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# PILOT ACTIONS ON MARINE LITTER MONITORING IN ADRIATIC

## PILOT ACTIONS ON MARINE LITTER MONITORING IN ADRIATIC

*Marine litter has been recognized by the international community as a growing issue and a major threat to marine environment, in particular to marine biodiversity harming animals if they get entangled or ingest it. As part of the ACCOBAMS 2017-2019 Programme of Work, the Italian Ministry of Environment provides support to ACCOBAMS in order to develop collaboration with MEDPOL on marine litter, in particular through pilot cases in Adriatic.*

### ❖ **Background**

Within the framework of the Barcelona Convention for the Protection of the Mediterranean Sea against pollution, the marine litter issue is addressed under the MEDPOL programme<sup>1</sup>. The Contracting Parties to the Barcelona Convention adopted in December 2013 the Regional Plan on Marine Litter Management in the Mediterranean aimed at establishing an operational binding framework to tackle the marine litter issue in the Mediterranean. In addition, as part of the Ecosystem Approach implementation, the Integrated Monitoring and Assessment Programme (IMAP) adopted in February 2016 includes the Ecological Objective 10 on Marine Litter. Within this framework, marine litter monitoring is in particular based on the following agreed 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).

Monitoring activities are implemented mainly through beach and at-sea surveys. Interactions between marine litter and marine animals are not well assessed, in particular because of the lack of standardized protocols.

In the recent years, UNEP/MAP/SPA-RAC has been working on the development of standardized protocols for monitoring interactions between marine litter and marine turtles (ingestion and entangling).

With regards to monitoring interactions between marine litter and cetaceans, ACCOBAMS is working towards standardizing best practices to collect data on ingested marine litter during cetaceans' necropsy. The objective is to promote harmonized methodology to be used by the different stranding networks within the ACCOBAMS Area.

This initiative is undertaken in collaboration with IWC (International Whaling Commission), ASCOBANS (CMS Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas) and ECS (European Cetacean Society). In particular, a joint ACCOBAMS/ASCOBANS/SPA-RAC workshop on marine debris and cetacean stranding was organized in April 2018 in La Spezia, Italy, during the 31st European Cetacean Society Conference (ECS).

### ❖ **Pilot actions in Adriatic**

In order to contribute to the regional efforts for monitoring and assessing marine litter in the Mediterranean and their interactions with marine biota, it was proposed to implement pilot actions in the Adriatic aimed at collecting data on marine litter during cetaceans' and sea turtles' necropsies. In addition, entanglement evidences (in ghost nets or in active nets) will be collected.

Coordinated by the ACCOBAMS Permanent Secretariat, this initiative is implemented in collaboration with the Italian Department of Comparative Biomedicine and Food Science of the University of Padova (in particular Dr. Sandro

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<sup>1</sup> The Mediterranean Pollution Assessment and Control Programme (MED POL)

Mazzariol) and relevant organizations from Adriatic countries performing or likely to perform cetaceans/sea turtles necropsies.

This initiative aims at improving the knowledge on interactions between marine litter and cetaceans/sea turtles. It also supports the efforts to monitor cetaceans/sea turtles interactions with fisheries (bycatch). It contributes to strengthen national capacities in cetaceans' necropsies and to reinforce regional cooperation and networking among the veterinarian laboratories in the Adriatic countries.

Within this framework a regional workshop was organized on 1-2 July 2019 in Chioggia (Italy) to train veterinarians on the standardized protocol for monitoring interactions between marine litter and cetaceans/sea turtles (ingestion and entanglement). It gathered 25 participants from Croatia, Italy, Montenegro and Slovenia. A full day was dedicated to presentations on the impacts of marine litter on marine megafauna and exchanges of experiences between the participants. Half day was dedicated to a practical session in a necropsy room. The agenda of the workshop, as well the list of participants, are presented in Annexes.

Pilot monitoring activities will be then implemented in 2019-2020 by the national partner organizations to collect data during cetacean/sea turtles necropsies.

A final meeting will be organized to present and discuss the results obtained by each organization.

Information and results (final report) will be shared with MED POL and SPA/RAC in order to ensure consistency in the approach with respect to marine litter monitoring.

The following national entities have been identified to be involved in this initiative:

- **Croatia:** Faculty of Veterinary Medicine - University of Zagreb, State Institute for Nature Protection (Zagreb)
- **Italy:** Istituti Zooprofilattici Sperimentali Veneto, Emilia Romagna, Marche, Abruzzo e Molise and Puglia and Centro di Referenza Nazionale per la Diagnostica sui Mammiferi Marini (Cre.Di.Ma).
- **Montenegro:** University of Montenegro - Institute of Marine Biology Kotor and private veterinarians
- **Slovenia:** Faculty of Veterinary Medicine of Lubjiana and Morigenos - Slovenian Marine Mammal Society



**WORKSHOP ON INGESTED MARINE LITTER MONITORING & ENTANGLEMENT EVIDENCES**

*Chioggia, Italy, 1-2 July 2019*

**PROVISIONAL AGENDA**

Day 1 – Monday 1 July 2019	
<b>Session 1: Opening of the workshop</b>	
14h30 – 15h00	Opening and introduction
<b>Session 2: Introduction of the workshop theme</b>	
15h00 – 15h30	Marine litter monitoring in the Mediterranean – the IMAP context (C. Ioakeimidis, MEDPOL)
15h30 – 16h00	Cetaceans of the Adriatic Sea: species abundance, distribution and main threats (S. Mazzariol, BCA)
16h00 – 16h30	Principle of anatomy, physiology and pathology of marine mammals (S. Mazzariol, BCA)
16h30 – 17h00	<i>Coffee break and group photo</i>
17h00 – 18h00	Stranding networks in ACCOBAMS and in the Adriatic with small presentation from participants on regional/national experiences (all national participants)
Day 2 – Tuesday 2 July 2019	
<b>Session 3: Interactions between marine litter and marine megafauna</b>	
9h00 – 9h45	The impact of marine litter on cetaceans: the ecotoxicological point of view. Characterization and analyses of plastic ingestion (M. Baini, University of Sienna)
9h45 – 10h30	The impact of marine litter on cetaceans: the veterinary medicine point of view. Protocols and post-mortem findings (S. Mazzariol, BCA)
10h30 – 11h00	<i>Coffee break</i>
11h00 – 11h30	The impact of marine litter on other taxa in Adriatic: sea turtles (L. Di Renzo, IZSAM)
11h30 – 12h00	Types of plastic in the Adriatic Sea (F. Ronchi, ISPRA)
12h00 – 12h30	Discussion with experiences from different stranding networks (all participants)
12h30 – 14h00	<i>Lunch</i>
14h00 – 16h00	Practical session – Legnaro (PD) – <i>Transfer will be organized by BCA</i>
15h30 – 16h00	<i>Coffee break</i>
<b>Session 4: Conclusion and closure of the workshop</b>	
16h30 – 17h00	Organization of the future work, data collection and further issues



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**UNIVERSITÀ  
DEGLI STUDI  
DI PADOVA**

**WORKSHOP ON INGESTED MARINE LITTER MONITORING & ENTANGLEMENT EVIDENCES**

*Chioggia, Italy, 1-2 July 2019*

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