Decision IG.25/9

Amendments to the Regional Plan on Marine Litter Management in the Mediterranean in the Framework of Article 15 of the Land Based Sources Protocol

The Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) and its Protocols at their 22nd Meeting,

Recalling United Nations General Assembly resolution 70/1 of 25 September 2015, entitled "Transforming our world: the 2030 Agenda for Sustainable Development",

Recalling also the United Nations Environment Assembly resolution of 15 March 2019, UNEP/EA.4/Res. 21, entitled "Towards a pollution-free planet",

Recalling further the United Nations Environment Assembly resolutions of 6 December 2017, UNEP/EA.3/Res.7 entitled "Marine litter and microplastics"; of 15 March 2019, UNEP/EA.4/Res.6, entitled "Marine plastic litter and microplastics"; and of 15 March 2029, UNEP/EA.4/Res.9 entitled "Addressing single-use plastic products pollution",

Having regard to the Barcelona Convention, in particular Article 8 thereof, whereby the Contracting Parties shall take all appropriate measures to prevent, abate, combat and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area and draw up and implement plans for the reduction and phasing out of substances that are toxic, persistent and liable to bioaccumulate arising from land-based sources,

Having also regard to the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources and Activities, hereinafter referred to as "the LBS Protocol", in particular Article 5 thereof, whereby the Contracting Parties undertake to eliminate pollution deriving from land-based sources and to this end shall elaborate and implement national and regional action plans and programmes, containing measures and timetables for their implementation, and Article 15 paragraph 3 thereof, whereby the measures and timetables contained in the regional action plans and programmes adopted under Article 15 are binding,

Recalling Decision IG.24/10 on the Main Elements of the Six Regional Plans to Reduce/Prevent Marine Pollution from Land-Based Sources; Updating the Annexes to the LBS and Dumping Protocols of the Barcelona Convention, adopted by the Contracting Parties at their 21st Meeting (COP21) (Naples, Italy, 2-5 December 2019),

Conscious of the urgent need to enhance action in synergy with other relevant regional and global initiatives, to prevent and reduce marine litter, including plastic pollution and microplastics, and the harmful effects thereof,

Committed to increased efforts to tackle the regional challenges for the prevention of marine litter in an efficient and effective way by reducing the impact of certain plastic products on the Mediterranean Sea Area through the application of circular economy principles, extended producer responsibility and sustainable consumption and production to achieve good environmental status,

Having considered the report of the MED POL Focal Points Meeting (Videoconference, 27-28 May 2021), and the Conclusions and Recommendations of the 8th Ecosystem Approach Coordination Group Meeting (Teleconference, 9 September 2021),

- 1. Adopt the amendments to the Regional Plan on Marine Litter Management in the Mediterranean in the Framework of Article 15 of the Land-based Sources Protocol, hereinafter referred to as "the Regional Plan on Marine Litter", set out in Annex I to this Decision;
 - 2. Adopt the following Annexes to this Decision:
- (a) Annex II "Work Plan with timetable for the implementation of relevant Articles of the Regional Plan on Marine Litter" to guide and facilitate the work of the Secretariat and the Contracting Parties on priority measures with regards to the implementation of the Regional Plan and mobilize external resources for this purpose, as appropriate;

- (b) Annex III "Potential Research Topics" to promote and support scientific research by the Contracting Parties and scientific community to fill the knowledge gaps on marine litter sources and impacts as well as to support implementation of relevant measures;
- (c) Annex IV "2021 Baseline Values and Threshold Values for IMAP Common Indicator 22" to facilitate the assessment of Good Environmental Status in the Mediterranean, under the IMAP Ecological Objective 10 on Marine Litter;
- 3. *Call upon* the Contracting Parties to effectively implement the Regional Plan on Marine Litter and its measures and to report to the Secretariat, accordingly, as provided for in its Article 19;
- 4. Request the Secretariat (MED POL and SCP/RAC) to provide, upon request and subject to availability of funds, the necessary assistance to the Contracting Parties for the implementation of the measures provided for in the Regional Plan on Marine Litter, specifically through the provision of support for the implementation of technical guidelines developed in the framework of the Mediterranean Action Plan (MAP)-Barcelona Convention system, including the new Guidelines to tackle Single Use Plastic Products in the Mediterranean (UNEP MED WG.515/Inf.23);
- 5. Request the Secretariat (MED POL and SCP/RAC) to promote the work undertaken by the Mediterranean Action Plan (MAP) Barcelona Convention system on sharing best practices on marine litter management and combating plastic pollution in other international fora, such as the UNEP Global Programme of Action, the UNEP Regional Seas Conventions and Action Plans, the Food and Agriculture Organization of the United Nations (FAO), and relevant Multilateral Environmental Agreements (MEAs) and partnerships, such as the Basel Convention Plastic Waste Partnership; and to actively contribute to the work developed in that fora by *inter alia* sharing and promoting Contracting Parties efforts in combating marine litter, including plastic pollution;
- 6. *Urge* the Contracting Parties, intergovernmental organizations, donor agencies, industry, non-governmental organizations and academic institutions to support the implementation of the different measures of the Regional Plan on Marine Litter providing sufficient financial, technical and scientific contribution;
- 7. Further encourage the work of Marine Litter Platform, established in the Mediterranean region by a number of stakeholders, to facilitate the implementation of the Regional Plan on Marine Litter and further coordinate efforts for a plastic-free and litter-free Mediterranean, and to this aim, request the Secretariat to continue its efforts to strengthening and further expanding this coordinating Platform, by including inter alia the industry, in order to maximize synergies, complementarities, and impacts on the ground with the view to facilitating the achievements of the ambitious objectives of the Regional Plan on Marine Litter in close collaboration with the Contracting Parties.

ANNEX I

Regional Plan on Marine Litter Management in the Mediterranean

Regional Plan on Marine Litter Management in the Mediterranean

Part I – General provisions

ARTICLE 1

Rationale for the Regional Plan

- 1. Marine litter may have significant implications for the marine and coastal environment at a global level. These impacts are environmental, economic, health and safety and cultural, rooted in our prevailing production and consumption patterns. The problem originates mostly from land-based activities and sea-based activities, as well as lack of governmental financial resources, general lack of understanding of the public's co-responsibility, and the optimisation of the application of legal enforcement systems could limit pollution.
- 2. The rationale for the preparation of this Regional Plan is to improve the quality of the marine and coastal environment in accordance with the provisions of the LBS Protocol and to achieve the goals set by the decisions of the 17th meeting of the Contracting Parties in 2012, Decision IG.20/4: "Implementing MAP ecosystem approach roadmap: Mediterranean Ecological and Operational Objectives, Indicators and Timetable for implementing the ecosystem approach roadmap" and Decision IG 20/10: "Adoption of the Strategic Framework for Marine Litter management," at the considerable lower cost than with the no action scenario.

