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| **MONITORING FACT SHEET** | |  |
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| **MONITORING FACT SHEET TEMPLATE** | | **This column is for information only and should be removed when the sheet has been filled in.** |
| **Title: D10 Marine Litter** | |  |
| **1. General** | | **Reporting sheet questions (ref. DIKE\_9-2014-03 for additional guidance on questions) and comments on template suggestions presented below** |
| 1.1 Subject area | *What is monitored – programme ID (BLKXX-DY)*  **MARINE LITTER (ML);****BLKBG-D10** – Marine litter | Q4: Programme name (4d); Programme ID (exchange XX with BG or RO; exchange Y with relevant descriptor no.) (4e) |
| 1.2 Definition/Description | *Definition of items monitored/description of general approach*  **Marine litter (ML)** consists of items that have been deliberately discarded, unintentionally lost, or transported by winds and rivers, into the sea and on beaches. The ML problem has not been addressed in the existing monitoring programme. This monitoring programme on marine litter is not developed in Bulgaria. Agreed methods for monitoring in Bulgaria and Romania should be developed. Only a project-based monitoring on marine litter deposited on the seafloor was conducted under the MISIS project in 2013.  The monitoring programme on ML will address the pressure, state and impact of ML within the DPSIR framework. The pressure will include analysis of the sources of ML on the beaches (indicator 10.1.1) and on the seafloor (indicator 10.1.2). The state will measure the trends in the same compartments (coastlines, water column and seafloor). The previous monitoring surveys did not provide data on the impact of marine litter on species of fish, birds or mammals (indicator 10.2.1) and there is a need for additional monitoring to determine appropriate species.  The Black Sea Integrated Monitoring and Assessment programme (BSIMAP) has adopted marine as a monitoring parameter. Subject to agreement by Black Sea Contracting Parties should lead to a more coordinated approach by Member States.  Beach litter quantity depends from the distance from its source (mainly terrestrial sources), the marine water circulation and the complex weather patterns. The beach litter monitoring methodology shall take into account beaches which act as deposition areas for marine litter.  Recommendations for a monitoring programme on marine litter deposited on the seafloor have been proposed by the MISIS project. The options will take into account the existing monitoring capacity offer take into account litter accumulation zones. A decision on how the programme will be taken forward, including decisions on the best place to collate data and information relating to benthic litter, shall be made in 2015. Opportunity for integration exists with the monitoring programme on Descriptor D3 - Commercial fish to make use of the periodic trawling surveys. Benthic litter monitoring methods have not yet been fully developed and standardised. Work within a number of forums e.g. EU Technical Sub-Group on Marine Litter, is looking to develop and agree suitable standards.  Given the complex nature of marine litter issues and the transboundary nature of litter, the target relating to beach litter will remain trend-based until the sources and movements of beach litter are better understood and characterised through continued data collection. | Q4: Programme description (4f). Free text or URL link. What is monitored by the programme (state/impact, pressure, activities, measures) and why. How does it adapt to new and emerging environmental problems |
| 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/>  **Ministry of Regional Development**  Web: <http://www.mrrb.government.bg/en/> | Q4: Responsible Competent Authority (4a)  If more than one – put contact to the EU Commission |
| 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. National System for Environmental Monitoring / NEMS / Subsystem "waste".**  Web: [http://eea.government.bg/bg/cds/exea/waste-08.html#4](http://eea.government.bg/bg/cds/exea/waste-08.html%234) | Q4: Responsible institutions; relationship to Competent Authority (4b) +(4c) |
| 1.5 Additional information | *Where can additional information be found (e.g. via a web link)*  *Regarding regional coordination remember this project and other relevant joined projects*  Black Sea Commission - BSIMAP.  Web: <http://www.blacksea-commission.org/_bsimap.asp>  MSFD Guiding Improvements in the Black Sea Integrated Monitoring System (MISIS) project. Web: <http://www.misisproject.eu>  Technical and administrative support for joint implementation of MSFD in Bulgaria and Romania  No link available yet  MARine LItter in Europe Seas: Social Awareness and CO-Responsibility – MARLISCO. Web: <http://www.marlisco.eu/>  MARELITT. Web: <http://www.marelitt.eu/> | Q3: Additional information on: Regional coordination; consideration of transboundary impacts; ability of programme to identify major changes in environment and new and emerging issues; (3a-c) |
