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Meeting of the Ecosystem Approach Correspondence Group on Marine Litter Monitoring

Madrid, Spain, 28 February – 2 March 2017

**Agenda item 6: Marine Litter Metadata Templates and Monitoring Protocols**

**List of Existing Protocols on Monitoring Marine Litter**

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## Introduction

1. The 19<sup>th</sup> Meeting of the Contracting Parties to the Barcelona Convention adopted the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP) (Decision IG.22/7<sup>1</sup>). IMAP is also supported by the Integrated Monitoring and Assessment Guidance document (UNEP(DEPI)/MED IG/22/Inf.7<sup>2</sup>).

2. IMAP sets out the basis for how the Contracting Parties should design and carry out their national integrated monitoring programmes and work together in the framework of the UN Environment/Mediterranean Action Plan Barcelona Convention to produce and update common indicator based regional assessments on the status of the Mediterranean Sea and coast.

3. One of the most important aspects of IMAP is Marine Litter (Ecological Objective 10), that provides for monitoring and assessment the following three common and candidate indicators:

- Common Indicator 22: Trends in the amount of litter washed ashore and/or deposited on coastlines (EO10);
- Common Indicator 23: Trends in the amount of litter in the water column including microplastics and on the seafloor (EO10);
- Candidate Indicator 24: Trends in the amount of litter ingested by or entangling marine organisms focusing on selected mammals, marine birds, and marine turtles (EO10)

4. The purpose of this document is to provide information on existing protocols related to monitoring of different aspects of marine litter, developed by other organizations. The Secretariat undertook a research and identified a list of existing global and or regional monitoring protocols on marine litter as presented in the following table:

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<sup>1</sup> ENG: <https://wedocs.unep.org/rest/bitstreams/8385/retrieve> | FR: <https://wedocs.unep.org/rest/bitstreams/10671/retrieve>  
<sup>2</sup> <https://wedocs.unep.org/rest/bitstreams/8456/retrieve>

ANNEX

List of Existing Protocols on Marine Litter Monitoring

	Source	Title	Marine Litter Type	Short Description	Source/Web link
1	UNEP/MAP, 2016	Guidance Document on Integrated Monitoring and Assessment of Marine Litter	Beach, Floating, Seafloor, Micro-litter	<p>A comprehensive monitoring and assessment methodological guidance is provided for IMAP Ecological Objective 10; Marine Litter. The guidance document includes information on:</p> <ul style="list-style-type: none"> <li>- Establishing a monitoring framework for marine litter in the Mediterranean;</li> <li>- General considerations on spatial distribution of survey sites, site selection strategies, quality assessment/quality control requirements;</li> <li>- Monitoring of litter washed ashore and/or deposited on coastlines (Common Indicator 22);</li> <li>- Monitoring of floating marine litter (Common Indicator 23);</li> <li>- Monitoring of seafloor marine litter (Common Indicator 23);</li> <li>- Monitoring of litter ingested by or entangling marine organisms, especially mammals, marine birds and turtles (Candidate Indicator 24);</li> <li>- Monitoring marine micro-litter (with special reference to microplastics).</li> </ul>	<a href="https://wedocs.unep.org/rest/bitstreams/8456/retrieve">https://wedocs.unep.org/rest/bitstreams/8456/retrieve</a>
2	UNEP/MAP, 2015	Fishing for Litter Guidelines, Assessment Report, Baselines Values, and Reduction Targets	Seafloor (Abandoned, lost or otherwise discarded fishing gear)	The objective of this guideline document is to provide technical guidance on the mechanism to remove litter from the sea in an environmentally friendly manner ensuring negative impacts on marine environment and ecosystems are avoided.	<a href="https://wedocs.unep.org/rest/bitstreams/54040/retrieve">https://wedocs.unep.org/rest/bitstreams/54040/retrieve</a>
3	UNEP/IOC, 2009	Guidelines on Survey and Monitoring of Marine Litter	Beach, Floating, Seafloor,	<p>The 2009 UN Environment Guideline report provides comprehensive information on the following aspects:</p> <ul style="list-style-type: none"> <li>- Establishing a Framework for Litter Assessment;</li> <li>- Operational Guidelines for Comprehensive Beach Litter Assessment (including rapid beach litter assessment;</li> </ul>	<a href="https://www.researchgate.net/publication/256186638_UNEPIOC_Guidelines_on_Survey_and_Monitoring_of_Marine_Litter">https://www.researchgate.net/publication/256186638_UNEPIOC_Guidelines_on_Survey_and_Monitoring_of_Marine_Litter</a>