ARTICLE 2

Area and Scope of Application

3. The area to which this Regional Plan applies is the area defined in Article 3 of the LBS Protocol paragraphs (a), (c) and (d). The Regional Plan shall apply to discharges referred to in Article 4(a)² of the LBS Protocol and any operational discharge from ships, platforms and other manmade structures at sea.

The area to which this Protocol applies (hereinafter referred to as the "Protocol Area") shall be:

This Protocol shall apply: (a) To discharges originating from land-based point and diffuse sources and activities within the territories of the Contracting Parties that may affect directly or indirectly the Mediterranean Sea Area. These discharges shall include those which reach the Mediterranean Area, as defined in article 3(a), (c) and (d) of this Protocol, through coastal disposals, rivers, outfalls, canals, or other watercourses, including ground water flow, or through run-off and disposal under the seabed with access from land.

¹ Article 3 of the LBS Protocol: Protocol Area:

⁽a) The Mediterranean Sea Area as defined in article 1 of the Convention.

⁽c) Waters on the landward side of the baselines from which the breadth of the territorial sea is measured and extending, in the case of watercourses, up to the freshwater limit.

⁽d) Brackish waters, coastal saltwater including marshes and coastal lagoons, and ground waters communicating with the Mediterranean Sea.

² Article 4 of the LBS Protocol Application:

ARTICLE 3 Definition of Terms

4. For the purpose of this Regional Plan:

- a) Abandoned, lost or otherwise discarded fishing gear or parts thereof (ALDFG) or Derelict fishing gear (DFG) are the collective terms for commercial and recreational fishing gear or aquaculture-related items that have been abandoned, lost or otherwise discarded into the marine environment;
- b) *Barcelona Convention* means the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, 1995 hereinafter referred to as the Barcelona Convention;
- c) Best Available Techniques (BAT) as defined in Annex IV for the Land-Based Source and Activities (LBS) Protocol;
- d) Best Environmental Practice (BEP) as defined in Annex IV for the Land-Based Source and Activities (LBS) Protocol;
- e) Circular economy, an approach contributing to Sustainable Consumption and Production patterns, refers to a system where products, materials and resources maintain their value and use in the economy, for as long as possible, thus minimizing waste by sharing, leasing, reusing, repairing, refurbishing, remanufacturing and recycling, instead of throw-away or take-make-dispose models;
- f) Extended Producer Responsibility means a set of measures taken by Contracting Parties to ensure that producers of products bear financial responsibility or financial and organisational responsibility for the management of the waste stage of a product's life cycle;
- g) Fishing gear means any item or piece of equipment that is used in fishing or aquaculture to target, capture or rear marine biological resources or that is floating on the sea surface, and is deployed with the objective of attracting and capturing or of rearing such marine biological resources;
- h) *Garbage* includes all kinds of food, domestic and operational waste, all plastics, cargo residues, incinerator ashes, cooking oil, fishing gear, and animal carcasses generated during the normal operation of the ship and liable to be disposed of continuously or periodically. Garbage does not include fresh fish and parts thereof generated as a result of fishing activities undertaken during the voyage, or as a result of aquaculture activities;
- i) LBS National Action Plan means the national action plans containing measures and timetables for their implementation developed by the Contracting Parties in accordance with Article 5 of the LBS Protocol as endorsed by the 14th and 19th meetings of the Contracting Parties with the view to implement the Strategic Action Programme (SAP-MED) to combat land-based sources in the Mediterranean adopted by the Contracting Parties in 1997 and UNEP/MAP's ecosystem approach-based ecological objectives on pollution and litter;
- j) LBS Protocol means the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities, 1996, hereinafter referred to as the LBS Protocol;
- k) Leakage means unintentional disposal of wastes into the marine environment;
- 1) Lightweight plastic carrier bag means a plastic carrier bag with a wall thickness below 50 microns;
- m) *Marine litter*, regardless of the size, means any persistent, manufactured or processed solid material, discarded, disposed of, or abandoned in the marine and coastal environment;
- n) Marine Litter monitoring the long term, standardized measurement, observation and assessment of litter on beaches, in the water column including the sea surface and the seabed and in biota in order to determine litter types, quantities, sources and pathways and assess

- the effectiveness of measures and whether GES has been achieved by comparing with established baseline and threshold values;
- o) *Microlitter* means the fraction of marine litter of less than 5 mm in size with a further division into *Large Micro Particles* (1-5 mm) and *Small Micro Particles* (<1 mm);
- *p) Microplastics*, most commonly defined as manmade solid particles composed of mixtures of polymers and functional additives, smaller than 5 mm;
- q) *Plastic* means a material consisting of a polymer, to which additives or other substances may have been added, and which can function as a main structural component of final products, with the exception of natural polymers that have not been chemically modified;
- r) *Primary microplastics* are tiny particles designed for direct commercial use (such as cosmetics, detergents and paints components), or for indirect use (such as pre-production pellets);
- s) Secondary microplastics means the fraction of microplastics in the marine environment which results from the breakdown of larger plastic items into numerous tiny fragments due to mechanical forces and/or photochemical processes, as well as from other degradation sources such as water bottles, fibres in wastewater from washing clothes and particles of rubber lost from tyres due to normal wear;
- t) Single Use Plastics (SUPs): means an item or product that is made wholly or partly from plastic and that is not conceived; designed or placed on the market to accomplish, within its life span, multiple trips or rotations by being returned to a producer for refill or re-used for the same purpose for which it was conceived;
- u) Waste means substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law.

ARTICLE 4 Objectives and Principles

Objectives

- 5. The main objectives of the Regional Plan are to:
 - a) Prevent and reduce to the minimum marine litter pollution in the Mediterranean and its impact on ecosystem services, habitats, species (in particular the endangered species), public health and safety, as well as reduction of the socioeconomic costs it causes;
 - b) Remove to the extent possible already existent marine litter by using environmentally sound methods;
 - c) Ensure that the management of marine litter in the Mediterranean is performed in accordance with accepted international standards and approaches as well as those of relevant regional organizations and as appropriate in harmony with programmes and measures applied in other seas;
 - d) Enhance knowledge and understanding on marine litter and its impacts;
 - e) Support Contracting Parties in the development, implementation, and coordination of programmes for litter reduction, including National Action Plans (NAPs).