| 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.* | The purpose of this section is to give an overview of existing monitoring requirements related to this programme and to help coordinate already existing monitoring  Q8a: Existing monitoring programmes deliver data to other directives etc. This part of the monitoring fact sheet helps to give an overview of how and where the specific monitoring is used for many purposes/requirements (8a).  State where relevant monitoring is already carried out (or should be/is required) |
| MSFD  Article 11  Article 8  Annex III | **Art.11**  **Article 11**  Member States shall establish and implement coordinated monitoring programmes for the ongoing assessment of the environmental status of their marine waters on the basis of the indicative lists of elements set out in Annex III and the list set out in Annex V, and by reference to the environmental targets established pursuant to Article 10.  The following characteristics, pressures and impacts shall be monitored:  **Annex III, Table 2**  Pressure – other physical disturbance (ML) | Which parts of MSFD requirements does the programme fulfil? Refer to the articles and annexes of the Directive that require that monitoring is carried out. |
| Habitats  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. | Which parts of HD requirements does the programme fulfil? |
| 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. | Which parts of WFD requirements does the programme fulfil? |
| Decision 2008/949/EC  Appendix IX | In the Bucharest Bilateral Coordination Meeting (February 2010) Bulgaria and Romania agreed to conduct a common demersal trawl surveys in Romanian and Bulgarian areas (Appendix IX, Commission Decision 2008/949/EC). Mainly to define the stock biomass indices and respectively the annual quota for turbot fishery, they are undertaking surveys on annual basis, using the same methodology and where the same type of litter data could be collected |  |
| 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/EC  Article V  Annex I | **Art. V**  Waste reception and handling plans  1. An appropriate waste reception and handling plan shall be developed and implemented for each port following consultations with the relevant parties. Detailed requirements for the development of such plans are set out in **Annex I** (they include, amongst other, information on type and quantities of ship-generated waste and cargo residues received and handled; description of methods of recording amounts of ship-generated waste and cargo residues received; description of how the ship-generated waste and cargo residues are disposed of.  3. Member States shall evaluate and approve the waste reception and handling plan, monitor its implementation and ensure its re-approval at least every three years and after significant changes in the operation of the port. |  |
| Black Sea Commission  Bucharest Convention and its Protocols | **Convention on the Protection of the Black Sea Against Pollution** Art. 10 1. The Contracting Parties shall take all appropriate measures and cooperate in preventing, reducing and controlling pollution caused by dumping in accordance with the Protocol on the Protection of the Black Sea Marine Environment Against Pollution by Dumping which shall form an integral part of this Convention. Art. 14 The Contracting Parties shall take all measures 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 in combating illegal traffic thereof, in accordance with the Protocol to be adopted by them.  **Art. 15**   1. 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 analyzing the risks or effects of pollution of the marine environment of the Black Sea.  Protocol on the Protection of the Marine Environment of the Black Sea from Land-Based Sources and Activities (2009)Art. 11 1. Within the framework of the provisions of, and the monitoring programmes provided for in Art. 15 of the Convention, and if necessary in cooperation with competent international organizations, the Contracting Parties shall:  b) Collect information and data and prepare and maintain an inventory of inputs of substances listed in Annex I (ML included) of this Protocol, including information on the distribution of sources and quantities of such substances introduced to the marine environment of the Black Sea;  d) Systematically assess, as far as possible, the levels of pollution along their coasts, in particular with regard to activities and substances listed in Annex I (ML included) and periodically to provide information in this respect;  2. The Contracting Parties shall collaborate in establishing a regional monitoring programme as well as compatible national monitoring programmes, and in facilitating data and information storage, retrieval and exchange. | Does the programme fulfil any formal obligations to the BSC? |
