

Mainstreaming the work of the Regional Seas Programmes towards the better implementation of the G7 Action Plan and the achievement of global commitments on marine litter

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Within the framework of the 2017 Italian Presidency of the G7, the Italian Ministry for the Environment, Land and Sea is organizing a Workshop in collaboration with UN Environment/Mediterranean Action Plan (MAP) with the aim of identifying the way to mainstream the Regional Seas Programmes' activities and best practices in the marine litter field towards the better implementation of the G7 Action Plan and the actions for the prevention and management of marine litter at a global scale. The Workshop will take place in Rome, Italy, on 20-21 April 2017.

The present document is structured to: provide a global overview of the marine litter issue; and review and analyze the basic elements of the G7 Action Plan in parallel with the current related activities of the Regional Seas Programmes. It aims at offering a discussion platform on how the current work undertaken by the Regional Seas Programmes could be considered as a practice/model to further implement the G7 Action Plan to Combat Marine Litter.



Table of contents

1. Introduction	1
2. The G7 Action Plan to Combat Marine Litter	4
3. Global initiatives	6
4. Regional Seas initiatives	8
5. Overview of activities and conclusions	12
6. Questions for Participants	14
Annex I: G7 Action Plan to Combat Marine Litter	15
Annex II: UN Environment marine litter activities 2017	17
Annex III: Comparative table: G7 priority actions and related activities of Regional Seas Programmes	19
References	30

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1. Introduction

Marine Litter poses a global challenge, found widespread in the marine environment from the tropical, subtropical regions, till the Arctic and the Mediterranean Sea. It varies in origin, size, composition, as well as the pathways it takes to the marine environment and the impacts it has on nature, society and the economy.

The marine litter figures are disturbing and cause for concern: 300 million tonnes of plastics are produced per year globally (PlasticsEurope, 2015) of which at least 8 million tonnes leak into the ocean each year (Jambeck et al., 2015); while more than 5 trillion plastics pieces weighting over 250,000 tonnes afloat at sea (Eriksen et al., 2014).

Where is marine litter generated and how does it enter the marine environment? Marine litter represents all synthetic or processed items or fragments that have been discarded or lost either directly into the coastal and marine environment or somehow transported from land to the sea by rivers or effluents, wind and land run-off (Veiga et al., 2016). Sources are often divided between land-based sources (coastal tourism, landfills sites near coastal areas, storm water runoffs, municipal sewage and storm water, industrial sites, littering, ship-breaking yards, natural disasters, and storms) and sea-based sources (shipping, recreational activities, fisheries and aquaculture, offshore installations or dumping from vessels at sea) (Leous and Parry, 2005; National Research Council of the National Academies, 2005).

The amount and composition of marine litter can vary between regions, due to differences in waste management and in economic activities such as tourism, fisheries and shipping. It also varies by location, due, in part, to currents that can carry marine litter to

accumulation sites (UNEP, 2005).

Plastics are the major marine litter component, estimated to make up as much as 95 percent of the marine litter found on coastlines, sea surface, and the ocean floor (Galgani et al., 2015).

Microplastics present a significant problem for marine litter management. They can be found, for example, in personal care/cosmetic and industrial products including virgin resin pellets (primary microplastics); or they may also originate from larger pieces of plastics due to weathering degradation (secondary microplastics). Microplastics pose a significant problem as they can pass through wastewater filters with ease, making it impossible to recover them once in the ocean. Microplastics range in size, but are commonly defined as plastic particles of less than 5 mm (GESAMP, 2015).

Marine litter negatively impacts the environment, public health, and economy. Marine litter can impact organisms at different levels of biological organization and habitats in a number of ways namely: through entanglement in, or ingestion of litter items by individuals, resulting in death and/or severe suffering; through chemical and microbial transfer; as a vector for transport of biota and by altering or modifying assemblages of species. Several studies have found that ingested microplastics can potentially disrupt cellular processes and degrade tissue (Rochman et al., 2013; Fossi et al., 2012) as well as concentrate toxins across the food chain, leading to a biomagnification effect (Wright et al., 2013). The presence of microplastics in food could potentially increase direct exposure of plastic-associated chemicals to humans and may present an attributable risk to human health. Fish and shellfish for human consumption have

been reported to contain micro particles, in particular fibres (Rochman et al., 2016). It may be of concern for consumption of crustaceans, bivalve mollusc like oysters and mussels or small fish which are eaten entirely with the digestive tract (Cole et al., 2011).