Principles

- 6. In implementing the Regional Plan, the Contracting Parties shall be guided by:
 - a) *Integration* by virtue of which marine litter management shall be an integral part of the solid waste management and other relevant strategies;
 - b) *Prevention* by virtue of which any marine litter management measure should aim at addressing the prevention of marine litter generation at the source;
 - c) *Precautionary principle* by virtue of which where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation;
 - d) *Polluter-pays principle* by virtue of which the costs of pollution prevention, control and reduction measures are to be borne by the polluter, with due regard to the public interest;
 - e) *Ecosystem-based approach* by virtue of which the cumulative effects of marine litter on marine and coastal ecosystem, habitats and species with other contaminants and substances that are present in the marine environment should be fully taken into account;
 - f) Public participation and stakeholder involvement;
 - g) Sustainable Consumption and Production by virtue of which current unsustainable patterns of consumption and production must be transformed to sustainable ones that decouple human development from environmental degradation, in particular through the use of systemic approaches addressing environmental impacts along the entire value chain, including circular economy.

ARTICLE 5

Preservation of Rights

7. The provisions of this Regional Plan shall be without prejudice to stricter provisions respecting marine litter management measures contained in other existing national, regional or international instruments or programmes.

Part II – Measures and Operational Targets

ARTICLE 6

Coherence and Integration of Measures

8. The Contracting Parties shall make best effort that the measures provided for in Articles 7 to 10 are implemented, as specified in the respective articles, in a coherent manner to achieve good environmental status and relevant targets on marine litter. Various actors shall be involved in the development and implementation of agreed measures as provided for in Article 17.

ARTICLE 7

Integration of marine litter measures into the LBS National Action Plans (LBS NAPs)

9. The Contracting Parties in accordance with Article 5 of the LBS Protocol shall elaborate and implement, individually or jointly, as appropriate, national and regional action plans and programmes, containing measures and timetables for their implementation. In doing so, the Contracting Parties shall consider updating periodically the LBS NAPs to integrate marine litter

in accordance with the provisions of this Regional Plan and other means to perform their obligations.

- 10. The LBS National Action Plan shall include:
 - a) Development and implementation of appropriate policy, legal instruments and institutional arrangements, including adequate management plans for solid waste also including those originating from sewer and storm water systems, marine litter from land based sources in line with the scope of application of the LBS Protocol which shall incorporate marine litter prevention and reduction measures;
 - Monitoring and assessment programmes for marine litter including from marine litter in line with the scope of application of the LBS Protocol contributing to litter transport to the marine environment;
 - c) Measures and targets to prevent and reduce marine litter;
 - d) Measures and targets to increase plastic waste collection and recycling;
 - e) Programmes of removal and environmentally sound disposal of existing marine litter according to the national legislation about management of this kind of waste; and
 - f) Awareness raising and education programmes.

ARTICLE 8

Legal and Institutional Aspects

- 11. For the purpose of implementing the Regional Plan, the Contracting Parties shall adopt, as appropriate, the necessary legislation and/or establish adequate institutional arrangements to ensure efficient marine litter including plastic waste and microplastics reduction and the prevention of its generation. To this aim the Contracting Parties shall endeavor to ensure:
 - a) Institutional coordination, where necessary, among the relevant national policy bodies and relevant regional organizations and programmes, in order to promote integration;
 - b) Close coordination and collaboration between national, regional and local authorities in the field of marine litter management;
- 12. By the year 2028, at the latest, the Contracting Parties shall take adequate regulatory measures to integrate the informal sector³ into regulated waste collection and recycling schemes;
- 13. By the year 2025, the Contracting Parties shall establish, as appropriate, a regulatory framework for compostable plastics to be integrated into national waste management policies;
- 14. The Contracting Parties shall give due consideration to the implementation of the relevant related provisions of the Protocols⁴ of the Barcelona Convention affecting marine litter management to enhance efficiency, synergies and maximize the results.

³ Informal recycling sector (IRS) refers to individuals or community enterprises who are involved in the recovery of material and waste management activities which are not necessarily sponsored, financed, recognized, supported, organized, or acknowledged by the formal solid waste authorities.

⁴ Specifically in the framework of the Protocol Concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea, 2002 (Port reception facilities); Protocol for the Prevention and Elimination of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft or Incineration at Sea, 1995 (waste dumping prohibition); Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, 1995 (Regional Plans to protect endangered species; establishment of SPA and SPAMIs); Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil, 1994 (prohibition of the disposal of garbage from offshore installations); and the Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movement of Hazardous Wastes and their Disposal, 1996.

ARTICLE 9

Prevention of Marine Litter

- 15. In conformity with the objectives and principles of the Regional Plan the Contracting Parties shall:
- 15.1 Apply to the extent possible instruments needed to regulate and prevent marine litter pollution including plastic waste from land-based and sea-based sources, in particular the implementation of economic instruments, bans and design requirements:
 - a) Extended Producer Responsibility;
 - b) Safe/formal markets for recycled plastics that incentivize the collection of plastic waste and, hence, reduce marine litter generation;
 - c) Fiscal and economic incentives or other equally effective measures (e.g. market restrictions) to promote the phasing out,-of light weight plastic carrier bags and other single-use plastic items which are most found and cause the most impact on the marine and coastal environment;
 - d) Innovative business practices to prevent plastic waste generation in line with the Extended Producer Responsibility approach by:
 - i. Establishment of Deposit/Refund System for expandable polystyrene boxes in the commercial and recreational fishing and aquaculture sectors.
 - ii. Establishment of Deposit/Refund System for food and beverage packaging, prioritizing when possible their reuse and recycling including deposit refund systems for bottles, containers and cans (e.g. glass, plastic and aluminium).
 - e) Best practices to create incentives for:
 - i. Fishing vessels to retrieve derelict fishing gear, collect other items of marine litter, and deliver it to port reception facilities;
 - ii. Delivering waste in port reception facilities such as the non-special fee system.
- 15.2 Apply by the year 2025, prevention measures aiming to achieve, to the extent possible, a circular economy for plastics:
 - a) Regulate the use of primary microplastics, as appropriate, by promoting voluntary commitments (e.g. certification schemes) or other actions (e.g. legal instruments);
 - b) Implement Sustainable Procurement Policies prioritizing the phase out of single-use plastic products and promoting reuse options. To this aim, the Contracting Parties may consider the list of Single Use Plastic Items presented in Appendix I to the Regional Plan;
 - c) Establish voluntary agreements with retailers and supermarkets to set an objective of reduction of light weight plastic carrier bags consumption as well as selling dry food or cleaning products in bulk and refill special and reusable containers;
 - d) Establish procedures and manufacturing methodologies together with the plastic industry in order to minimize the decomposition characteristics of plastic and reduce microplastic;
 - e) Identify single-use plastic products which are most found and cause impacts on the marine environment and implement sound measures to phase out consumption and production and minimise the risk to end up in the marine environment. To this aim, the Contracting Parties may consider in addition to the list of Single Use Plastic Items presented in Appendix I, the List of Chemical Additives of Concern Used in Plastic Production in Appendix II to the Regional Plan;
 - f) Set targets to phase out production and use of nonreusable, non-recyclable, and non-compostable plastic products;