	Source	Title	Marine Litter Type	Short Description	Source/Web link
				<ul style="list-style-type: none"> <li>- Operational Guidelines for Seafloor Litter Assessment;</li> <li>- Operational Guidelines for Floating Litter Assessment.</li> </ul>	
4	JRC/TGML, 2016	Riverine Litter Monitoring – Options and Recommendations	Riverine macro- and micro-litter	This technical report of the Joint Research Centre (JRC) compiles the options for monitoring riverine litter and quantifying litter fluxes, focusing on anthropogenic litter. It includes the current scientific and technical background regarding marine litter in river systems, their flow regime and basic properties. The report is also providing recommendations for monitoring approaches and methodologies.	<a href="http://publications.jrc.ec.europa.eu/repository/bitstream/JRC104194/lb-na-28307-en-n%20.pdf">http://publications.jrc.ec.europa.eu/repository/bitstream/JRC104194/lb-na-28307-en-n%20.pdf</a>
5	JRC/TGML, 2013	Guidance on Monitoring of Marine Litter in European Seas	Beach, Floating, Seafloor, Micro	The objective of this guidance document report is to provide MS with recommendations and information needed to commence the monitoring of the MSFD Descriptor 10. It describes specific protocols and considerations to collect, report and assess data on marine litter, in particular beach litter, floating litter, seafloor litter, litter in biota and microlitter.	<a href="http://publications.jrc.ec.europa.eu/repository/bitstream/JRC83985/lb-na-26113-en-n.pdf">http://publications.jrc.ec.europa.eu/repository/bitstream/JRC83985/lb-na-26113-en-n.pdf</a>
6	FAO, 2016	Abandoned, lost or otherwise discarded gillnets and trammel nets: methods to estimate ghost fishing mortality, and the status of regional monitoring and management	Seafloor (Abandoned, lost or otherwise discarded fishing gear)	This study aims in identifying best practices to estimate ghost fishing mortality rates and levels, priority research needs, and the status of international monitoring and management of Abandoned Lost or otherwise Discarded Fishing Gear (ALDFG) and ghost fishing by marine gillnet and trammel net fisheries.	<a href="http://www.fao.org/3/a-i5051e.pdf">http://www.fao.org/3/a-i5051e.pdf</a>
7	OSPAR, 2010	Guideline for Monitoring Marine Litter on the Beaches in the OSPAR Maritime Area	Beach	A guideline for monitoring marine litter on beaches has been developed by OSPAR as a tool to collect data on litter in the marine environment. This tool has been designed to generate data on marine litter according to a standardized methodology.	<a href="http://www.ospar.org/ospar-data/10-02e_beachlitter%20guideline_english%20only.pdf">http://www.ospar.org/ospar-data/10-02e_beachlitter%20guideline_english%20only.pdf</a>
8	HELCOM, 2008	Guidelines on sampling and reporting of marine litter found on beach	Beach	The HELCOM guidelines on sampling and reporting of marine litter on beaches includes aspects on monitoring areas, units for expressing amounts, indicators and reporting (survey forms).	<a href="http://www.helcom.fi/Recommendations/Rec%2029-2.pdf">http://www.helcom.fi/Recommendations/Rec%2029-2.pdf</a>

