

Year		Dredged Materials	Placement (vessels)	Inert Geological Materials	Fish Waste	Others
2005	Number of Permits	9	37			1
	Quantity in tons	4.845.117	37			Hollow iron scrap
2006	Number of Permits	10	49			1
	Quantity in tons	2.543.445	49			55 spoilt rice
2007	Number of Permits	13				
	Quantity in tons	1125419				5081.5T damaged corn
2008	Number of Permits	21	64			3 solid
	Quantity in tons	9.976.161	64			1110000
2009	Number of Permits	47	18			4 solid
	Quantity in tons	8.489.159	18			59000
2010	Number of Permits	9				11 solid and mix
	Quantity in tons	15.009.470				20309922
2011	Number of Permits	21				20 solid
	Quantity in tons	24.867.326				783043 with chemicals
2012	Number of Permits	2		1+1		
	Quantity in tons	1.189.891		1,500,000 m3+rocks		728768 with chemicals
2013	Number of Permits					10 solid
	Quantity in tons					535317 with chemicals
2014	Number of Permits					14 Solid and mix
	Quantity in tons					1380730
2015	Number of Permits					5 solid and mix
	Quantity in tons					92600

Figures 1-6. Evolution of number of permits issued and quantities of material dumped in the Mediterranean region in the period 2005-2015





3. List of emerging contaminants

10. The Secretariat (MED POL) has been mandated by the Contracting Parties to identify a list of priority contaminants affecting the marine and coastal environment in the Mediterranean.

11. In this respect, the current assessment was considered as an opportunity to identify pollutants deriving from dumping operations and materials.

12. Two lists of emerging chemicals are presented below (primary and secondary list). It has to be noted that only two Parties Reports include indication of quantities for the chemicals associated to dumped materials.

(a) Primary list

- Arsenic (As)
- Cadmium (Cd)
- Copper (Cu)
- Chromium (Cr)
- Mercury (Hg)
- Nickel (Ni)
- Lead (Pb)
- Zinc (Zn)
- Polychlorinated Biphenyls (PCBs) individually determining congeners IUPAC (International Union of Pure and Applied Chemistry) no 28, 52, 101, 118, 138, 153 and 180.
- Polycyclic Aromatic Hydrocarbons (PAHs), individually determining the concentration of the following compounds: Anthracene, Benzo(a)anthracene, Benzo (ghi) perylene, Benzo(a)pyrene, Chrysene, Fluoranthene, Indeno(1,2,3-cd) pyrene, Pyrene and Phenanthrene.
- Tri-Butyltin (TBT) and their degradation products (DBT and MBT).
- Hydrocarbons (C10 - C40)

(b) Secondary List

- Other chlorobiphenyls
- Organochlorine pesticides
- organophosphorus pesticides
- other organotin compounds
- other anti-fouling agents
- petroleum hydrocarbons
- Polychlorinated dibenzodioxins (PCDDs)/polychlorinated dibenzofurans (PCDFs)

4. Analysis of gaps and needs

13. The analysis of the information contained in the Parties Reports, has revealed a number of gaps on legal and regulatory issues, as shown in Tables (1) and (2) above. The main gaps that need to be filled are as follows:

- (a) Existing data does not indicate any comprehensive enforcement of all provisions of Dumping Protocol by any country. This could be, among others, due to the fact that the reporting format is in some cases not fully completed;
- (b) Almost 50% of the Contracting Parties have national legal systems for dumping activities. It is not clear however if other countries have legal system as well, but did not report it;
- (c) 75% of the Contracting Parties have not provided information about permitting systems in their respective legal and regulatory framework;
- (d) Contracting Parties that have a national legal system allocate the necessary resources to its implementation;

- (e) Resources for issuing of the permits provided for in Art.5 of the Protocol, Annexes and the respective Guidelines, and keeping records of the nature and quantities of the waste or other matter, dumping location and method, are allocated by 38% of the countries;
- (f) 33% of the Contracting Parties allocated resources for monitoring of dumping sites;
- (g) Nearly 80-85% of the Contracting Parties did not report on Art.8 on dumping in force majeure and Art.9 dumping in critical situation;
- (h) 95% of the Contracting Parties did not report on effectiveness indicators.