- g) Take adequate measures to increase the reuse and recycling of plastics toward total plastic products;
- h) Phase-out chemical additives used in plastic products, that may have serious and often irreversible effects on human health and the environment, and in particular those chemicals already listed under the Stockholm Convention contained as Annex II of this Regional Plan;
- i) Promote the use of recycled plastics and disincentivize the use of plastic, resins and additives which hinder products recyclability;
- j) Endeavor to substitute plastics causing substantial impacts on the marine environment with materials with net positive impacts verified by life cycle assessment;
- k) Implement standards for product labelling (including on packaging) to provide consumers with clear and reliable information on sustainable choices;
- Establish dedicated collection and recycling schemes supported by Extended Producer Responsibility approach for end-of-life products;
- m) Implement measures to minimize the amount of marine litter associated with fishing/aquaculture;
- n) Scale-up and replicate sustainable models providing solutions to reduce single-use plastic products consumption;

15.3 Land-based Sources

- a) By the year 2025, base urban solid waste management on reduction at source, applying the following waste hierarchy as a priority order in waste prevention and management legislation and policy: prevention, preparing for re-use, recycling, other recovery, e.g. energy recovery and environmentally sound disposal;
- b) By the year 2019, implement adequate waste reducing/reusing/recycling measures in order to reduce the fraction of plastic packaging waste that goes to landfill or incineration without energy recovery;
- c) Take the necessary measures by the year 2020 to close to the extent possible the existing illegal dump sites on land in the area of the application of this Regional Plan;
- d) Take the necessary measures by 2027 to identify and, to the extent possible, restore and contain, the coastal landfills that are a source of marine litter;
- e) Apply in accordance with national and regional legislation enforcement measures to combat dumping, littering on the beach, illegal sewage disposal from land sources in the sea, the coastal zone, marine litter in line with the scope of application of the LBS Protocol in the area of the application of this Regional Plan;
- f) Taking into consideration the occurrence and extent of marine litter accumulations, identify and assess by the year 2025, impacts of these accumulations in upstream regions of rivers and their tributaries, and apply measures to prevent or reduce their leakage into the Mediterranean, particularly during flood seasons and other extreme weather events;
- g) Apply enforcement measures to prevent, reduce and sanction illegal dumping and illegal littering in accordance with national and regional legislation, in particular on coastal zones and rivers in the area of the application of the Regional Plan;

15.4 Sea-based Sources

- h) In accordance with Article 14 of the Prevention and Emergency Protocol, explore and implement by 2017, to the extent possible, ways and means to charge reasonable cost for the use of port reception facilities or when applicable, apply No-Special-Fee system. The Contracting Parties shall also take the necessary steps to provide ships using their ports with updated information relevant to the obligations arising from Annex V of MARPOL Convention and from their legislation applicable in the field;
- Implement targeted measures by 2025 aiming at preventing and reducing marine litter impact in Marine Protected Areas (MPAs) and Specially Protected Areas of Mediterranean Importance (SPAMIs);
- j) Explore and implement to the extent possible by the year 2017 "Gear marking to indicate ownership" concept and "reduced fishing catches through the use of environmental neutral upon degradation of nets, pots and traps concept," in consultation with the competent international and regional organizations in the fishing sector;
- k) Apply by the year 2020 the cost-effective measures to prevent any marine littering from dredging activities taking into account the relevant guidelines adopted in the framework of Dumping Protocol of the Barcelona Convention;
- 1) Take the necessary measures to ensure that cruise ships flying their flag or entering their ports implement the procedures for minimizing, collecting, storing, processing and disposing of garbage;
- m) Take the necessary measures to promote best practices to prevent plastic waste and particularly single use plastic products in tourism and leisure activities including cruise shipping, including through regional cooperation;
- n) Implement measures on prevention, response and remediation regarding litter from maritime accidents, including containers lost at sea.

ARTICLE 10

Removing Existing Marine Litter and its Environmentally Sound Disposal

- The Contracting Parties shall, where it is environmentally sound and cost effective, remove existing accumulated litter, subject to Environmental Impact Assessment procedure, in particular from Marine Protected Areas (MPAs) and Specially Protected Areas of Mediterranean Importance (SPAMI) and litter impacting endangered species listed in Annexes II and III of the SPA and Biodiversity Protocol. To this aim the Contracting Parties undertake to explore and implement to the extent possible the following measures by the year 2019. To this aim the Contracting Parties undertake to explore and implement to the extent possible the following measures by the year 2019:
 - a) Identify, in collaboration with relevant stakeholders, accumulations/hotspots of marine litter at sea and implement, as appropriate, national programmes on their regular removal and sound disposal;
 - b) Implement National Marine Litter Cleanup Campaigns on a regular basis and evaluate their effectiveness;
 - c) Implement Cleanup Campaigns on a regular basis driven by beach; concessionaries/managers/ local authorities, including outside the touristic season;
 - d) Participate in International Coastal Cleanup Campaigns and Programmes;⁵

⁵ e.g. International Coastal Clean-Up Day; the Ocean Day; etc.

- e) Apply as appropriate 'Adopt-a-Beach' or similar practices⁶ and enhance public participation role with regard to marine litter management;
- f) Apply Fishing for Litter in an environmentally sound manner, based on agreed guidelines and best practice, in consultation with the competent international and regional organizations and in partnership with fishermen and ensure adequate collection, sorting, recycling and/or environmentally sound disposal of the fished litter;
- g) Charge reasonable costs for the use of port reception facilities or, when applicable apply No-Special-Fee system, in consultation with competent international and regional organizations, when using port reception facilities for implementing the measures provided for in Article 10.
- 17 The Contracting Parties shall explore and implement to the extent possible by the year 2017 the "Fishing for Litter" environmentally sound practices to facilitate clean-up of the floating litter and the seabed from marine litter caught incidentally and/or generated by fishing vessels in their regular activities including derelict fishing gear.
- The Contracting Parties shall explore and implement to the extent possible by the year 2025, targeted activities for the localization and retrieval, and where possible, reuse or recycling of derelict fishing gear including through new environmentally sustainable technologies.