| 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.)  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) | Which GES criteria are addressed/monitored by the programme (5a). Select the relevant criteria  Which characteristics [indicators] are addressed/monitored (5b) |
| 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 | Which elements of Annex III (ecosystem components, pressures/impacts) are addressed/monitored by the programme (5c) |
| 2.4 GES | *Assessment of GES (GES as defined in the article 9 reporting)*  **Overall GES definition:** the amount of marine litter washed ashore is negligible and does not spoil the visual aesthetics of the beach. There is no marine litter floating on the sea surface in the hotspots – recreational beaches near the major coastal cities and in the seaports. Consequently, there are no instances of marine litter in the stomach of washed up seabirds and fish species.  **GES definition on criterion 10.1**: 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 10.2**: There are no instances of marine animals found death from ingesting marine litter. | State the definition of GES reported for the relevant descriptor and describe how the programme: addresses assessment needs for the relevant descriptor; contributes to determining distance from GES and trends in status; addresses natural and climatic variability; responds to risk of not achieving GES (5f) |
| 2.5 Environmental targets  MSFD | *Relevant MSFD targets defined in the article 10 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 deposited on the seafloor.  **Operational targets**  Provide adequate port reception facilities for ship-generated wastes according to MARPOL 73/78 (BSC SAP Target 60).  Develop regional and national marine litter monitoring and assessment methodologies on the basis of common research approaches, evaluation criteria and reporting requirements (BS SAP Target 20).  30% increase of the population reached by awareness campaigns to avoid, reduce, reuse and recycle (where applicable) ML producing packaging.  The wastewater treatment plants (WWTP) of all land-based point sources of marine pollution should be operational by 2016 (in coherence with the Bulgarian reporting under the Urban Waste Water Treatment Plants Directive (Art. 17 report, Web: <http://www.moew.government.bg/?show=top&cid=499>) and BS SAP Target 53).  Clean-up of unregulated/illegal riverine and coastal dumping sites by 2018. (Black Sea SAP Target 18).  Describe how the programme:   1. addresses assessment needs for the relevant Descriptor(s) and targets – the monitoring programme on Descriptor 10 addresses the assessment needs by stating a GES definition in coherence with S. M. A. R. T. (Specific, Measurable, Achievable, Realistic, Timely) targets and, if necessary, by updating the GES definitions and targets to be able to provide assessment of the current environmental status and determine the distance from GES. The monitoring programme also defines targets addressing the pressure from human activities, state and impact of the marine environment. 2. meets the needs of providing data/ information to support assessment of the Descriptor (or particular biodiversity component programme for D1, 4, 6) – the existing monitoring programme does not provide data/information for assessment of the Descriptor 10. Specific plans for assessment of GES and targets are designed to make the programme adequate in providing data and information for assessment of Descriptor 10; 3. contributes to determining distance from GES and trends in status – the existing monitoring programme does not fully meet the requirements of the MSFD and does not contribute in determining the distance from GES and trends in status. By updating the GES definitions, threshold or trend-based targets, and implementing plans for data and information on GES and targets, the programme will be able to provide information on the distance from GES and trends in status; 4. addresses natural and climatic variability and distinguish this from the effects of anthropogenic pressures – marine litter is not naturally occurring in the marine environment. It is solely the result of anthropogenic activities. Therefore, the programme needs to measure only the effect from anthropogenic pressure and no distinguishment. 