



UNITED
NATIONS

EP

UNEP/MED WG. 588/2



**Mediterranean
Action Plan**
Barcelona
Convention

09 April 2024
Original: English

Enhancing Interregional Cooperation for Monitoring and Assessing Riverine Input of Marine Litter
(Organized in the framework of MARLICE 2024)

Valencia, Spain, 23 May 2024

Agenda Item 2: Organizational Matters

Report of the Meeting

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Enhancing Interregional Cooperation Towards Addressing Riverine Input of Marine Litter

Valencia, Spain, 23 May 2024

Meeting Report

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Agenda Item 1 Opening of the informal meeting

1.1 An informal meeting on Enhancing Interregional Cooperation Towards Addressing Riverine Input of Marine Litter organised by the four Regional Sea Conventions surrounding Europe was held on the 23 May 2024 in Valencia, Spain. The purpose of the meeting was to bring together experts and policy makers to consider the latest developments in understanding riverine inputs of marine litter, with a future goal of identifying synergies and taking coordinated action across the four Regional Sea Conventions surrounding Europe to address riverine litter.

1.2 The meeting was moderated by Ms Jennifer Godwin, OSPAR's Marine Litter Regional Action Plan Coordination Team. The meeting was attended by representatives of the four Regional Sea Conventions surrounding Europe (i.e. Black Sea Commission Permanent Secretariat, HELCOM, OSPAR and UNEP/MAP), the EU, UNEP Source to Sea Pollution Unit, as well as representatives from Albania, Bosnia and Herzegovina, Croatia, Cyprus, EU, Finland, France, Israel, Italy, Latvia, Libya, Montenegro, Morocco, the Netherlands, Portugal, Spain, Tunisia, UK, as well as representatives from the basin department of water resources of Zakhidnyi Buh and Sian rivers, Black Sea Women's Club, Ecoterra, the International Commission for the Protection of the Danube River, Keep Scotland Beautiful and Zero Waste Lviv. The list of participants is contained in **Annex 1**.

1.3 Participants were welcomed by Ms Marta Martínez-Gil Pardo de Vera, Deputy Head of Unit Protection of the Sea Unit, Directorate General for the Coast and the Sea, Ministry for the Ecological Transition and the Demographic Challenge. She stressed the relevance of this meeting as a proof of international cooperation.

1.4 Ms Tatjana Hema, Coordinator of UNEP/Mediterranean Action Plan, Barcelona Convention Secretariat welcomed participants on behalf of the four Regional Sea Conventions surrounding Europe. She reiterated the importance of this meeting as an opportunity to come together to tackle issues on riverine litter that will require cooperation to make meaningful progress.

Agenda Item 2 Organizational matters

1.5 The informal meeting adopted its agenda on the basis of the Provisional Agenda, including the proposed timetable.

1.6 The discussions were held in line with the agenda. Simultaneous interpretation in English and French was provided during the Meeting.

Agenda Item 3 Regional and international frameworks for addressing riverine inputs of marine litter

3.1 The participants took note of the information and work conducted in the framework of the Barcelona Convention related to riverine litter as presented by Mr Christos Ioakeimidis, QSR Programme Management Officer, Barcelona Convention Secretariat (**Presentation 1**).

3.2 A question was raised in relation to the definition of riverine litter and the metrics used for its monitoring as part of the Mediterranean methodology, and the participants suggested considering the matter during the open discussion.

3.3 The participants took note of the information and work conducted in the framework of the Bucharest Convention related to riverine litter as presented by Ms Iryna Makarenko, PMA Officer, Black Sea Commission Permanent Secretariat, Bucharest Convention (**Presentation 2**).

3.4 The participants took note of the information and work conducted in the framework of the Helsinki Commission – HELCOM related to riverine litter as presented by Ms Marta Ruiz, Associate Professional Secretary of the Baltic Marine Environment Protection Commission (**Presentation 3**).