Part III - Assessment

ARTICLE 11

Assessment of Marine Litter in the Mediterranean

- The Contracting Parties shall assess in the framework of ecosystem approach the state of marine litter, the impact of marine litter on the marine and coastal environment and human health, as well as the socio-economic aspects of marine litter management based on coordinated and, if possible, common agreed methodologies, national monitoring programmes and surveys.
- 20 The Secretariat shall prepare the assessment of marine litter in the Mediterranean every six years using results of the national monitoring programmes and applied measures with the view to address priority issues and major information and data gaps, using all other available relevant regional and international data and where appropriate responses by the Contracting Parties to specific marine litter related questionnaires prepared by the Secretariat.
- 21 The first Assessment of the state of marine litter in the Mediterranean based on the existing information shall be submitted to the meeting of the Contracting Parties two years after entry into force of the Regional Plan.

ARTICLE 12

Mediterranean Marine Litter Monitoring Programme

- Based on ecosystem approach ecological objectives and integrated monitoring programme, and in synergy with the relevant international and regional guidelines and documents, the Contracting Parties, on the basis of the proposals of the Secretariat, shall:
 - a) Prepare the Regional Marine Litter Monitoring Programme, as part of the Integrated Monitoring and Assessment Programme (IMAP);

⁶ e.g. Marine Litter Watch of the European Environment Agency

- b) Establish in the year 2016 the Regional Data Base on Marine Litter which should be compatible with other regional or overarching databases;
- c) Establish by the year 2014 Expert Group on Regional Marine Litter Monitoring Programme, in the framework of the implementation of the Ecosystem Approach.
- 23 For the purpose of this Regional Plan and in compliance with the monitoring obligations under Article 12 of the Barcelona Convention and Article 8 of the LBS Protocol, the Contracting Parties shall design by the year 2017 National Monitoring Programme on Marine Litter.
- 24 The National Monitoring Programmes should address:
 - a) The need for harmonization and consistency with the integrated regional monitoring programme based on ecosystem approach and consistency with other regional seas;
 - b) Aspects related to monitoring litter originating from riverine inputs;
 - c) The need for litter monitoring in high sensitivity areas (endangered species, key habitats, etc.), and in Specially Protected Areas in the Mediterranean (SPAMIs).
- To this aim, the Secretariat shall prepare, in collaboration with the relevant regional organizations, by the year 2014 the Guidelines for the preparation of the National Marine Litter Monitoring Programmes.

Part IV – Support to Implementation

ARTICLE 13

Research Topics and Scientific Cooperation

26 The Contracting Parties agree to cooperate, with support from the Secretariat, with competent international and regional organizations and relevant scientific institutions, on marine litter issues that due to their complexity require further research.

ARTICLE 14 Specific Guidelines

27 The Secretariat in cooperation with relevant international and regional organizations, shall prepare specific guidelines, taking into account where appropriate existing guidelines, to support and facilitate the implementation of measures provided for in articles 9 and 10 of the Regional Plan. Subject to availability of external funds such guidelines shall be published in different Mediterranean region languages.

ARTICLE 15 Technical Assistance

For the purpose of facilitating the implementation of the measures and monitoring obligations as provided for in Articles 7 to 10 and 12 of the Regional Plan, technical assistance, transfer of knowhow and technology shall be provided, including capacity building, by the Secretariat to the Contracting Parties in need of assistance.

ARTICLE 16

Enhancement of Public Awareness and Education

- 29 Due to the nature of the marine litter management issue, enhancement of public awareness and education, and co-responsibility of all stakeholders are very important components of the marine litter management.
- To this aim the Contracting Parties shall undertake to the extent possible, where appropriate, in synergy with existing initiatives in the field of education for sustainable development and environment, and in partnership with civil society, public awareness and education activities, with adequate duration and follow up, with regard to marine litter management including activities related to prevention and promotion of sustainable consumption and production.

ARTICLE 17

Major groups and Stakeholder Participation

- For the effective implementation of the Regional Plan, the Contracting Parties shall encourage appropriate involvement of, and partnerships with, various stakeholders including local authorities, civil society, private sector (producers, garbage collection and treatment companies, etc.) and other stakeholders as appropriate:
 - a) Regional, National and local authorities;
 - b) Maritime sector;
 - c) Tourism sector;
 - d) Fisheries and Aquaculture;
 - e) Agriculture;
 - f) Industry; and
 - g) Civil society.

ARTICLE 18

Regional and International Cooperation

- 32 For the purpose of facilitating the implementation of the Regional Plan the Secretariat shall establish institutional cooperation with various relevant regional and global institutions and initiatives.
- 33 The Contracting Parties shall cooperate directly or with the assistance of the Secretariat or the competent international and regional organizations to address transboundary marine litter cases.

ARTICLE 19

Reporting

- In conformity with Article 26 of the Barcelona Convention and Article 13, paragraph 2(d), of the LBS Protocol the Contracting Parties shall report on a biennial basis on the implementation of this Regional Plan, in particular the implementation of the above measures, their effectiveness and difficulties encountered and data resulting from monitoring programme as provided for in Article 12 of this Regional Plan.
- The Contracting Parties shall review biennially the status of implementation of the Regional Plan upon its entry into force, on the basis of the regional report prepared by the Secretariat.

Part V – Final Provisions

ARTICLE 20

Implementation Timetable

The Contracting Parties shall implement this Regional Plan, in particular the above measures according to the timetables indicated in the respective Articles of the Regional Plan.

ARTICLE 21

Entry into Force

37 The present Regional Plan shall enter into force and become binding on the 180th day following the day of notification by the Secretariat in accordance with Article 15, paragraphs 3 and 4, of the LBS Protocol.

ARTICLE 22

Enforcement of Measures

38 The Contracting Parties shall take the necessary actions to enforce the measures in accordance with their national regulations.

