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| **MONITORING FACT SHEET** | |
| **Title: D10 Marine Litter** | |
| **1. General** | |
| **1.1 Subject area** | *What is monitored – programme ID (BLKXX-DY)*  *Programme name:* **MARINE LITTER (ML)**  *Programme ID:* BLKBG\_D10\_Marine litter |
| **1.2 Definition/Description** | *Definition of items monitored/description of general approach*  Descriptor 10 – Marine litter - monitoring concept within the model Driver-Pressure-State-Impact-Response, DPSIR:  In recent years ever more increasing attention is paid to waste dumped into the marine environment from land-based and marine human activities. Most dangerous waste are plastic waste, as most of them are insoluble and non-degradable in marine environment. Those that decompose, break apart into very small particles that enter the food chain, and thus have a direct negative impact on marine organisms and thereby indirectly on the human body (with the consumption of marine products).  Marine Strategy Framework Directive (MSFD 2008/56 / EC) sets the basis for the integrated management of the marine environment. This includes integrated management of pressures, in the case of marine litter and their effect on the individual components of the marine environment and their reaction.  Until nowmarine litter monitoring for MSFDhas notbeen done, with the exception of seasonalclean beaches campaigns, organized by NGOs. The development of current program Descriptor 10 – marine litter under MSFD will build on the results of the project "MISIS-Optimization of Integrated Monitoring System of the Black Sea in accordance with the Marine Strategy Framework Directive (MSFD)", within which is made once study on the availability of marine litter on the water surface and the seabed several transect starting from Romanian, Bulgarian and Turkish coast seawards.  Developed program Descriptor 10 will monitor the quantity and composition (quality) of the litter on the beaches, floating freely in the sea surface and in the water column, deferred seabed and possible accumulation in biota.  It is planned to conduct a joint study with monitoring of Descriptors 3 “Commercially exploited fish and shellfish” and 9 „Contaminants in biota” (see Sections 6.4: plans for information on the GES and 6.5. plans for information purposes).  This program will provide information on the driving forces (tourism, urbanization, fishing), the pressure of introducing waste into the marine environment and impacts (loss of habitat, loss of biodiversity, injured and / or dead marine mammals and birds due to entanglement in networks, or swallowed waste, reducing the aesthetic appearance of the coastline and the sea surface).  Descriptor 10 allows for the integration of the monitoring program with the program of measures as periodic campaigns to clean the beaches or etc. initiatives under the motto "Fishing for litter" can provide information on the effectiveness of the measures. These initiatives can be an effective way to reduce waste on the beaches and in the sea, by engaging the fisheries sector.  Future monitoring MSFD can provide data for specific types of fish, birds or mammals, victims of specific types of waste. This data can be used to determine the appropriate objectives and management measures. |
| **1.3 Competent authority/ies** | *Which authorities are responsible (links to www)*  **Ministry of Environment and Waters (MOEW)**  **Web:** [www.moew.government.bg](http://www.moew.government.bg)  **Black Sea Basin Directorate (BSBD), Varna**  **Web**: <http://www.bsbd.org/>  **Executive Environment Agency (EEA)**  URL: <http://eea.government.bg/en>; URL: <http://eea.government.bg/bg>  **Regional Inspectorates of Environment and Waters to the Ministry of Environment and Waters**  <http://www.riosvbs.eu/>; <http://www.riosv-varna.org/>  **Executive Agency “Maritime Administration” - Sofia to the Ministry of Transport, Information Technology and Communications with regional structures Varna and Burgas** (related to the control of maritime routes): <http://www.marad.bg/> |
| **1.4 Monitoring institutions** | *Which institutions carry out the monitoring etc (links to www)*  **Institute of Oceanology** - Bulgarian Academy of Sciences (IO-BAS).  Web: [www.io-bas.bg](http://www.io-bas.bg) . Relationship: contract-based.  Executive Environment Agency (ExEA): According to Art. 1 pt. 7 the Art. 13 para. 1 of the Law on Environmental Protection, the Executive Environment Agency carries out the management of the National System for Environmental Monitoring, including in respect of litter: http: //eea.government.bg/en.  According to Art. 45. (1) of the Waste Management Act, the Executive Director of the ExEA keep public registers containing information on persons carrying out activities related to litter and having for this purpose permits.  Regional Inspectorates of Environment and Water, Ministry of Environment and Water  Under Chapter V "Enable and Control Litter" Section I. "Permits for litter management activities", Art. 67, (1): "Permission to perform activities of waste treatment is issued by the Director of the RIEW, in whose territory the activities take place."  Chapter III “Requirements for collection, transportation and treatment of waste”, Art. 29, (1) of the Law on Waste Management provides that the waste depending on their type, properties, composition and other characteristics are collected, transported and treated in a manner that will prevent their subsequent utilization.  (2) Prohibited the abandonment, illegal dumping and burning or other form of uncontrolled waste management.  Executive Agency "Maritime Administration" - Sofia to the Ministry of Transport, Information Technology and Communications with the regional structures of Varna and Burgas.  http://www.marad.bg/ |