Marine litter, therefore, is a threat not only to marine species and ecosystems but also carries a risk to human health and has significant implications to human welfare, impacting negatively vital economic sectors such as tourism, fisheries, aquaculture or energy supply and bringing economic losses to individuals, enterprises and communities (Werner et al., 2016).

Marine litter can lead to economic losses also due to the cost of coastal cleanup and lost tourism revenue. The Asia-Pacific region is reported to lose US\$1.265 billion annually due to damage to its fishing, shipping, and marine tourism industries caused by marine litter (McIlgorm et al., 2008); in South Africa it is estimated that it would cost US\$286 million per year to remove litter from the wastewater stream (Lane et al., 2007), while in Chesapeake Bay in the US it has been estimated that the annual loss due to derelict pots and traps for nine species of crustacean amounted to US\$2.5 billion (Scheld et al., 2016). Scotland has estimated the cost to the state of up to US\$24.3 million annually (when calculating consumptive uses, non-consumptive uses, and indirect uses of Scottish coasts and waters) (Potts and Hastings, 2011).

Marine litter cannot be traced back to a single source. Rather, it is the result of many types of inputs and actions (or inactions). Policies and laws need to address not only the removal of litter but more importantly govern the production, use, and disposal of products.

A circular economy approach can reduce the quantity of waste by stopping it at its source. By designing products that are durable, can be repaired, and are recovered and recycled at the end of their productive use, circular economy approaches can prevent the generation of waste in the first place, and thereby prevent the entry of litter into the marine

environment. Related to the circular economy, the concept of a waste hierarchy (sometimes referred to as a “waste management hierarchy”) indicates a preferred order of action to prevent, reduce, and manage waste. Thus, prevention is the most favored option, then minimization, then reuse, then recycling, then energy recovery, then disposal (UNEP, 2013). Waste management legislation, policies, and strategies of the EU and its Member States utilize the circular economy and the concept of a waste hierarchy to address marine litter and related waste challenges.

The following circular economy tools can usefully be reflected in any marine litter reduction strategy:

- 1) Extended Producer Responsibility: Use EPR to avoid certain types of marine litter, most notably single-use packaging items;
- 2) research into product design to facilitate reuse, repair, remanufacture and recycling;
- 3) bans for unnecessary and damaging products or activities where viable substitutes exist - e.g. plastic microbeads in cosmetics;
- 4) improved legislation: provide clear definitions of polymers, waste and secondary raw materials;
- 5) economic incentives targeting consumption;
- 6) transparency and labelling: improve transparency on the chemicals contained in plastics;
- 7) waste management measures: invest in waste collection infrastructure and services (at ports), waste management infrastructure and wastewater treatment facilities to avoid dispersion of litter into the marine environment;
- 8) awareness-raising: raise awareness among consumers to improve waste disposal (littering and waste separation), and also better inform purchasing habits to increase demand for sustainable substitutes.

Laws and policies can provide a mandate, procedures, and standards to prevent, reduce, and effectively manage marine litter. The coalition to promote the removal of plastic bags, formally launched in 2016, (members: France, Monaco, Morocco, Mauritius, Sweden, Italy, Chile, Bangladesh, Australia, Senegal) is a good example where countries have already put in place a measure (prohibition, tax or other) for

disposable plastic bags, either are in the process of doing so, or have the political will to embark on it. Tunisia is an example where a country has recently (as of 1 March 2017) banned single-use plastic bags from supermarkets. On a more detailed example, Italy provided its first legislative measures aiming to reduce the production and consumption of plastic bags in 2006 (Law No. 296) and the ban of traditional disposable plastic bags entered into force in 2012. As a consequence of these measures, Italy registered a drastic reduction in the consumption of traditional plastic bags: from 2007 to 2014 more than 227,000 tonnes of plastic bags have been reduced to approximately 104,00 tonnes, with a remarkable reduction of more than 50%.