5. responds to risks of not achieving GES – the minimum requirement is to make the existing monitoring programme adequate to the requirements of the MSFD (in accordance with the Plans for information on GES and targets, listed below).The monitoring programme responds to the risk of not achieving GES by updating GES definition and targets to be able to detect if GES is achieved. GES targets should be reviewed and updated annually to reflect new information on GES, acquired from the yearly monitoring programme of the Bulgarian marine waters. | Q6: State the targets addressed by the monitoring.  Which reported targets are addressed (6a)?  Will the programme provide adequate data to assess progress towards achievement of target and will the collected data enable updating of targets (6b-c)?  Explain how the programme will contribute to the assessment of progress with targets (6d)  Add targets relevant to other directives and commitments |
| Habitats | Ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies. |  |
| BWD | Bathing Waters Directive 2006/7/EC  The purpose of this Directive is to preserve, protect and improve the quality of the environment and to protect human health by complementing Directive 2000/60/EC. |  |
| BSC  BSC SAP | **Black Sea Strategic Action Plan ( BS SAP, 2009)**  **3.2 Long-term Ecosystem Quality Objectives (EcoQOs)**  EcoQO 4: Ensure Good Water Quality for Human Health, Recreational Use and Aquatic Biota.  **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.  (64) Develop a common system of claims management for pollution damages compensation. |  |
| Directive 2000/59/EC  Article 1 | To reduce discharges of ship-generated waste and cargo residues into the sea |  |
| MARPOL 73/78 | Any discharges of garbage (except food waste) are prohibited in the Black Sea (defined as a Special Area) |  |
| 2.6 Spatial allocation | *Table of where monitoring is required*   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | EEZ | 12-nm zone | Coastal waters | Transitional waters | | MSFD | X | X | X |  | | Habitats | X | X | X | X | | BWD | - | - | X | X | | 2008/949/EC | X | X | X |  | | MARPOL | X | X | X |  | | 200/59/EC | X | X | X |  | | BSC |  | X | X | X | | Q4: Geographical coverage by reference to the 4 zones in table 1 of the "concept paper" (4i) |
| **3 Monitoring concept** | |  |
| 3.1 General description of relevant subprogrammes in monitoring programme | Litter - characteristics and abundance/volume. Parameters: Distribution/extent in space and time, concentration;  Sea-based mobile activities (shipping, boating). Distribution/extent in space and time, intensity  Coastal human activities (e.g. tourism, recreational sports, ecotourism). Distribution/extent in space and time, intensity.  Land-based activities. Distribution/extent in space and time, intensity.  Effectiveness of measures. Distribution/extent in space and time, intensity. | Use list In document DIKE\_9-2014-03\_Art11ReportingPackage.doc and BS-CBE Jan\_MFS Pgm Subpgm\_list\_rev.xls for subprogramme names. New ones may be added if necessary. Use BS-CBE Jan\_MFS Pgm Subpgm\_list\_rev.xls to see/check parameters measured in subprogramme |
| 3.2 Description of monitoring network | **Institute of Oceanology – Bulgarian Academy of Sciences**  ***Area monitored*** – Bulgarian shelf waters (Varna transect)  There are not well defined areas for ML monitoring yet (see Section 6)  MISIS_CRUSE_MAP  **Map of sampling sites from trawl survey where ML was surveyed in the Bulgarian, Romanian and Turkish waters during the MISIS project cruise**  ***Parameters monitored***:   * Floating and seafloor litter (by trawl surveys); quantitative and qualitative assessment * Marine litter ingested by fishes (qualitative assessment)   ***Frequency***: 1 time / 2013 (project based) | Spatial resolution (density op sampling). Show sampling network on map. Describe the rationale for the geographical scope of the programme ("4j") |
| 3.3 Threats, activities and measures | *Which threats are identified*  *Which human activities will be measured by the programme*  *Which measures will be measured by the programme*  **Relevant human activities**  **Land-based activities**   * Industry (discharges, emissions) * Urban (municipal waste water discharge) * Port operations * Tourism and recreation incl. yachting   **Marine-based activities**   * Shipping * Fisheries incl. recreational fishing (fish and shellfish) | Q7: Relevant activities (7a); describe the nature of activity or pressure (7b); relevant existing measures (if any) (7c); how are existing measures monitored (7d) |