| **1.5 Additional information** | *Where can additional information be found (e.g. via a web link)*  Waste management Act - Art. 1, paragraph 1: “This law regulates the measures and the controls to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and by increasing the efficiency of that use”.  <http://www.moew.government.bg/files/file/Waste/Legislation/Zakoni/ZUO.pdf>  Law of the Sea, inland waterways and ports of the Republic of Bulgaria  URL: <http://www.marad.bg/upload/docs/ZakMP_28112014.doc>  Black Sea Commission - BSIMAP.  URL: <http://www.blacksea-commission.org/_bsimap.asp>  MSFD Guiding Improvements in the Black Sea Integrated Monitoring System (MISIS) project. URL: <http://www.misisproject.eu>  Project, funded by EU FP7 “Oceans of Tomorrow” “Towards a Clean, Litter-Free European Marine Environment through Scientific Evidence, Innovative Tools and Good Governance”, 2013 [www.cleansea-project.eu](http://www.cleansea-project.eu)  MARine LItter in Europe Seas: Social Awareness and CO-Responsibility – MARLISCO. URL: <http://www.marlisco.eu/> MARELITT. URL: <http://www.marelitt.eu/> |
| **2. Monitoring requirements and purpose** | |
| **2.1 Necessity** | *Listed below are direct references to the monitoring requirements – EU directives, Black Sea Commission agreements, national plans, research programme requirements, other.* |
| **MSFD**  **Article 11** | Marine Strategy Framework Directive (MSFD)  Art. 11 Monitoring programs  1. On the basis of the initial assessment made pursuant to Article 8, paragraph 1, Member States shall establish and implement coordinated monitoring programs for the current assessment of the environmental status of their marine waters on the basis of indicative lists of elements contained in Annex III, and the list contained in Annex V, taking into account the environmental targets established under Article 10.  2. In accordance with paragraph 1, Member States sharing a marine region or subregion develop monitoring programs with a view to coherence and coordination of actions endeavor to ensure:  a) consistency in the methods of monitoring the Member States of the same region or subregion to facilitate comparability of results;  b) reporting of relevant transboundary impacts and features.  Annex III, table 2  Pressure - other physical disturbance (marine litter)  Systematic and / or intentional release of substances  - Introduction of other substances - solid, liquid or gas - in marine waters, resulting from their systematic and / or intentional release into the marine environment, as permitted in accordance with other Community legislation and / or international conventions. |
| **Directive of Habitats**  **(Directive 92/43/EEC)**  **Article 11** | **Art. 11**  Member States shall undertake surveillance of the conservation status of the natural habitats and species referred to in Article 2 with particular regard to priority natural habitat types and priority species. |
| **BWD**  **Article 9** | **Art. 9**  2. Bathing waters shall be inspected visually for pollution such as tarry residues, glass, plastic, rubber or any other waste. When such pollution is found, adequate management measures shall be taken, including, if necessary, information to the public. |
| **MARPOL 73/78**  **Annex V** | This instrument regulates quantities of various wastes that vessels may discharge into the sea. The Regulations for the Prevention of Pollution by Garbage from Ships (**Annex V**) has a special relation to the ML problem because any garbage or solid waste thrown out overboard can be considered as ML. This annex specifies distances from land and methods by which different types of garbage may be disposed from all kinds of vessels and fixed or floating platforms.  According to Regulation 5 of Annex V, the Black Sea is defined as a Special Area with much stricter requirements on the disposal of garbage than in many other maritime areas of the world. Any discharges of garbage (except food waste) are prohibited here. |
| **Directive 2000/59/EEC**  **Art. V**  **Annex I** | Article 5  Plans for the reception and handling of waste  1. Suitable plan for receiving and processing waste is developed and implemented for each port following consultations with stakeholders, in particular with port users or their representatives, taking into account the requirements set out in Articles 4, 6, 7 10 and 12. Detailed requirements for the development of such plans are set out in Annex I.  3. Member States shall evaluate and approve the plan for the reception and processing of waste, monitor its implementation and ensure its re-approval at least every three years and after significant changes in the operation of the port. |