Another example of change of the consumer behavior is given by Ireland's plastic bag levy introduced in 2002 to reduce the consumption of disposable plastic bags. Prior to the implementation of the levy, the Irish Government first secured support from key stakeholders, including the retail industry, Ministry of Finance, local authorities, and consumers. The ban of single-use plastic bags had an immediate effect on consumer behavior with a decrease in plastic bag usage from an estimated 328 bags per capita to 21 bags per capita.

While there are many approaches to address the different aspects of marine litter, so far, few countries or regions have an overarching legal framework to tackle the problem.

Recently, the G7 countries (Canada, France, Germany, Italy, Japan, the United Kingdom and the United States of America) have formally agreed to tackle the issue of marine litter by

recognizing the importance of its social, economic and environmental implications and by identifying priority areas and priority actions.

In particular, during the G7 Leaders' Meeting held in 2015 in Schloss Elmau, Germany, an Action Plan to Combat Marine Litter was prepared and annexed to the Final Declaration of the Meeting. Furthermore, the G7 Environment Ministers met in Toyama, Japan, in 2016 and confirmed their commitment to implement the priority measures agreed in 2015 in close cooperation and collaboration with other relevant fora, foremost through existing platforms and tools, and in particular the Regional Seas Conventions and Action Plans in view of their already active participation in their activities (Table 1).

Finally, the G7 Leaders met in Ise-Shima, Japan, in 2016 and in their final Declaration reiterated their political support to the implementation of the Action Plan to Combat Marine Litter and agreed to regularly follow up on actions taken by G7 members to share best practices and promote outreach of possible measures to other countries.

Within the framework of the 2017 Italian Presidency of the G7, the Italian Ministry for the Environment, Land and Sea (IMELS) is organizing a Workshop in collaboration with UN Environment/Mediterranean Action Plan (MAP) with the aim of identifying the way to mainstream the Regional Seas Programmes' activities and best practices in the marine litter field towards the better implementation of the G7 Action Plan and the actions for the prevention and management of marine litter at a global scale. The Workshop will take place in Rome, Italy, on 20-21 April 2017.

2. The G7 Action Plan to Combat Marine Litter

The Action Plan to Combat Marine Litter annexed to the G7 Leaders' Declaration adopted in Germany in 2015 is a comprehensive text that includes overarching principles as well as priority actions.

The document manifests the overall commitment of the G7 to improve existing systems to prevent, reduce and remove marine litter and encourages support through international development assistance and investments, the development and implementation of national and/or regional action plans to prevent and reduce waste, the removal of existing waste and the sharing of best practices. In this context, the G7 recognize the need to use existing platforms and tools to avoid duplication and take advantage of progress made by the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA), the Global Partnership on Marine Litter (GPML) and the Regional Seas Conventions and Action Plans. Promotion of public awareness and education is recognized as an essential tool to change individual and corporate behaviour and is encouraged as well as prevention, recognized as key to long-term success, considering the important role that industries and consumers can play in reducing waste. The G7 also support the use of policy kits and available instruments including economic incentives, market-based instruments and public private partnerships to effectively combat marine litter.

The priority actions specified in the Plan cover land-based sources, removal actions, sea-based sources and education, research and outreach (Annex I).

With reference to land-based sources of marine litter, priorities include the improvement of countries' systems for waste management

and reducing waste generation as well as the promotion of reuse and recycling. In addition, the need to incorporate waste management activities into international development assistance and investments is indicated as well as the search for sustainable and cost-effective solutions to reduce and prevent sewage and storm water related waste, including microplastics, entering the sea. Priorities are also promoting instruments and incentives to reduce the use of disposable single-use items and encouraging industries to remove ingredients from products to gain environmental benefits, e.g. phasing out microbeads. It is also considered priority to promote best practices along the plastics industry, aiming e.g. for zero pellet loss. The identification of accumulation areas of marine litter is also considered priority as well as the creation of an exchange platform on experiences in litter removal on beaches, riverbanks, seafloor, the water column and sea surface, ports and inland waterways. Actual removal of litter posing threat to the marine environment is also considered priority by making use of BAT and BEP. Finally, it is considered essential to assess and analyze removal data to support and target efforts and policy options.