|  | **Land-based activities**   * Industry (discharges, emissions) – floating litter from industrial WWTPs washed ashore will be addressed by the monitoring programme * Urban (municipal waste water discharge) - floating litter from urban WWTPs washed ashore will be addressed by the monitoring programme * Port operations – ML from port operations and relevant activities are monitored by the Executive Agency “Maritime Administration” * Tourism and recreation incl. yachting – the beach litter washed ashore or discarded by the tourists on the beaches will be monitored   **Marine-based activities**   * Shipping – monitoring of ML from shipping activities and the resulting measures are implemented by the Executive Agency “Maritime Administration” * Fisheries incl. recreational fishing (fish and shellfish) – only | describe the nature of activity or pressure (7b) |
|  | River Basin Management Plans. Section 7: Brief review of the programs of measures to achieve the environmental objectives (in Bulgarian). Web: <http://www.bsbd.org/bg/BSPLAN2009.html> | relevant existing measures (if any) (7c) |
|  | The existing measures on land-based sources of pollution (urban and industrial waste water treatment plants) are monitored by the Black Sea Basin Directorate. The measures from marine based sources (shipping) and from port activities are monitored by the Executive Agency “Maritime Administration”. | how are existing measures monitored (7d) |
| 3.4 Data management | *How and where are data managed? How and where can data be accessed? (General description – programme level)*  Data and information not reported to the Bulgarian competent authorities. | Q10 (+Q3): Access to data; use rights; INSPIRE standards; when will data become available; updates when; how will data be made available to the EEA |
| **4. Assessment** | |  |
| 4.1 Assessments | *Existing assessments*  *Provide information about or URL links to existing assessments (eg. Initial Assessment)*  Bulgarian MSFD (Art. 8) – Initial Assessment  <http://cdr.eionet.europa.eu/ro/eu/msfd8910/msfd4text/envuhwuaq> | This is for information purpose only. Where can stakeholders etc find existing assessments on issues relevant to the programme |
| 4.2 Assessment of GES | *Will assessment of GES be carried out by the programme*  The programme will be designed so that it will be able to incorporate elements of new monitoring methodology developed at EU level in approaching D10 at regional scale. However, the programme will provide only partial data and information for defining GES (see Section 6). | Q5: Will the programme enable periodic assessment of environmental status and distance to and progress towards GES (5d). Describe how and refer to section 6 to describe if programme is not considered fully adequate. |
| **5. Literature** | |  |
|  | *List of relevant literature*  Black Sea Commission, 2009, Marine Litter in the Black Sea Region. Black Sea Commission Publications. Web: <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. Web: <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. Web: <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. Web: <http://publications.jrc.ec.europa.eu/repository/handle/111111111/22826>  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. Web: 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.* | Which changes are necessary to the current/existing monitoring programme to secure adequacy with regards to MSFD (eg. changes in monitoring network)  Q7: Will the programme provide necessary data and information to enable identification of relevant activities/pressures that are causing environmental degradation and will the programme identify suitable new measures and the effectiveness of existing measures (7e) |
| 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 programme is expected to provide adequate information on GES in time for next assessment in 2018. | Select when the programme is expected to be adequate: In 2014; in time for next assessment in 2018; in time for updating of monitoring programme in 2020; later than 2020 (5g) |
| 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.*  **General recommendations:**  **Spatial scope of the monitoring programme**. Expand the current monitoring network to provide data for the pressure from the drivers (human activities and natural changes), state and impact in the coastal waters, territorial waters and exclusive economic zone, according to the requirements of the Marine Strategy Framework Directive.  **Design a statistically sound monitoring programme**. Robust statistical methods should be used to determine the minimum sampling size, spatial frequency and temporal resolution of the monitoring network.  **Integration across Black Sea Member States (at minimum, Bulgaria and Romania)** ([Zampoukas et al., 2012](http://publications.jrc.ec.europa.eu/repository/handle/111111111/23169))**.