Appendix I List of Single Use Plastic (SUP) Items

Mediterranean priority list of SUPs per group of items*

| Group of items | Items |
|-------------------------------|---|
| Packaging | Bags |
| Smoking-related | Cigarette filters |
| Food and beverage | Drink bottles, caps and lids |
| packaging | Crisp packets and sweet wrappers |
| On-the-go food and | Cutlery, plates and trays |
| beverage | Straws and stirrers |
| packaging | Drinks cups and cup lids |
| | Food containers including fast food packaging |
| WC flushed items | Sanitary applications, including cotton buds, wet wipes and sanitary towels |
| Personal protective equipment | Masks and gloves |

^{*} Source of information: Regional Guidelines to tackle single use plastic products in the Mediterranean (UNEP/MAP SCP/RAC 2021)

Appendix II List of Chemical Additives of Concern Used in Plastic Production

List of persistent organic pollutants (POPs) used as additives in plastics and listed in Annex A (elimination) and Annex B (restriction) to the Stockholm Convention as of 2021:⁷

Annex A:

- Decabromodiphenyl ether (commercial mixture, c-decaBDE).
- Hexabromobiphenyl.
- Hexabromocyclododecane (HBCDD).
- Hexabromodiphenyl ether and heptabromodiphenyl ether (commercial octabromodiphenyl ether).
- Tetrabromodiphenyl ether and pentabromodiphenyl ether (commercial pentabromodiphenyl ether).
- Short-chained chlorinated paraffins (SCCPs).
- Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds.
- Polychlorinated biphenyls (PCB).
- Polychlorinated naphthalenes.

Annex B:

• Perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF)

List of additives used in plastics and identified as substance of concern in the information document of the 2019 Meetings of the conferences of the Parties to the Basel, Rotterdam and Stockholm conventions (UNEP/POPS/COP.9/INF/28/Add.1 - Plastic and toxic additives, and the circular economy: the role of the Basel and Stockholm Conventions) and main sectors concerned:

1. Substances of concern:

- Flame-retardants: polybrominated diphenyl ethers (PBDEs) including commercial pentabromodiphenyl ether (tetraBDE and pentaBDE), commercial octabromodiphenyl ether (hexaBDE and heptaBDE), decabromodiphenyl ether (decaBDE); decabromodiphenylethane (DBDPE); tetrabromobisphenol A (TBBPA); phosphorous flame retardants (e.g. tris(2-chloroethyl)phosphate (TCEP) and tris(2-chlorisopropyl) phosphate (TCPP); short-, mediumand long- chain chlorinated paraffins (SCCPs, MCCPs, LCCPs); boric acid; hexabromocyclododecane (HBCDD); Dechloranes in all its forms (e.g. Dechlorane 602, Dechlorane 603, Dechlorane 604 and Dechlorane Plus); hexabromobiphenyl (HBB); 1,2-bis (2,4,6-tribromophenoxy) ethane (BTBPE); hexabromobenzene (HBBz).
- Perfluorinated chemicals: perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF), perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS-related compounds, perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds.
- **Phthalates:** phthalic acid esters (phthalates); di(2-ethylexyl) phthalate (DEHP); diisononyl phthalate (DiNP); diisodecyl phthalate (DiDP); di(2-Propyl Heptyl) phthalate (DPHP).
- **Bisphenols**: bisphenol A; 4-tertiary-octylphenol; bisphenol B; bisphenol F; and bisphenol S.
- **Nonylphenols**: nonylphenols (NP); nonylphenol ethoxylates (NPE).

⁷ As of 2021 - New additives are under revision by the POPs Review Committee, for inclusion under the Stockholm Convention: Dechlorane Plus (flame retardant) and UV-328 (antioxidant). Likewise, the POPs Review Committee recommended to list PFHxS, it's salts and PFHxS-related compounds under Annex A to the Stockholm Convention (Elimination).

- 2. Polymers and their additives are extensively used in the following categories of consumer products:
 - Children's products.
 - Packaging: food and beverage contact materials.
 - Electrical and electronic equipment (EEE) and related waste (WEEE/E-waste).
 - Textile, upholstery and furniture.
 - Construction sector.

Annex II

Workplan with timetable for the implementation of relevant Articles of the Regional Plan for Marine Litter Management

| Related | Key pollution prevention measures for implementation | | | | | Targ | get ye | ar fo | r imp | leme | ntatio | on of | meas | sures | | | | | | | |
|------------------------|---|--|------|------|------|------|--------|-------|-------|------|--------|-------|------|-------|------|------|------|------|--|--|--|
| Article (Paragraph) | in the Updated Regional Plan for Marine Litter Management in the Mediterranean | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | | | |
| Art. 8 (12) | Take adequate regulatory measures to integrate the informal sector into regulated waste collection and recycling schemes | | | | | | | | | | | | | | | | | | | | |
| Art. 8 (13) | Establish, as appropriate, a regulatory framework for compostable plastics to be integrated into national waste management policies | | | | | | | | | | | | | | | | | | | | |
| Art. 9 (15.2) | Apply prevention measures aiming to achieve, to the extent possible, a circular economy for plastics (Regulate the use of primary microplastics, Implement Sustainable Procurement Policies, Establish voluntary agreements, Establish procedures and manufacturing methodologies, Identify single-use plastic products, Set targets to phase out production and use, increase the reuse and recycling, Phase-out chemical additives used in plastic products, Promote the use of recycled plastics, substitute plastics, Implement standards for product labelling, Establish dedicated collection and recycling schemes, minimize the amount of marine litter associated with fishing/aquaculture, Scale-up and replicate sustainable models) | | | | | | | | | | | | | | | | | | | | |
| Art. 9 (15.3.a) | Base urban solid waste management on reduction at source, applying the following waste hierarchy as a priority order in waste prevention and management legislation and policy: prevention, preparing for re-use, recycling, other recovery, e.g. energy recovery and environmentally sound disposal | | | | | | | | | | | | | | | | | | | | |
| | | Target year for implementation of measures | | | | | | | | | | | | | | | | | | | |

| Related Article (Paragraph) | Key pollution prevention measures for implementation in the Updated Regional Plan for Marine Litter Management in the Mediterranean | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-----------------------------------|--|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Art. 9 (15.3.b) | Implement adequate waste reducing/reusing/recycling measures in order to reduce the fraction of plastic packaging waste that goes to landfill or incineration without energy recovery | | | | | | | | | | | | | | | | | |
| Art. 9 (15.3.c) | Take the necessary measures to close to the extent possible the existing illegal dump sites on land in the area of the application of this Regional Plan | | | | | | | | | | | | | | | | | |
| Art. 9 (15.3.d) | Identify and, to the extent possible, restore and contain, the coastal landfills that are a source of marine litter | | | | | | | | | | | | | | | | | |
| Art. 9 (15.3.f) | Identify and assess impacts of marine litter accumulations in upstream regions of rivers and their tributaries, and apply measures to prevent or reduce their leakage into the Mediterranean | | | | | | | | | | | | | | | | | |
| Art. 9 (15.4.h) | Explore and implement, to the extent possible, ways and means to charge reasonable cost for the use of port reception facilities or when applicable, apply No-Special-Fee system | | | | | | | | | | | | | | | | | |
| Art. 9 (15.4.i) | Implement targeted measures aiming at preventing and reducing marine litter impact in Marine Protected Areas (MPAs) and Specially Protected Areas of Mediterranean Importance (SPAMIs) | | | | | | | | | | | | | | | | | |
| Art. 9 (15.4.j) | Explore and implement to the extent possible "Gear marking to indicate ownership" concept and "reduced fishing catches through the use of environmental neutral upon degradation of nets, pots and traps concept | | | | | | | | | | | | | | | | | |
| | | Target year for implementation of measures | | | | | | | | | | | | | | | | |