| **Bucharest Convention and its Protocols** | **Convention on the Protection of the Black Sea Against Pollution**  URL: <http://www.blacksea-commission.org/_bssap2009.asp>  Art. 10  Pollution by dumping  1. The Contracting Parties shall take all appropriate measures and cooperate in the prevention, reduction and control of pollution caused by dumping, the Protocol for the protection of the marine environment of the Black Sea Against Pollution by Dumping which is an integral part of this Convention.  Art. 14  Contamination by hazardous wastes in transboundary movements Contracting countries take consistent with international law and cooperate in preventing pollution of the marine environment of the Black Sea due to hazardous wastes in transboundary movement as well as the removal of their illegal  transfer to the protocol which they should adopt.  Art. 15  Scientific and technical cooperation and control  1. The Contracting Parties shall cooperate in conducting scientific research aimed at protecting and preserving the marine environment of the Black Sea, and where appropriate, joint research programs, and exchange relevant scientific data and information.  4. The Contracting Parties, inter alia, through the Commission and, if necessary, and in cooperation with international organizations they consider to be competent, complementary or joint monitoring programs covering all sources of pollution and establish systems to control pollution of the Black Sea, incorporating the bilateral and multilateral programs for monitoring, measurement, evaluation and analysis of the risks or effects of pollution of the marine environment of the Black Sea.  Strategic Action Plan for the Black Sea 2009  URL: <http://www.blacksea-commission.org/_bssap2009.asp>  The draft amendment of the integrated program for monitoring and evaluation of the Black Sea (BSIMAP) to the Black Sea Commission, marine litter have been proposed as a parameter of observation. Upon acceptance by the Member - States, this will lead to a common approach for the assessment of marine litter between them.  **Article XV** - The Contracting Parties shall, inter alia, establish through the Commission and, where appropriate, in cooperation with international organizations they consider to be competent, complementary or joint monitoring programmes covering all sources of pollution and shall establish a pollution monitoring system for the Black Sea including, as appropriate, programmes as bilateral or multilateral level for observing, measuring, evaluating and analysing the risks or effects of pollution of the marine environment of the Black Sea.  **Web**: <http://www.blacksea-commission.org/_bssap2009.asp>  **BSIMAP** - Black Sea Integrated Monitoring and Assessment Programme  **Web**: <http://www.blacksea-commission.org/_bsimap_description.asp> |
| **Protocol for the Protection of the Black Sea against pollution from land - based sources and activities (2009)** | Protocol for the Protection of the Black Sea against pollution from land - based sources and activities (2009)  Art. 11  1. Under the provisions of, and the monitoring programs provided for in Art. 15 of the Convention, and if necessary, in cooperation with the competent international organizations, the Contracting Parties:    a) Collect information and data on the conditions of the marine environment and coastal areas of the Black Sea in terms of their physical, biological and chemical characteristics;  b) Collect information and data and prepare and maintain a register maintained by the inflow of substances listed in Annex I of this report, including information on the distribution of sources and quantities of these substances into the marine environment of the Black Sea;  c) a system to assess the state of the marine environment and coastal areas of the Black Sea;  d) systematically to assess, as far as possible, the levels of pollution coastal areas, particularly in relation to activities and substances listed in Annex I, and periodically to provide information about them;  2. The Contracting Parties shall cooperate in the establishment of a regional monitoring program as compatible national monitoring programs and to facilitate the process of preservation, improvement and exchange of data and information. |
| **2.2 GES criteria** | 10.1. Characteristics of litter in the marine and coastal environment  – Trends in the amount of litter washed ashore and/or deposited on coastlines, including analysis of its composition, spatial distribution and, where possible, source (10.1.1.)  — Trends in the amount of litter in the water column (including floating at the surface) and deposited on the seafloor, including analysis of its composition, spatial distribution and, where possible, source (10.1.2)  - Trends in an amount, distribution and, where possible, a composition of micro-particles (in particular micro-plastics) (10.1.3)  10.2. Impacts of litter on marine life  – Trends in the amount and composition of litter ingested by marine animals (e.g. stomach analysis) (10.2.1) |