** Joint cruises with Romania will help minimizing the costs and ensure that the data are acquired in a similar and comparable manner thus allowing a comparable assessment and classification of the Bulgarian and Romanian marine areas. The benefit of using common sampling methods and common parameters will result in having regionally agreed indicators, and consequently setting regionally coherent targets and definitions of GES.  **Integration across legislative requirements and Regional Sea Conventions (RSCs)** ([Zampoukas et al., 2012](http://publications.jrc.ec.europa.eu/repository/handle/111111111/23169)). Both Bulgaria and Romania can use the data generated in fulfilment of the obligations under the related environmental legislation of the EU (e.g. Water Framework Directive, Bathing Waters Directive and Habitats Directive) and the [Black Sea Commission](http://www.blacksea-commission.org/) to acquire information on GES.  **Integration across descriptors and indicators (**[Zampoukas et al., 2012](http://publications.jrc.ec.europa.eu/repository/handle/111111111/23169))**.** The coordinated monitoring programme on D10 – Marine litter in the marine environment, can be combined and sampled in parallel with the monitoring programme on D1, 4-Water Column Habitats, D1, 4, 6-Seabed habitats. In addition opportunity for integration exists with monitoring programmes D1, 4 – Seabirds and D3 – Commercial fish to address the two monitoring parameters under indicator 10.2.1: the Yelkouan Shearwater (*Pufﬁnus yelkouan*) and sprat (*Sprattus sprattus*), which are considered good common parameters for monitoring.  **Programme-specific requirements**  Start in 2015 (if not already started in 2014) the implementation of coordinated with Romania monitoring programme on Descriptor D10 – Marine litter, to provide information on the distance from GES and update the GES definition, if necessary, for the next Article 8 reporting on assessment of environmental status and Article 9 reporting on GES in 2018.  Validate the two monitoring parameters on indicator 10.2.1 – Yelkouan Shearwater (*Pufﬁnus yelkouan*) and sprat (*Sprattus sprattus*) - literature review shows that both the Yelkouan Shearwater and sprat are impacted from marine litter. Moreover, sprat is a major source in the diet of the shearwater during the chick rearing, which can account for the impact on the juveniles.  **Include relevant research institute and/or non-governmental organizations (NGOs) to provide more data for the assessment of GES and increase the monitoring capacity**: increase the capacity of the monitoring programme by involving the relevant stakeholder (NGOs, local fishermen and scuba divers) to gather information on ML on coastlines, water column and seabed habitats for assessing the distance from GES.  **Bulgaria and Romania should revise and further develop together** coherent GES definitions and assessment methods for their marine waters taking into account the assessment and the recommendations of the Commission, as much as possible, in 2014..  **Bulgaria and Romania should develop together agreed indicators** (based on common parameters) and/or **harmonised indicators** (based on common parameters and common methods) for their marine waters taking into account the assessment and the recommendations of the Commission, as much as possible, in 2014.  **Bulgaria and Romania should** develop agreed indicators based on a common list of contaminants, which will be monitored, by integrating the relevant lists of contaminants under the relevant European, regional and national legislation, as much as possible, in 2014.  **Using consistent sampling and assessment methodologies across Member States (Bulgaria and Romania)**.  **Take advantage in 2015 (if not already taken in 2014) of the available co-funding opportunities (LIFE, Horizon 2020, EMFF) and/or International Financial Institutions (European Bank for Reconstruction and Development (EBRD), European Investment Bank (EIB), The World bank (WB)), if necessary to fulfil the requirements of the MSFD**. Spatial scope and the monitoring requirements pose significant burden to the national budgets of all the EU countries. Therefore, both Bulgaria and Romania should advantage of the relevant EU funds to support the implementation of the MSFD.  **10.1.1 – Plans for information on “Monitoring on 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.)”.** The monitoring of marine litter washed ashore or deposited on the coastlines will be performed by the Institute of Oceanology. It will take place during their regular surveys of macrophytobenthos and will consist of qualitative and quantitative estimates of the beach litter, which will be recorded in monitoring. ML surveys by volunteers at NGOs can be also used as a reliable method (Tudor and Williams, 2001).  ML in the water is a good indicator of the amount of marine litter input from both land-based and sea-based sources of pollution. Plastics on beaches can be used as a good measurement parameter of both the beach litter and the litter in the water column, because floating plastics are sooner or later washed ashore, and plastics deposited on coastlines can be blown into the sea. The trend in the amount and composition of ML will be used for information on the distance from GES. | Free text or URL link to relevant information (5h) |