| Related Article (Paragraph) | Key pollution prevention measures for implementation in the Updated Regional Plan for Marine Litter Management in the Mediterranean | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-----------------------------------|--|--|------|------|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|
| Art. 9 (15.4.k) | Apply cost-effective measures to prevent any marine littering from dredging activities | | | | | | | | | | | | | | | | | |
| Art. 10 (16.a) | Explore and implement to the extent possible the identification in collaboration with relevant stakeholders' accumulations / hotspots of marine litter and implementation of national programmes on their regular removal and sound disposal | | | | | | | | | | | | | | | | | |
| Art. 10 (16.b) | Implement National Marine Litter Cleanup Campaigns on a regular basis and evaluate their effectiveness | | | | | | | | | | | | | | | | | |
| Art. 10 (16.c) | Implement Marine Litter Cleanup Campaigns on a regular basis driven by beach; concessionaries/ managers/ local authorities, including outside the touristic season | | | | | | | | | | | | | | | | | |
| Art. 10 (16.d) | Participate in International Coastal Cleanup Campaigns and Programmes | | | | | | | | | | | | | | | | | |
| Art. 10 (16.e) | Apply as appropriate 'Adopt-a-Beach' or similar practices and enhance public participation role with regard to marine litter management | | | | | | | | | | | | | | | | | |
| Art. 10 (16.f) | Apply Fishing for Litter in an environmentally sound manner, based on agreed guidelines and best practice, in consultation with the competent international and regional organizations and in partnership with fishermen and ensure adequate collection, sorting, recycling and/or environmentally sound disposal of the fished litter | | | | | | | | | | | | | | | | | |
| Art. 10 (16.g) | Charge reasonable costs for the use of port reception facilities or, when applicable apply No-Special-Fee system, in consultation with competent international and regional organizations, when using port reception facilities for implementing the measures | | | | | | | | | | | | | | | | | |
| | | Target year for implementation of measures | | | | | | | | | | on of | meas | ures | | | | |

| Related Article (Paragraph) | Key pollution prevention measures for implementation in the Updated Regional Plan for Marine Litter Management in the Mediterranean | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-----------------------------------|---|------|------|------|------|------|---|------|------|------|------|------|------|------|------|------|------|------|
| Art. 10 (17) | Explore and implement to the extent possible the "Fishing for Litter" environmentally sound practices, in consultation with the competent international and regional organizations, to facilitate cleanup of the floating litter and the seabed from marine litter caught incidentally and/or generated by fishing vessels in their regular activities including derelict fishing gears | | | | | | | | | | | | | | | | | |
| Art. 10 (18) | Explore and implement targeted activities for the localization and retrieval, and where possible, reuse or recycling of derelict fishing gear including through new environmentally sustainable technologies | | | | | | | | | | | | | | | | | |
| Art. 11 (19 to 21) | Assessment of marine litter in the Mediterranean | | | | | | | | | | | | | | | | | |
| Art. 12 (22.b) | Establish the Regional Data Base on Marine Litter which should be compatible with other regional or overarching databases | | | | | | | | | | | | | | | | | |
| Art. 12 (22.c) | Establish Expert Group on Regional Marine Litter Monitoring Programme | | | | | | | | | | | | | | | | | |
| Art. 12 (23) | Design National Monitoring Programme on Marine Litter | | | | | | | | | | | | | | | | | |
| Art. 12 (25) | Prepare the Guidelines for the preparation of the National Marine Litter Monitoring Programmes | | | | | | | | | | | | | | | | | |
| Art. 19 (35) | Prepare regional report on the implementation of the Regional Plan | | | | | | | | | | | | | | | | | |
| Related Article (Paragraph) | Other measures that the Contracting Parties legally committed to undertake as per the Regional Plan with no specific deadlines | | | | | | Proposal by the Secretariat for implementation of activities with non-legally binding deadlines | | | | | | | | | | | |

| Related Article (Paragraph) | Other measures that the Contracting Parties legally committed to undertake as per the Regional Plan with no specific deadlines | Proposal by the Secretariat for implementation of activities with non-legally binding deadlines |
|-----------------------------------|--|---|
| Art. 9 (15.4.n) | Implement measures on prevention, response and remediation regarding litter from maritime accidents, including containers lost at sea | |
| Art. 9 (15.4.m) | Take the necessary measures to promote best practices to prevent plastic waste and particularly single use plastic products in tourism and leisure activities including cruise shipping, including through regional cooperation | garbage from cruise ships are implemented as early as possible. |
| Art. 9 (15.4.l) | Take the necessary measures to ensure that cruise ships flying their flag or entering their ports implement the procedures for minimizing, collecting, storing, processing and disposing of garbage | Deadlines for measures to prevent marine litter from sea-based sources go back to 2017. It is advised that measures related to minimizing, collecting, storing, processing and disposing of |
| Art. 9 (15.3.g) | Apply enforcement measures to prevent, reduce and sanction illegal dumping and illegal littering in accordance with national and regional legislation, in particular on coastal zones and rivers | litter from land-based sources. As these measures are mainly planned for 2025, it is advised that enforcement measures are in place prior to this date. |
| Art. 9 (15.3.e) | Apply enforcement measures to combat dumping, littering on the beach, illegal sewage disposal from land sources in the sea, the coastal zone and rivers | Implementation of enforcement measures related to illegal dumping is crucial for the successful prevention of marine |
| Art. 9 (15.1) | Apply to the extent possible instruments needed to regulate and prevent marine litter pollution including plastic waste from land-based and sea-based sources, in particular the implementation of economic instruments, bans and design requirements, EPR, safe/formal markets for recycled plastics, fiscal and economic incentives, innovative business practices, best practices to create incentives) | As marine litter prevention measures to apply circular economy for plastics, and to address land-based and sea-based sources of pollution are predominantly planned for implementation by 2025, it is advised that instruments to regulate and prevent marine litter pollution are put in place prior to 2025 in order to ensure the successful implementation of the other measures. |
| Art. 8 (11.b) | Ensure close coordination and collaboration between national, regional and local authorities in the field of marine litter management | undertaken no later than 2025. |
| Art. 8 (11.a) | Ensure institutional coordination, where necessary, among the relevant national policy bodies and relevant regional organizations and programmes, in order to promote integration | As regulatory measures related to plastics and the informal sector under this article are planned for implementation as early as 2025, it is advised that institutional coordination is |
| Art. 7 (9) | Consider updating periodically the LBS NAPs to integrate marine litter in accordance with the provisions of this Regional Plan and other means to perform their obligations | Final updated NAPs are expected to be submitted by the CPs in 2025. |