14. Furthermore important outcomes can be drawn by the analysis of information provided by the countries on technical aspects of dumping operations, as it is shown in the tables included in the Annexes of the present report. The main findings are as follows:

- (a) 5 out of 21 Contracting Parties provided info on dumping in their Reports;
- (b) Permits are in some cases for 10 years. Therefore, only the date of issuance of the permit is considered for the purposes of this assessment;
- (c) Some Contracting Parties are only reporting to IMO;
- (d) Data and information submitted under the Barcelona Convention and IMO LC-LP are not fully streamlined;
- (e) In some cases no mention is made to the quantities of waste dumped;
- (f) In some cases no information is provided on the coordinates (longitude/ latitude) of the dumping sites;
- (g) No Parties Report includes information on placement, although this has been the case for some countries under IMO reporting;
- (h) It is difficult to assess any trends in dumping due to lack of data.

15. In comparison between assessment of 1995-2005 and 2005-2015 and on the basis of reported information to the LC-LP and/or the Barcelona Convention, differences between the number of permits and quantities of material dumped in each period can be found, as displayed in the following table:

Number of permits for dumping of dredged materials reported for the period to LC-LP 1995-2005	129
Number of permit for dumping of dredged materials reported for the period 2005-2015	153
Total quantities of dredged Materials subject to dumping 1995-2005	9,752,753 Tons
Total Quantities of Dredged materials subject to dumping 2005-2015	92,913,314 Tons
Total Quantity of vessels subject to placement 2005-2015	168
Total Quantity of vessels subject to placement 1995-2005	387
Total number of permits for "solid" 2005-2015	87
Total quantities of "solid" subject to dumping 2005-2015	24,999,380 Tons

16. In general, the majority of the Contracting Parties are not reporting comprehensively to the Dumping Protocol reporting system and are not filling the reporting format. There is no consistency with reports submitted to the IMO for the same country. This could result from the lack of capacity, and the lack of information as well as from an insufficient coordination at national and regional levels, regarding the IMO and MAP Dumping reporting systems.

17. Data on chemicals constituency of dumped materials indicates that dredging operations are re-mobilizing buried pollutants and their suspension, which may, at certain levels, have an adverse impact on the environment, either at sea, during dredging or clapping when these sediments are submerged, or on land when these sediments are stored.

18. It is challenging, to identify through the Parties Reports the types of dumping materials, unless the term "solid and mixed" means dredged materials. In this case, countries are reporting only on dredged materials. No information about other dumping activities, specifically placement, is provided.

5. Possible recommendations on future activities and priorities

19. Existing studies and reports indicate that marine ecosystems of the Mediterranean could be subject to changes due to dumping activities. The synergic impacts of human activities, including dumping activities, in coastal zones, could drastically change the structure and characterization of the ecosystems and consequently prevent Mediterranean Countries to reach their Ecological Objectives and Good Environmental Status (GES), agreed upon in the framework of Barcelona Convention Ecosystem Approach. Although the Contracting Parties have undertaken measures to limit the adverse impacts of dumping activities, there are needs for enhancements and improvements of these measures. Therefore, legal, regulatory, administrative and technical enhancements are needed at national and regional levels to reduce the adverse impacts of dumping activities on marine ecosystems in coastal zones. The following actions are recommended in view of strengthening the implementation of Dumping Guidelines, including improvement of generation of data and information, as well as coordination and capacity building activities:

(a) Recommended activities at regional level

- i. Update the Dumping Protocol Guidelines in order to ensure achievement/maintenance of GES and preservation of human health;
- ii. Assist the Contracting Parties to fully implement the updated Dumping Guidelines;
- iii. Undertake capacity building programmes;
- iv. Develop indicators and include monitoring of dumping activities into the Integrated Monitoring and Assessment Programmes (IMAP) ;
- v. Develop a regional regulatory framework to limit the inputs of chemicals from dumping operations in the marine environment, and adopt other measures, as need be.

(b) Recommended activities at national level

- i. Ensure better coordination among the national authorities dealing with dumping activities and appropriate follow-up under MAP and LC-LP frameworks;
- ii. Establish national process to generate reliable and comprehensive data and information on dumping activities;
- iii. Build capacities of relevant national authorities, responsible for dumping activities;
- iv. Ensure integration of monitoring of dumping sites into the updated national monitoring programmes;
- v. Establish a national process to assess the implementation of updated Dumping Guidelines making use of effectiveness indicators;
- vi. Develop a national regulatory programme (including National Action Levels) to limit the input of chemicals from dumping activities