3.5 The participants took note that there is not information available on the efficiency of measures of the HELCOM Regional Action Plan on Marine Litter, however the implementation of each action is followed up regularly. In addition, [the HELCOM thematic assessment of hazardous substances, marine](#)

[litter, underwater noise and non-indigenous species 2016-2021](#), evaluates the environmental status of beaches and seafloor in relation to marine litter.

3.6 The participants took note of the information from JRC that according to the evaluation conducted by the EU in the frame of the implementation of the Marine Strategy Framework Directive (MSFD), there has been a reduction of 30% of beach litter in this assessment cycle compared to the previous one.

3.7 The participants took note of the information and work conducted in the framework of the OSPAR Commission related to riverine litter as presented by Ms Jennifer Godwin, OSPAR's Regional Action Plan on Marine Litter Coordination Team (**Presentation 4**).

3.8 The participants took note of the information and work conducted in the EU as presented by Mr Georg Hanke, European Commission Joint Research Centre (**Presentation 5**), including suggestions on how to further advance on riverine litter monitoring.

3.9 The participants took note of the views by EU that there is a need to continue testing methodologies in a cooperative way so that a harmonised approach is reached.

3.10 The participants took note of the information of the work conducted in the framework of the International Commission for the Protection of the Danube River (ICPDR) as presented by Adam Kovacs, ICPDR Secretariat (**Presentation 6**).

3.11 The participants took note of the following clarifications:

- sedimentation boxes in the studies presented were provided by the German Environment Agency for countries to use. Additional technical information on the deployment conditions is available upon request;
- there is a lack of information in relation to the amount of litter that reaches the sea from the estuaries; it may be a further activity to conduct, since currently there is only information from the upper part of the river; and
- floating dams can be an option to prevent riverine litter to reach the sea. However, there is also the option of fixed dams, as well as alarm systems as the one currently working in the Danube and under consideration to be implemented in the Neba river in relation to accidental pollution incidents.

Agenda Item 4 Source to Sea: rivers as a major pathway for litter transportation

4.1 The participants took note of an insight on the global policy framework for preventing plastic pollution and marine litter as provided by Ms Heidi Savelli-Soderberg, Chief of the Source to Sea Pollution Unit, UNEP (**Presentation 7**).

4.2 The participants took note that additional information in relation to the modelling tools presented is available upon request. The participants further took note that UNEP is working on mapping all forecasting tools available, in order to make a comparison between them, including the outputs they provide. In relation to the digital platform, a mapping of data and gap analysis has been conducted so that an informed status report for further action by countries can be provided.

4.3 The participants took note of a presentation on rivers as a major pathway for litter transportation as provided by Mr Tim van Emmerik, Associate Professor Hydrologic Sensing, Wageningen University (**Presentation 8**). The participants, acknowledged that a 'minor fraction' of a high total would still equate to large quantities of microplastics entering the sea.

4.4 The participants took note of the relevance of compiling information on hydrological conditions and characteristics of the river in order to be able to compare litter in rivers globally.

4.5 The participants took note of the relevance of adapting monitoring activities to also consider the effect of climate change related to an increase of flood events as well as the role that flood events play in the transportation of litter in rivers.

4.6 The participants took note that further discussion is needed in relation to the impact of litter on biota in the inland environment. In particular, estuaries are relevant for their high biodiversity value as well as their potential for accumulation of litter. Further discussion is also needed in relation to the impact of riverine litter on public health, as well as the impact on local communities.

Agenda Item 5 Monitoring efforts to assess inputs of marine litter via rivers

5.1 Under this agenda item, a number of Countries' representatives presented examples and best practices focusing on national efforts to monitor and assess riverine input of marine litter.

5.2 The participants took note of lessons learnt and initial results from French monitoring as presented by Ms Camille Lacroix, Cedre (**Presentation 9**). The participants took note that monitoring in rivers is an iterative process in the sense that based on the results achieved by monitoring in a certain river, and its flux characteristics, further monitoring locations are decided. Identifying suitable monitoring locations can also be challenging, both due to difficulty accessing the river banks and also as a result of land ownership constraints. Considerations are being given to expand monitoring in more rivers, selecting locations close to the river mouth.