| **2.3 Features, pressures and impacts** | *List relevant features and pressures from MSFD Annex III*  MSFD Annex III  **Pressure and impacts**  Other physical disturbance  — marine litter  Systematic and / or intentional release of substances  - Introduction of other substances - solid, liquid or gas - in marine waters, resulting from their systematic and/or intentional release into the marine environment, as permitted in accordance with other Community legislation and / or international conventions. |
| **2.4 GES** | *Assessment of GES (GES as defined in the article 9 reporting)*  GES definition in descriptor D10: The quantities of marine debris deposited on the shore are negligible and does not affect thebeach aesthetic view. There are no marine debris floating on the water surface, in the water column or deposited on the seabed – as well close to coastal "hot spots" as sources of waste - estuaries, resorts, urbanized areas, public beaches and seaports, and in the open marine water. Reduction of registered cases of found injured and / or dead marine mammals, seabirds and fish, as a result of imported marine litter in the environment.  **GES definition on criterion 10.1, indicator 10.1.1**: The amount of marine litter in the marine and coastal environment is negligible and does not spoil the visual aesthetics of the beach.  **GES definition on criterion 10.1, indicator 10.1.2**: The amount of the waste in the water column (including floating on the water surface) and these deposited on the seafloor are minimal and do not lead to significant changes in the biotic and abiotic part of the marine environment.  **GES definition on criterion 10.1, indicator 10.1.3: not defined.**  **GES definition on criterion 10.2, indicator 10.2.1**: Reduction of registered cases of marine litter found in the digestive tract of marine organisms (marine mammals (dolphins), sea birds and fish) and these injured and / or dead as a result of contact with the marine litter.  Describe how the program:  a. takes into account the needs for assessment of the descriptor and its goals - the program will provide information on trends in abundance of marine litter on beaches, sea surface, seabed trends will be used to assess the state of the environment in this descriptor. Data will be collected using standardized forms for monitoring to ensure coherence and consistency in assessments of Descriptor 10 in the Black Sea region.  b. account of the needs of providing data / information to support assessment in D.10 - the program will provide information on trends in the quantities of marine waste by coastal expeditions (indicator 10.1.1) and bottom trawling and inspection of sea surface (10.1.2);  c. helps to determine the distance from achieving the GES and trends in the status - the program will provide data for medium and long-term trends of marine litter accumulated on beaches entering the marine environment from the shores and beaches (floating on the water surface, floating in the water pillar) deposited on the seabed and the tendency to accumulate in marine organisms (in - especially plastic micro particles). Simultaneously with better information and work aimed to increase the capacity of institutions commit monitoring marine litter, efforts will be made to fully adapt existing European methodologies to Bulgarian conditions. Based on the obtained data will be updated for definition GES, objectives and indicators to achieve this in terms of marine litter. After accumulating enough data from studies in the second cycle of the MSFD will determine whether it is achieved GES, and if not, the distance from achieving it.  d. address natural and climatic variability and distinguish them from the effect caused due to anthropogenic pressure - program does not address the natural and climatic variability, given that the waste is entirely anthropogenic origin. That will provide information only pressure from human activities and impact on the marine environment. Monitoring of human activities will try to distinguish land uses (urbanization, industry) and activities at sea (fishing, shipping), in order to develop effective measures to this kind of pressure.  e. respond to the risk of failure of GES - the information of the planned monitoring will show whether GES and objectives are achieved and will help to assess the trends observed indicators. Registered in the absence of improvement or persistent negative trends will be taken to identify the specific sources of pressure and, if necessary, additional measures to reduce the impacts and subsequent monitoring to assess the impact of the measures. |
| **2.5 Environmental targets**  **MSFD** | *Relevant MSFD targets defined in the article 9 reporting*  **Pressure target**  10.1.1. Target: Decreasing trend in the amount of marine litter washed ashore and/or deposited on coastlines.  10.1.2. Target: Decreasing trend in the amount of marine litter floating on the water surface, in the water column and deposed on the seafloor.  Regarding criterion 10.1, indicator 10.1.3 "Trends in the amount, distribution and, where it can be established - the composition of the micro particles (in particular plastic micro particles), defining environmental target will be made conducting a preliminary study of the content and trends in the accumulation of micro particles in biota and after gathering enough data will be updated.  Regarding criterion 10.2, indicator 10.2.1 indicator "Trends in the amount and composition of waste consumed by marine animals (an analysis of stomach contents), defining environmental target will be done carrying out a preliminary study on the content and trends in the accumulation of microparticles in biota and after gathering enough data will be updated. |