| Art. 12 (24) | Design National Monitoring Programme on Marine Litter to include: (a) harmonization and consistency with the integrated regional monitoring programme based on EcAp; (b) the need for litter monitoring in high sensitivity areas (endangered species, key habitats, etc.), and in Specially Protected Areas in the Mediterranean (SPAMIs); and (c) the need for litter monitoring in high sensitivity areas (endangered species, key habitats, etc.), and in Specially Protected Areas in the Mediterranean (SPAMIs) | Deadlines for establishment and implementation of marine litter monitoring programmes go back to 2014 with deadlines as later as 2017. It is advised that in case monitoring programmes are not in place to establish these programmes and to implement monitoring activities as early as possible. |
|-----------------|---|--|
| Art. 14 (27) | Prepare specific guidelines, taking into account where appropriate existing guidelines, to support and facilitate the implementation of measures provided for in articles 9 and 10 of the Regional Plan | A number of guidelines related to marine litter management have been prepared, and or under preparation. Implementation of activity should continue as long as the need for such guidelines is existent. |
| Art. 16 (29) | Enhance public awareness and education | Enhancement of public awareness and education is a necessary condition for the successful implementation of the measures of this Regional Plan. CPs are advised to put in place and to strengthen existing mechanisms to enhance public awareness, as early as possible, because the lack of such arrangements has detrimental effects on the successful implementation of all measures of this Regional Plan. |
| Art. 17 (31) | Encourage appropriate involvement of, and partnerships with, various stakeholders | Encouraging involvement and partnerships with various stakeholders is crucial for the effective implementation of the Regional Plan. |
| Art. 18 (33) | Cooperate directly or with the assistance of the Secretariat or the competent international and regional organizations to address transboundary marine litter cases | This is an on-going which should be pursued in each biennium. |

Annex III

Potential Research Topics to Support the Implementation of the Regional Plan for Marine Litter Management in the Mediterranean

Introduction

Development and implementation of assessment and monitoring, as well as implementation of measures in the framework of this Regional Plan shall require scientific cooperation among parties involved. Due to complexity of marine litter management, there are quite a number of topics that require further research. In the list below are presented some of the potential research topics:

SOURCES, DISTRIBUTION AND COMPOSITION OF MARINE LITTER

- Identification (size, type, possible impact) and evaluation of accumulation areas (closed bays, gyres, canyons, and specific deep sea zones) and sources of litter, including maritime activities (how, why and by whom litter is disposed and the types of vessels/activities involved), industrial, agricultural and urban activities, rivers and diffuse inputs. Develop GIS and mapping systems to locate these.
- Evaluation of the quantity and localization of lost fishing gears.

DEGRADATION OF MARINE LITTER

- Evaluation of rates of degradation of different types of litter (plastics, degradable materials, bio plastics, etc.) and related leachability/sorbance of pollutants.
- Support research on new materials (total degradation in the environment).

MICROLITTER

- Identification of main sources (industrial pellets and personal hygiene products related micro litter particles).
- Define harm for micro litter to establish potential physical and chemical impacts on wildlife, marine living resources and the food chain.
- Define adequate indicators for the Mediterranean to assess the micro litter problem and its
 effects.

MODELLING

• Development of comprehensive modelling tools for the evaluation and identification of sources and fate of litter in the marine environment (including the identification of the accumulation areas and/or impacted by accidental inputs and estimating residence time).

IMPACTS/EFFECTS

- Effects (lethal or sub lethal) under different environmental conditions of entanglement, in particular threatened and protected species.
- Understanding how litter ingested by marine organisms, in particular threatened and
 protected species, affects their physiological condition and chemical burdens, reduces
 survival and reproductive performance and ultimately affects their populations or
 communities.
- Evaluation of the potential loss of fish stocks due to abandoned / lost fishing gears.
- Development of impact indicators (aesthetic impact, effects on fauna, flora and human health).
- Evaluation of the risk for transportation of invasive species.

COSTS

- Evaluation of direct costs and loss of income to tourism and fishery (incomes and stock losses, including protected/endangered species).
- Evaluation of costs due to clogging of rivers, coastal power plant cooling systems and/or wastewater purification systems.
- Effectiveness of market -based instruments related to marine litter.
- Development of common methodologies to evaluate the costs of removal (collection and elimination of marine litter).

EDUCATION / SENSIBILISATION

- Evaluate the effectiveness of programs of education and sensibilisation on beach cleanliness
- Develop a best practice database.

MONITORING

- Support the rationalisation of monitoring (common and comparable monitoring approaches, standards/baselines, inter-calibration, data management system and analysis / quality insurance).
- Facilitate the harmonization of monitoring protocols for Baltic Sea, Black Sea, Mediterranean Sea and NE Atlantic.
- Develop monitoring and prevention systems for massive and accidental inputs of litter in the marine environment.

SOCIAL ASPECTS

- Development of common methodologies to collect social and economic data.
- Assessment of socially acceptable levels of marine litter to the public and industry.
- Define and promote successful social behavior changes.
- Development of an indicator for the aesthetic impact of litter.

TECHNICAL MEASURES

- Develop tools to assess the effectiveness of measures intended to reduce the amount of marine litter.
- Identification of accumulation areas of importance.
- Ranking of the ports to be equipped in priority with port reception facilities taking into consideration the Mediterranean maritime traffic.
- Share the collection and elimination of transboundary marine litter, including the intervention in case of critical situation.

LEGAL/ INSTITUTIONNAL

- Compare and harmonize national Mediterranean systems (jurisdictional measures and institutional structures) with other conventions to support management schemes dedicated to marine litter.
- Support development of agreement to tackle plastic pollution

Annex IV

2021 Baseline Values and Threshold Values for IMAP Common Indicator 22

Table 1: 2021 Baseline Values and Threshold Values for IMAP Common Indicator 22

| IMAP | Categories of | 2016 | 2021 | 2021 |
|--------------|---------------------|-----------------|-----------------|------------------|
| Indicators | Marine Litter | Baseline Values | Baseline Values | Threshold Values |
| Common | Beach Marine Litter | 450-1400 | 369 | 130 |
| Indicator 22 | | items/100m | items/100m | items/100m |