Concerning sea-based sources of marine litter, priority is given to the maximization of the amount of waste delivered to port reception facilities in accordance to Annex V of MARPOL. The management of key waste items from the fishing industry and aquaculture should also be addressed as priority by implementing pilot projects including deposit schemes, voluntary agreements and end-of-life recovery, taking into account the experience of the Food and Agriculture Organization of the United Nations (FAO).

Regarding education, research and outreach, the G7 consider outreach and education as priorities to aim at behavioural changes that can reduce the amount of litter entering the sea. The G7 also support the initiation of a harmonized global marine litter monitoring effort and the standardization of methods, data and evaluation. While calling for additional research initiatives to address marine litter, the G7 agree to support the effort of UN Environment and other organizations to help understand the sources, pathways and impacts of marine litter.

The G7 Leaders' Meeting held in Ise-Shima, Japan, in their Final Declaration reaffirmed their commitment to address marine litter recognizing that their effort on resource efficiency and the 3"R"s (reduce, reuse, recycle) would contribute to the prevention and reduction of marine litter, particularly plastics, from land-based sources. They also supported scientific work to enhance global ocean observation and assessment for the science-based management, conservation and sustainable use of marine resources.

3. Global initiatives

This chapter presents mostly UN Environment / Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) related activities and initiatives on marine litter. The issue of marine litter has been highlighted at the global level through several processes. Sustainable Development Goal 14.1 calls for a substantial reduction of marine debris by 2025. Two UN Environment Assembly resolutions have focused on marine plastic litter and microplastics and the topic has also featured in several other resolutions such as the General Assembly and other multilateral environmental agreements. A study entitled “[Marine plastic debris and microplastics – Global lessons and research to inspire action and guide policy change](#)”, was presented to the Second Session of the UN Environment Assembly in May 2016 and informed the development and subsequent adoption of Resolution 2/11 “[Marine plastic litter and microplastics](#)”. UN Environment is currently undertaking an assessment of the effectiveness of relevant international, regional and sub-regional governance strategies and approaches to combat marine plastic litter and microplastics, taking into consideration the relevant regulatory frameworks and identifying possible gaps and options for addressing them. This assessment is guided by an Advisory Group with 34 members from Governments and Major Groups and Stakeholders and will be made available to the next UN Environment Assembly in December 2017.

Under the GPA, land-based sources of marine litter have been highlighted as one of the nine source categories giving UN Environment a strong mandate to work on this issue. Marine litter has been an area of focus of UN Environment coordinated efforts through its

Global Initiative on Marine Litter, involving the Regional Seas Programmes and the GPA and more recently through the Global Partnership on Marine Litter (GPML).

The Global Partnership on Marine Litter (GPML), hosted by the GPA since its launch in 2012 upon the request of the Third Intergovernmental Review Meeting on Furthering the GPA and the resulting Manila Declaration, seeks to protect human health and the global environment by the reduction and management of marine litter as its main goal. It is a voluntary open-ended partnership for international agencies, Governments, businesses, academia, local authorities, nongovernmental organizations and individuals. It provides a platform for increased collaboration and coordination amongst these groups, promoting a collaborative dialogue. The UN Environment Assembly has called for increased collaboration and coordination within the framework of the GPML. The Steering Committee to date includes the Government of the USA (Chair), Government of the Netherlands, Government of Germany, International Maritime Organization (IMO), the UN Food and Agriculture Organization (FAO), and UN Environment.

A number of activities are implemented as part of the GPML which are mentioned in more detail in Annex II. These include massive open online courses on marine litter, global campaigns such as the Clean Seas campaign (see Annex II) and support to the development and implementation of regional action plans. Regional nodes for the GPML have been established in the Northwest Pacific, co-hosted by the Northwest Pacific Environmental Cooperation Center and the NOWPAP Secretariat, and the Wider Caribbean Region, hosted by the Gulf and Caribbean Fisheries

Institute and the Cartagena Convention Secretariat. Two additional nodes are in the pipeline for the Mediterranean as well as the South Pacific.

A MARPOL Annex V Training Package and a Review of the Current State of Knowledge Regarding Marine Litter in Wastes Dumped at Sea Under the London Convention and Protocol (IMO, 2016), was developed under the leadership of the International Maritime Organization (IMO). Moreover, the report “Abandoned, lost or otherwise discarded gillnets and trammel nets - Methods to estimate ghost fishing mortality, and the status of regional monitoring and management” was developed under the leadership of FAO (FAO, 2016) and ongoing work on microplastics in fisheries and aquaculture is underway. In addition, FAO is leading consultations for the marking of fishing gear as requested by the last Committee of Fisheries.