	Source	Title	Marine Litter Type	Short Description	Source/Web link
9	MEDITS, 2016	International bottom trawl survey in the Mediterranean, Instructional Manual Version 7	Seafloor	A comprehensive and detailed common protocol for the voluntary collection of data on Marine Litters, in agreements with the requirements of the Marine Strategy Directive Framework Directive, is given under the 8 <sup>th</sup> version of the MEDITS Instruction Manual.	<a href="http://www.sibm.it/MEDITS%202011/docs/Medits_Handbook_2016_version_8_042016.pdf">http://www.sibm.it/MEDITS%202011/docs/Medits_Handbook_2016_version_8_042016.pdf</a>
10	ICES, 2012	Manual for the International Bottom Trawl Surveys	Seafloor	The International Bottom Trawl Survey Working Group is presenting a common protocol for and monitoring seafloor marine litter collected from bottom trawl fisheries.	<a href="https://www.ices.dk/sites/pub/Publication%20Reports/ICES%20Survey%20Protocols%20(SISP)/SISP1-IBTSVIII.pdf">https://www.ices.dk/sites/pub/Publication%20Reports/ICES%20Survey%20Protocols%20(SISP)/SISP1-IBTSVIII.pdf</a>
11	DeFishGear, 2015	Methodology for Monitoring Marine Litter on Beaches Macro-Debris (>2.5cm)	Beach	The DeFishGear project has prepared a comprehensive guidance document presenting the methodology for monitoring beach marine litter (>2.5 cm).	<a href="http://mio-ecsde.org/wp-content/uploads/2014/12/Beach-litter_monitoring_methodology_complete.pdf">http://mio-ecsde.org/wp-content/uploads/2014/12/Beach-litter_monitoring_methodology_complete.pdf</a>
12	DeFishGear, 2015	Methodology for Monitoring Marine Litter on the Sea Surface Visual observation	Floating	The DeFishGear project has prepared a comprehensive guidance document presenting the methodology for monitoring marine litter floating at sea.	<a href="http://www.defishgear.net/images/download/monitoring_surveys_/Floating_litter_monitoring_methodology_complete.pdf">http://www.defishgear.net/images/download/monitoring_surveys_/Floating_litter_monitoring_methodology_complete.pdf</a>
13	DeFishGear, 2015	Methodology for Monitoring Marine Litter on the Seafloor (continental shelf) Bottom trawl surveys	Seafloor	The DeFishGear project has prepared a comprehensive guidance document presenting the methodology for monitoring seafloor marine litter found present in the continental shelf.	<a href="http://www.defishgear.net/images/download/monitoring_surveys_/Seafloor_litter_monitoring_methodology_complete.pdf">http://www.defishgear.net/images/download/monitoring_surveys_/Seafloor_litter_monitoring_methodology_complete.pdf</a>
14	NOAA, 2012	NOAA Marine Debris Shoreline Survey Field Guide	Beach	The NOAA guide on marine debris shoreline survey field guide includes comprehensive and detailed information on: i) accumulation studies, and ii) standing-stock studies with special focus on the selection of survey sites, preparation of a monitoring survey, submitting data along with presenting corresponding data forms.	<a href="https://marinedebris.noaa.gov/sites/default/files/ShorelineFieldGuide2012.pdf">https://marinedebris.noaa.gov/sites/default/files/ShorelineFieldGuide2012.pdf</a>
15	NOAA, 2013	Marine Debris Monitoring and Assessment: Recommendations for Monitoring Debris Trends in the Marine Environment	Beach, Floating, Seafloor, Micro	The guidelines included in the NOAA guidance report are intended to serve as a basis for nationwide monitoring and assessment of marine debris, and were designed with four main objectives: i) estimate the quantity of debris at local and regional levels according to land use or other correlating parameter, ii) determine types and concentration of debris present by material	<a href="https://marinedebris.noaa.gov/sites/default/files/Lippiatt%20et%20al%202013.pdf">https://marinedebris.noaa.gov/sites/default/files/Lippiatt%20et%20al%202013.pdf</a>

	Source	Title	Marine Litter Type	Short Description	Source/Web link
				<p>category (plastic, metal, glass, rubber, paper/processed lumber, cloth/fabric, other), iii) examine the spatial distribution and variability of debris, and iv) investigate temporal trends in debris types and concentration</p> <p>This report includes guidelines for four survey techniques developed and/or modified by the MDP:</p> <ul style="list-style-type: none"> <li>- Shoreline techniques: Guidance for assessing debris concentration on shoreline segments, including both macro- (&gt; 2.5 cm) and meso-debris (5 mm–2.5 cm);</li> <li>- Surface water techniques: Guidance for assessing floating debris concentration, including macro-debris (&gt;2.5 cm), meso-debris (5mm–2.5cm) and micro-debris (≤ 5 mm in length);</li> <li>- At-sea visual techniques: Guidance for conducting ship-based visual surveys of floating macro-debris (&gt; 5cm or 2 in); and</li> <li>- Benthic techniques: Guidance for evaluating debris concentration on the seafloor.</li> </ul>	