| **Habitats Directive (Directive 92/43/EEC)** | **Habitats Directive (Directive 92/43/EEC) the Council of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora** ([Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31992L0043))  This Directive aims to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States for which the contract is valid. |
| **Bathing Waters Directive (Directive 2006/7/EC)** | **Bathing Waters Directive (Directive 2006/7/EC)**  The purpose of the Directive is to preserve, protect and improve the quality of the environment and to protect human health by complementing Directive 2000/60/EC, according to Art. 1, para. 2. The directive requires adequate management measures to halt the pollution Art. 9 of the Directive. |
| **Convention for the Protection of Black Sea Against Pollution**  **Black Sea Strategic Action Plan (BS SAP, 2009)** | **Black Sea Strategic Action Plan (BS SAP, 2009)**  **3.3 Management targets and priority status required to meet the EcoQOs**  (18) Amend national waste strategies and/or national coastal zone management plans with the aim of coastal and marine litter minimisation.  (19) Develop regional and national marine litter monitoring and assessment methodologies on the basis of common research approaches, evaluation criteria and reporting requirements.  (20) Promote/develop investment projects within national strategies/local plans to engineer, construct and install new solid waste recycling facilities, landfill sites and incineration plants, complying with BAT regulations.  (53) Continue/improve rehabilitation /construction and monitoring of wastewater treatment plants.  (60) Provide adequate port reception facilities for ship-generated wastes according to MARPOL 73/78  (61) Establish a harmonised fee/cost recovery system on ship-generated waste.  (62) Develop system for identification of illegal pollution sources from vessels and off-shore installations  (63) Develop/establish a harmonised enforcement system in cases of illegal discharges from vessels and off-shore installations, including technical means and fines. |
| **Directive 2000/59/EC of the European Parliament and of the Council of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues**  **Article 1** | Article 1  Purpose  The purpose of this Directive is to reduce the discharges of ship-generated waste and cargo residues into the sea, especially illegal discharges, from ships using ports in the Community, by improving the availability and use of port reception facilities for ship-generated waste and cargo residues, thereby enhancing the protection of the marine environment. |
| **2.6 Spatial allocation** | *Table of where monitoring is required*   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | EEZ | 12-nm zone | Coastal waters | Transitional waters | | MSFD |  | X | X |  | | BWD | - | - | X | X | | Directive 2008/949/EC | X | X | X |  | | MARPOL 73/78 | X | X | X |  | | Directive 2000/59/EC | X | X | X |  | | Convention for the Protection of the Black Sea Against Pollution | X | X | X | X | |
| **3 Monitoring concept** | |
| **3.1 General description of relevant sub programmes in monitoring programme** | **Marine litter - characteristics and abundance / volume.**  **Parameters: Distribution / distribution in space and time, concentration.**  Other physical disturbance - marine litter  Parameters: Quantity and type of litter items; Number of ML items on the seafloor (20 m - 800 m)/ km² (collected in bottom trawl surveys)  **"Physical disturbance from dredging and disposal (landfill) of dredging material"**  Observed elements / features: Disposal of waste (dredge)  Parameter: Imports of pollutant per unit area and per unit time.  **Activities related to the extraction of living resources (fisheries, including fishing)**  Observed elements / features: Activity (aquaculture)  Parameters: distribution / degree of expansion in the temporal and spatial range, intensity  **Activities with permanent infrastructures (e.g. ports) or structural changes (e.g. coastal defences)**  Elements/features monitored: Activity/ Man-made structures (incl. construction phase: port operations submarine cable and pipeline operations.  Parameters: Distribution/extent in space and time, intensity  **Sea-based mobile activities (shipping)**  Elements/features monitored: Activity/ Transport  Parameters: Distribution/extent in space and time, intensity  **Coastal human activities (e.g. tourism, sports, eco-tourism).**  Parameters: Distribution / distribution in space and time, intensity  **Land - based activities (ex. Urbanization, industry, agriculture)**  Parameters: Distribution / distribution in space and time, intensity. |