IMO is the Administrative Secretariat of the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), a collaborative platform for UN Agencies and an advisory body of the UN system on the scientific aspects of marine environmental protection. The potential problems of microplastics in the marine environment were brought to the attention of GESAMP in 2010 when the Working

Group No40 (WG40) was established to work on microplastics. As a result, the report: “Sources, fate and effects of microplastics in the marine environment”, prepared and published in 2016, provides a very thorough overview on the issue of microplastics in the marine environment.

The [Honolulu Strategy](#) is a framework developed by UN Environment and the U.S. National Oceanic and Atmospheric Administration (NOAA). It provides nations with tools to work actively with reducing marine litter and its impact on ecology, human health and economy. The framework is not focused on one level of governance in particular but rather works as a provider of common language and focal points that stakeholders within municipalities, nations, and regions can work with to establish an action plan.

The Honolulu framework identifies nineteen strategies designed to be applicable all over the world regardless of specific conditions or challenges. Along with describing the purpose of the individual strategies, the Honolulu framework offers a set of indicators that can be used to monitor performance. Globally applicable measurement tools, which allow for an easier comparison between regions and countries and in turn enhances and streamlines the global discussion.



4. Regional Seas initiatives

The regional dimension is increasingly recognized as crucial for the development and implementation of policies, strategies and action. Most recently, the United Nations “2030 Agenda for Sustainable Development” has acknowledged the importance of the regional and sub-regional dimensions, regional economic integration and interconnectivity in sustainable development.

Regional solutions are regarded as an efficient way to implement global initiatives, as the benefits deriving from developing and taking measures are mutually shared by communities in the region, and relevant stakeholders can be involved with more immediacy and effectiveness. This also supports collaboration and dialogue among States and stakeholders that share challenges and solutions. Regional and sub-regional frameworks facilitate the effective translation of sustainable development policies into concrete action at the national level. The application of the ecosystem approach at regional level through specific legal and management tools is key for the sustainable management of marine and coastal resources.

In turn, the experience has shown that regional strategies, policies and implementation inform decisions and action of global relevance and contribute to the definition of fundamental aspects of environmental governance and protection beyond the regional scope.

The Regional Seas Programme, launched in 1974, is one of UN Environment’s most significant achievements in the past four decades. The Programme aims to address the accelerating degradation of the world’s oceans and coastal areas through a “shared seas” approach – namely, by engaging neighbouring countries in comprehensive and specific

actions to protect their common marine environment. Today, more than 143 countries have joined 18 Regional Seas Conventions and Action Plans for the sustainable management and use of the marine and coastal environment. In most cases, the Action Plan is underpinned by a strong legal framework in the form of a regional Convention and associated Protocols on specific problems.

In the context of the Regional Seas Programme, UN Environment is providing support to the development of regional and national action plans and, where such action plans already exist, to national activities to implement them. Discussions are underway with the Mediterranean Action Plan (MAP), Black Sea Commission, Caribbean Environment Programme, Nairobi Convention, Abidjan Convention, Northwest Pacific Action Plan, Southeast Pacific and the South Pacific Regional Environment Programme, the Regional Organization for the Protection of the Marine Environment (ROPME), the South Asia Co-operative Environment Programme (SACEP) and the Coordinating Body for East Asian Seas (COBSEA) to develop and/or implement action plans.

Twelve Regional Seas Conventions and Action Plans have developed regional initiatives on marine litter that, among others, assessed the magnitude of the problem through collection and analysis of existing data and information and published regional reports highlighting the status of marine litter, identifying priorities and strategies for response.

In particular, the six Regional Seas Programmes that include one or more G7 countries (Barcelona Convention/MAP, OSPAR, HELCOM, The Caribbean Action Plan, NOWPAP, SPREP – table 1 below) have to a different

extent developed and implemented specific plans to reduce and eliminate marine litter. As for other issues, the regional approach being used to tackle marine litter is proving very relevant and productive. In fact, although the ultimate responsibility for reducing and eliminating marine litter belongs to each individual country, such an approach, based on the principle of a shared environment, allows for a common platform for discussion and decision making, exchange of information and experiences and provision of technical assistance.