5.3 The participants took note of the relevance to consider the river flow regime, linked to the history of the river, and use it to determine the appropriate frequency of the sampling. The network is not flexible (presence of marine protected areas, for example); therefore, it is not currently possible to conduct monitoring linked to flooding events in France.

5.4 The participants took note of information on a riverine litter pilot testing being conducted in the Baltic Sea as presented by Ms Elke Fischer, University of Hamburg (**Presentation 10**).

5.5 The participants took note of the information on the current status of riverine marine litter monitoring in Israel as presented by Ms Yael Segal, Israel Oceanographic and Limnological Research Institute (IOLR) (**Presentation 11**). The participants took note of the clarification that during the studies conducted it was not possible to conduct microlitter sampling together with other parameters due to the limitations of the microlitter sampling.

5.6 The participants took note of the information on the Italian monitoring program on floating riverine macro litter at the mouths of rivers, within the framework of the MSFD, as presented by Mr Roberto Crosti, Institute for Environmental Protection and Research, ISPRA (**Presentation 12**). The participants took note that based on the monitoring at river banks, stratigraphic information on litter items can be obtained.

5.7 The participants took note that more relevant than the size of the river (bigger versus small) is the distance from the big damn to the mouth of the river.

5.8 The participants took note of the information on the recent findings of microplastics in Latvian rivers and lakes as well as on the role of citizen science in monitoring as presented by Ms Marta Barone, Latvian Institute of Aquatic Ecology (**Presentation 13**).

5.9 The participants took note of the information on the contribution to the monitoring of riverine input along the Moroccan Mediterranean Coast as presented by Mr Abid Abdeslam, Laboratoire National des Études et de Surveillance de la Pollution (LNESP) (**Presentation 14**).

5.10 The participants took note of the information on national approaches to address riverine litter in the Netherlands as presented by Mr Paul Vriend, Rijkswaterstaat (**Presentation 15**). The participants took note that the experience with cameras has been positive, but that technological developments are still needed. The participants took note that available validated monitoring protocols for floating, subsurface and riverbank litter, as well as monitoring datasets with high spatial and temporal resolution are available.

5.11 The participants took note of the information on riverine litter monitoring efforts in Spain as presented by Ms María Plaza, Cedex and Susana Fernández, Júcar River Basin Authority (**Presentation 16**). The participants took note that there are no initial ideas on how the foreseen request within the revised Waste Water Treatment Directive to monitor microplastics both in the influent and effluent of wastewater treatment facilities is to be fulfilled.

5.12 The participants took note of the information on successes and challenges of monitoring efforts in Scotland (UK) using citizen science as presented by Ms Heather McLaughlin, Keep Scotland Beautiful (**Presentation 17**).

Agenda Item 6 Open discussion and next steps to address riverine litter

6.1 The participants identified a number of issues that should be considered further when developing harmonised approaches to monitor litter in rivers:

- a. there is a need for consistency in riverine litter definition and units;
- b. there is a need to address the knowledge gaps around the quantities of litter, and further understanding of the mechanisms by which litter is, transported to the sea by rivers;
- c. river bank monitoring is not comparable to marine beach litter monitoring, as deposition of litter on river banks may be driven by river flow dynamics, however monitoring techniques are similar;
- d. there is a need to further highlight the impact of riverine litter to human health and biota to relevant bodies;
- e. consideration is needed on how we can better connect the policy fields of land-based litter, marine litter and riverine litter;
- f. consideration of how to deal with top-ten riverine litter items recorded in the presented case studies (such as cigarette butts);
- g. there was recognition that the guidelines prepared by UNEP/MAP (and currently being piloted in the Mediterranean and the Baltic seas) provide a solid basis for the application of coherent and consistent approaches for monitoring riverine input of marine litter;
- h. consideration of specific monitoring challenges:
 - frequency of surveys (i.e. how to allow for seasonal variations, should specific seasons be excluded (summer and winter)? Should monitoring be aligned to flood events? Could monitoring stations be coupled with existing hydrological monitoring stations (e.g. water quality testing sites)?
 - should inland water bodies be added to the monitoring network?
 - how to consistently monitor in dynamic rivers (i.e. when the river path alters frequently or when the river is only present seasonally);
 - could macro and micro litter be monitored together?
 - what additional metadata/reporting templates would be needed?
 - how can estimations of river plastic budgets for total emissions based on current data be agreed upon?
 - how to build in long term change to regular monitoring (i.e. accounting for projected changes as a result of climate change and increase of flood events)?
 - can there be an agreement on a standard mesh size (300 μm versus 100 μm)?
 - what is the role of citizen science in riverine litter monitoring?