| **3.2 Description of monitoring network** | This program will build on the results of the project "MISIS-Optimization of Integrated Monitoring System of the Black Sea in accordance with the Framework Marine Strategy Directive (MSFD)", within which in 2013 was made a single study on the availability of marine litter the water surface and the seabed transect "Galata"  The scope of the program will be limited to the coastal and territorial waters of Bulgaria.  Monitoring indicator 10.1.1 - Network Monitoring beach will include waste collection (> 2,5 cm - macro), sorting and classification by type, counting the total amount of waste and by types, making the data and supporting information in standardized protocols according to European guidelines on monitoring of marine litter in the MSFD. Monitoring places: urban beaches around Varna and Burgas Bays and unguarded beaches near river mouths. Beaches in leeward side of coastal defences function as as a trap for marine litter and also could be included in the monitoring network. Method of monitoring: at least one area (section) of coastline with a length of 100 m for slightly or moderately polluted beaches and 50 meters of highly contaminated beaches (all selected observation points).  Frequency: at least 2 times a year: before and after the summer tourist season. Maximum: 4 times a year (seasons)  Indicator 10.1.2 ¬- Transects / polygons for monitoring will be determined on the basis of an initial study to identify the main shipping routes and zones of increased trawl fishing pressure. To be economically viable, the monitoring program of marine litter the seabed can be integrated with the monitoring program in descriptor D3 “Commercially exploited fish and shellfish” to use the method to bottom trawling. Monitoring of the waste deposited on the seabed will also include analysis of the composition, spatial distribution of the waste and specify the possible source of contamination. |
| **3.3 Threats, activities and measures** | *Which threats are identified*  Marine pollution with waste and their negative impact on marine organisms  *Which human activities will be measured by the programme*  Sea-based mobile activities (shipping)  Activities producing seafood (aquaculture) - information on planned activities and measures to reduce pollution from waste will be sourced from RBMP WFD 2000/60 / EC.  Activities with permanent infrastructure (ex. Ports) or structural changes (such as coastal protection) - information on planned activities and measures to reduce pollution from waste water areas of ports will be purchased from RBMP WFD 2000/60 / EC.  Coastal human activities (ex. Tourism, recreation, sports and eco-tourism)  Land-based activities (ex. Urbanization, industry, agriculture) - information on planned activities and measures to reduce pollution from waste, including by the inflow of rivers will be purchased from RBMP WFD 2000/60 / EC.  Waste disposal (dredging)  *Which measures will be measured by the programme*  Implementation of the program Descriptor 10 – Marine litter will also provide information on the implementation of the measures included in the program of measures in RBMP according to WFD 2000/60/EC.  Monitoring of the marine litter on the beaches can be considered as a preventive measure to reduce their accumulation as during their monitoring, they will be collected and transmitted for further processing and / or disposal of relevant sites for this.  Additional measures for the purposes of the MSFD will be developed after evaluating the results of future research in 2015. |
| **3.4 Data management** | *How and where are data managed? How and where can data be accessed? (General description – programme level)*  According to Art. 94, art. 95 and Art. 107, paragraph 1 of Regulation № 1 for water monitoring data is collected by the Black sea basin Directorate – Varna (BSBD-Varna), where they are stored, summarized and analysed at basin level.  BSBD monitors and evaluates data at the basin level pursuant to Art. 96 of the same Regulation. Access to data is provided according to the Access to Public Information Act (APIA).  Not yet developed information system compliant with INSPIRE standards. Periodic reports will be prepared on the state of the environment, including information and Descriptor 10 Marine litter. They will be published on the websites of BSBD-Varna: [www.bsbd.org](http://www.bsbd.org) and the Ministry of Environment and Water: [www.moew.government.bg](http://www.moew.government.bg)  Executive Environment Agency (EEA) supports the National System for Environmental Monitoring (NEMS) in accordance with Art. 1, p. 7 of the Law on Environmental Protection, which includes information system for the waste. |
| **4. Assessment** | |
| **4.1 Assessments** | *Existing assessments*  National Report on the Initial assessment of the marine environment (Art. 8, MSFD) published in ReportNet platform EC.  *URL:* <http://cdr.eionet.europa.eu/bg/eu/msfd8910/msfd4text/envubapw>  *BSC, 2008. State of the Environment of the Black Sea (2001 - 2006/7). Edited by Temel Oguz. Publications of the Commission on the Protection of the Black Sea Against Pollution (BSC) 2008-3, Istanbul, Turkey, 448 pp., URL:* <http://www.blacksea-commission.org/_publ-SOE2009.asp> |
| **4.2 Assessment of GES** | *Will assessment of GES be carried out by the programme*  The program will provide initial data on the basis of which will evaluate the GES.  Necessary changes to the program to ensure data GES are listed in Section 6. |