| 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 programme is expected to provide adequate information on GES in time for next assessment in 2018. | Select when the programme is expected to be adequate: In 2014; in time for next assessment in 2018; in time for updating of monitoring programme in 2020; later than 2020 (6e) |
| 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.*  Review and regularly update the targets to reflect the improved knowledge of the relevant indicators and related threshold values (if applicable), produced during the yearly coordinated monitoring programmes, established according to Article 11 of the MSFD.  **State targets**  Target on criterion 10.1.1: decreasing trend in the amount of beach litter by 2020 information will be provided by beach monitoring surveys – quantitative analysis of beach litter by the monitoring institution. Information can be collected during the occasional non-governmental organisations (NGOs) beach cleaning campaigns, which is subject to additional agreements with relevant NGOs.  **Pressure targets**  Target on criterion 10.1.1: The wastewater treatment plants of all cities discharging into the sea should be operational by 2016 (in coherence with the Bulgarian reporting under the Urban Waste Water Treatment Plants Directive (Art. 17 report,  Web: <http://www.moew.government.bg/?show=top&cid=499> ) and BS SAP Target 53) – data on this target is already available to the Black Sea Basin Directorate.  Target on criterion 10.1.1: 90 % reduction of the illegal dumping (fly-tipping) sites in the Black sea catchment area by 2018 - data on this target is already available to the Black Sea Basin Directorate.  **Impact targets**  Target on criterion 10.2.1: less than 10% of the washed up marine animals contain more than 0.1 grams of plastics in their stomach by 2020 – data on this targets will be gathered by the Institute of Oceanology-BAS during the monitoring surveys under Article 11 of the MSFD.  **Operational targets on sources of marine litter**  Target on criterion 10.1.1 and 10.1.2: 100 % collection of shipping waste at Port Reception Facilities – data on this target is available from the Executive Agency “Maritime Administration”.  Target on criterion 10.1.1 and 10.1.2: Provide adequate port reception facilities for ship-generated wastes according to MARPOL 73/78 (BSC SAP Target 60) – data on this target is available from the Executive Agency “Maritime Administration” | Free text or URL link to relevant information (6f) |
| 6.5 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.*  Plans for information on measures addressing sources of pressure (criterion 10.1.1) - Measures on the reduction of pressure from land-based sources (urban and industrial wastewater treatment plants) are already available in the Black Sea Basin Directorate.  Plans for information on measures, addressing beach litter (criterion 10.1.1) - Integration of the monitoring on the effect of measures of beach litter (Article 13) with the monitoring of beach litter under Article 11 – the Bulgarian NGOs conducting yearly beach cleaning campaigns (possible measure under Article 13) will be asked to measure the amount collected during the campaign. This will provide information on the effect of beach cleaning and other measures addressing beach litter.  Plans for information on measures, addressing marine litter in the water column and deposited on the seafloor (criterion 10.1.1). Integration of the monitoring on the effect of measures on the marine litter in the water column (Article 13) with the monitoring of beach litter under Article 11 – within the scope of the MARELITT project (<http://www.marelitt.eu/>), the local fishermen (and scuba divers, if possible) involved in the “fishing for litter” initiative (possible measure under Article 13) will be asked to measure the amount collected of litter collected. This will provide information on the effect of the “fishing for litter” initiative and other indirect measures marine litter in the water column and seabed habitats.  Plans for information on measures, addressing operation targets on shipping waste as a source (indicator 10.1.1) – data on measures will be available from the Executive Agency “Maritime Administration” | Free text or URL link to relevant information (7f) |