6.2 The following conclusions and recommendations were identified:

- a. participants supported that there is high uncertainty in our understanding of the quantity and impact of litter that enters the sea via rivers, there is also limited knowledge of the impact of litter on the riverine environment itself, which calls for coordinated actions and research responses, leading to precise actions;
- b. participants welcomed the initiative of the four Regional Sea Conventions (RSCs) surrounding Europe to address riverine litter as well as the thematic presentations;
- c. participants exchanged experiences and best practices regarding riverine litter monitoring, including management, identification of sources and supported the further exchange of information on monitoring and assessment methodologies of riverine inputs of litter, towards the establishment of respective and complementary indicators;
- d. participants encouraged further pilot implementation, harmonization of existing monitoring methodologies and related parameters, to consider monitoring gaps and enhance efforts towards making a synthesis of all pilots and projects already implemented in different regions;
- e. participants discussed the modalities for further enhancing and streamlining collaboration between and with the RSCs in the framework of their respective priorities and Programmes of Work and bilateral MoUs in complement to relevant international and EU policies;
- f. participants recognised the importance of building on understanding and experiences gained through implementation of existing marine litter data collection programmes, whilst developing approaches to monitor riverine litter, and recognised the importance of developing complementary approaches in each environmental compartment; and
- g. participants recognised the need to further develop and agree upon definitions of riverine litter input to the sea.

7 Closure of the meeting

7.1 The participants appreciated the fruitful discussions and exchange of knowledge held during the meeting.

7.2 The participants thanked Spain for hosting the meeting and welcomed further cooperation.

7.3 After the expression of usual courtesies, the informal Meeting was declared closed at 17.30 on Thursday, 23 May 2024.

Annex 1 List of participants (in alphabetical order)

Name	Institution	e-mail address	Sea basin connected with
Opening Remarks			
Tatjana Hema	UNEP/MAP	tatjana.hema@un.org	The Mediterranean Sea
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Panel			
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Liliia Grychulevych	NGO Black Sea Women's Club	liliyagrighulevich@gmail.com	The Black Sea

Georg Hanke	European Commission - Joint Research Centre	georg.hanke@ec.europa.eu	
Adam Kovacs	International Commission for the Protection of the Danube River (ICPDR) Secretariat	adam.kovacs@icpdr.org	
Nataliya Kruta	Basin Department of Water Resources of Zakhidnyi Buh and Sian Rivers	krutaya82@gmail.com	The Baltic Sea
Camille Lacroix	Cedre	camille.lacroix@cedre.fr	Mediterranean Sea and North-East Atlantic
Heather McLaughlin	Keep Scotland Beautiful	heather.mclaughlin@keepsotlandbeautiful.org	The North-East Atlantic
Ivana Mitrovic	Environmental Protection Agency, Montenegro	bulatovicivi@gmail.com	The Mediterranean Sea
Sandra Moutinho	DGRM - Directorate General for Natural Resources, Safety and Maritime Services	smoutinho@dgrm.mm.gov.pt	The North-East Atlantic
Iryna Myronova	Zero Waste Lviv	iryna.myronova@zerowastelviv.org.ua	Both Baltic and Black Seas, since city of Lviv in Ukraine is situated on the ridge of both
Holly Nel	Centre for Environment, Fisheries and Aquaculture Science (Cefas)	holly.nel@cefas.gov.uk	The North-East Atlantic
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