| **5. Literature** | |
|  | *List of relevant literature*  N. Zampoukas, A. Palialexis, A. Duffek, J. Graveland, G. Giorgi, C. Hagebro, G. Hanke, S. Korpinen, M. Tasker, V. Tornero, V. Abaza, P. Battaglia, M. Caparis, R. Dekeling, M. Frias Vega, M. Haarich, S. Katsanevakis, H. Klein, W. Krzyminski, M. Laamanen, J.C. Le Gac, J.M. Leppanen, U. Lips,  <http://publications.jrc.ec.europa.eu/repository/bitstream/JRC88073/lb-na-26499-en-n.pdf.pdf>  Black Sea Commission, 2009, Marine Litter in the Black Sea Region. Black Sea Commission Publications. URL: [http://www.blacksea-commission.org/\_publ-marine litter.asp](http://www.blacksea-commission.org/_publ-ML.asp)  Cheshire, A.C., Adler, E., Barbière, J., Cohen, Y., Evans, S., Jarayabhand, S., Jeftic, L., Jung, R.T., Kinsey, S., Kusui, E.T., Lavine, I., Manyara, P., Oosterbaan, L.,Pereira, M.A., Sheavly, S., Tkalin, A., Varadarajan, S., Wenneker, B., Westphalen, G. (2009). *UNEP/IOC* *Guidelines on Survey and Monitoring of Marine Litter.* UNEP Regional Seas Reports and Studies, No. 186; IOC Technical Series No. 83: xii + 120 pp. URL: <http://www.unep.org/regionalseas/marinelitter/publications/docs>  Galgani, F., D. Fleet, J. V. Franeker, S. Katsanevakis, T. Maes, J. Mouat, L. Oosterbaan, I. Poitou, G. Hanke, R. Thompson, E. Amato, A. Birkun and C. Janssen (2010): Marine Strategy Framework Directive. Task Group 10 Report Marine Litter. Scientific and Technical Research Series. Office for Official Publications of the European Communities: 48, Luxembourg. URL: <http://publications.jrc.ec.europa.eu/repository/handle/111111111/13625>  MSFD GES Technical Subgroup on Marine Litter , 2011, Marine Litter - Technical Recommendations for the Implementation of MSFD Requirements, EUR – Scientific and Technical Research series, Luxembourg: Publications Office of the European Union, 91 pp.  URL: <http://publications.jrc.ec.europa.eu/repository/handle/111111111/22826>  Guidance on Monitoring of Marine Litter in European Seas, MSFD Technical Subgroup on Marine Litter (Descriptor 10): <http://publications.jrc.ec.europa.eu/repository/bitstream/JRC83985/lb-na-26113-en-n.pdf>  Claessens, M., De Meester, S., Van Landuyt, L., De Clerck, K., Janssen, C.R., 2011. Occurrence and distribution of microplastics in marine sediments along the Belgian coast. Mar. Pollut. Bull. 62, 2199–2204.  URL: <http://ww.vliz.be/imisdocs/publications/247943.pdf> |
| **6. Activities required to implement the concept** | |
| **6.1 Changes to the current monitoring programme** | *Necessary changes and recommendations*  *Describe necessary changes for the programme to cover the requirements of MSFD. Description in general terms.*  At this stage the proposed program Descriptor 10 - Marine litter does not fully meet the requirements of the MSFD in terms of design and implementation. - On the achievement of the GES, the quantity indicator 10.1.1 marine litter, washed ashore and those floating on the water surface and deposited on the seabed is necessary formation of a sufficient set of data. At this stage, the data are insufficient to assess the actual situation. - Better coordination with other institutions / organizations providing information related to the status or impact on the marine environment; - Provide sufficient capacity to the competent authorities and organizations (such as human resources, expertise and equipment) for the design and monitoring of the marine environment; - Improve the management of data and information relating to the state of the marine environment; improve access to national and regional databases and data from projects funded by the EC and other financial instruments. |
| **6.2 Gaps: GES information** | *If not yet adequate for data and information needs to assess GES, describe when the programme will be considered fully adequate*  The program will provide the necessary information to assess GES for the next assessment in 2018. |
| **6.3 Plans: Plans for GES information** | *If the programme is not considered fully adequate for data and information needs to assess GES, describe what plans are in place to make it fully adequate (e.g. to fill gaps in data methods, understanding or capacity). Describe timeframe, priorities and obstacles.*  In the period 2015-2016, it is planned study together with monitoring of Descriptors 3 "Commercially exploited fish and shellfish" and D9 "Contaminants in biota", including collection of data on the main sources of marine litter, baselines quality and quantity of marine litter. Monitoring collection campaigns will be performing with quantitative counting and classification of beaches litter. Also in conducting monitoring of the Descriptor 9 exploration of microparticles in biota will be carried out, which will provide initial information and indicator 10.1.2 and indicator 10.1.3.  Will also attempt to apply existing European methods and practices regarding monitoring of marine litter under the MSFD. After analysing the data collected from the survey and testing methodologies, proposal will be made to improve the current monitoring program and put into effect in 2017 Improvements will include, where appropriate and expansion of transects for conducting monitoring, change of observation sites according to human pressure.  Based on the information gathered for the second cycle of implementation of the MSFD will be defined definition of DES on indicator 10.1.3 "Trends in the amount, distribution and, where possible, composition of micro-particles (in particular microplastics)".  Work on the coordination of monitoring activities in Descriptor 10 - Marine litter between Bulgaria and Romania (use of harmonized methodology), and, if necessary, update the definition of GES.  Actions have been taken to increase the capacity of the Black Sea Basin Directorate with commitments on the implementation of the MSFD, planning monitoring programs, the programs of measures, etc.  The period 2015 - 2016 were expecting the development of new modules to the Water Information System for in Bulgaria. One of the planned modules will include data and information on the implementation of the MSFD, programs and subprograms for monitoring, data from the monitoring, data to achieve GES, targets, indicators of individual descriptors, measures and their implementation and others.  Improve coordination with other institutions / organizations providing information relating to the status or impact on the marine environment. |
| **6.4 Gaps: Target information** | *If not yet adequate for data and information needs to assess targets, describe when the programme will be considered fully adequate*  The program is expected to provide adequate information to evaluate the targets for GES for the next assessment in 2018. |
| **6.5 Plans: Plans for information on targets** | *If the programme is not considered fully adequate for data and information needs to assess targets, describe what plans are in place to make it fully adequate (e.g. to fill gaps in data methods or capacity). Describe timeframe, priorities and obstacles.*  Described in Section 6.3. (Plans to provide information for GES) planned research is expected to provide and update information / clarification of targets. The results will be shared with Romania, to provide greater coherence in the next implementation of the MSFD, and also within the Commission for Protection of the Black Sea against Pollution.  **Changing the existing Bulgarian legislation** with the aim of integrating all existing legislative documents concerning various types of waste and ways of entering the marine environment. In support of this is one of the results of the current project "Towards a clean, free of litter into the marine environment through research, innovative tools and good governance" which shows that the problems in the Bulgarian legislation related to the implementation and observance of laws.  **Work on adapting the developed guidance to monitoring marine litter** from MSFD Technical Subgroup on Marine Litter ("Guidance on Monitoring of Marine Litter in European Seas", 2013) to the Bulgarian conditions, including increasing the capacity of institutions and institutes conducting monitoring of marine litter and non-governmental organizations. Adaptation or development of national and regional methodologies for monitoring and assessment of marine litter. Use of standardized protocols for monitoring and classifying types of litter, found on beaches.  **Work on the coordination of monitoring activities in Descriptor 10 - Marine litter** between Bulgaria and Romania: Bulgaria and Romania need to review and develop together agreed indicators to assess the status of their marine waters, taking using assessment and recommendations of the Commission, as far as possible in the period 2015 - 2018 respectively, and based on information collected by the monitoring carried out in this period.  **Increase campaigns to enhance public awareness** of the cause negative effects of litter on the marine environment, in - particularly as a result of the widely used plastic products (as packaging, bags, toys).  Increase campaigns to clean the unguarded beaches of discarded litter from the sea. Increasing volunteers included in the annual cleaning campaigns and training (students, citizens, other administrations, unless the competent authorities). |
| **6.6 Plans: Plans for information on measures** | *If relevant: If the programme is not considered fully adequate for data and information needs to assess measures describe what plans are in place to make it fully adequate (eg. to fill gaps in data methods or capacity). Describe timeframe, priorities and obstacles.*  Monitoring in Descriptor 10 allows integration of the monitoring program with the program of measures as periodic campaigns to clean the beaches or etc. "Fishing for litter" could be an effective way both to reduce litter in the sea, and for providing updated information on the effectiveness of the measures. "Fishing for litter" should engage and fisheries sector to reduce waste due to fishing activities.  Based on information gathered from surveys conducted in 2015 in the program of measures under Art. 13 of MSFD 2008/56/EC will put forward measures to reduce litter in the marine environment. The measures will be integrated with existing measures in the first RBMP WFD 2000/60 / EC and the updated program of measures in the second RBMP the limitation of waste going inland water bodies (rivers, coastal lakes, estuaries) and hence in marine waters. |