Although the progress made in tackling the marine litter issue still widely varies in the six Regional Seas, the achievements made in the Mediterranean region clearly show that the regional approach is a very valid platform (see Box page 11).

Marine litter is also being addressed by fisheries related bodies mainly in relation to the control and management of discarded fishing gear in the marine environment. In particular, the General Fisheries Commission for the Mediterranean (GFCM) of the Food and Agriculture Organization (FAO) of the UN has specifically dealt with the assessment of measures of regional bodies and arrangements for monitoring and managing abandoned, lost and otherwise discarded fishing gears and ghost fishing. The FAO through its Committee on Fisheries (COFI) is at present working on the finalization of guidelines on the application of a system for the marking of fishing gear. The North-East Atlantic Fisheries Commission (NEAFC) has also specifically addressed the issue of abandoned, lost and otherwise discarded fishing gears.

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Table 1: Regional Seas Conventions and Action Plans having G7 countries as their Contracting Parties/members

Regional Seas Conventions and Action Plans	Canada	France	Germany	Italy	Japan	UK	USA
Caribbean Environment Programme (CEP) / Cartagena Convention		✓				✓	✓
Nairobi Convention (Western Indian Ocean Region)		✓					
Mediterranean Action Plan (MAP) / Barcelona Convention		✓		✓			
Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Region (NOWPAP)					✓		
Pacific Regional Environment Programme (SPREP) / SPREP Convention		✓				✓	✓
Protection of the Arctic Marine Environment Working Group (PAME)	✓						✓
Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) / CAMLR Convention	✓	✓	✓	✓	✓	✓	✓
Baltic Marine Environment Protection Commission (HELCOM) / Helsinki Convention			✓				
OSPAR Commission / OSPAR Convention		✓	✓			✓	

The work of Regional Seas on Marine Litter: The Mediterranean case

The Mediterranean Sea has been described as one of the areas most affected by marine litter in the world with its plastic concentrations found floating to be comparable with those reported for the five oceanic garbage patches. To address the issue, UN Environment/Mediterranean Action Plan (MAP) was the first Regional Sea Programme to approve a legally-binding Regional Plan on Marine Litter Management in December 2013, providing for a set of programmes of measures and implementation timetables to prevent and reduce the adverse effects of marine litter on the marine and coastal environment. It includes innovative and traditional measures of a policy, regulatory (including incentive economic instruments) and technical nature, addressing different aspects of marine litter prevention and management from land and sea based sources. The Regional Plan measures impose clear obligations regarding the waste management hierarchy, closure of illegal dumping/dumpsites, shift to sustainable consumption and production patterns, removal of existing marine litter using environmental sound practices such as fishing for litter, clean up campaigns, port reception facilities at possibly no special fees, and monitoring, assessment and reporting on implementation of measures as well as enforcement of national legislation.

In February 2016, the Contracting Parties to the Barcelona Convention adopted a Decision to support the [implementation of the Regional Plan](#) on Marine Litter including implementation guidelines, a regional assessment report, baseline values and environmental reduction targets including a wide basin reduction target of 20 percent by 2024 on beach marine litter. The implementation of the Regional Plan requires to foster national and regional cooperation among the major actor/players in the field, to harmonize common efforts and to maximize results. UN Environment/Mediterranean Action Plan has brought together major actors from the region (academia, policy-making, industry, fisheries, research institutions, and NGOs) in combating marine litter and its adverse effects, and has established the [Regional Cooperation Platform on Marine Litter](#) to facilitate the implementation of the Regional Plan. This is an open-ended group of regional and international partners with mandates and activities contributing to the environmentally sound management of marine litter in the Mediterranean, acting as a forum for consultation, exchange of good practices, and solutions seeking.



Other relevant instruments of the Barcelona Convention are:

- 1) the [Mid-term Strategy](#) for the period 2016-2021, containing a number of strategic outputs directly related to marine litter; among them, the updating of national pollution and litter monitoring programmes to include the relevant litter indicators; the implementation of capacity building programmes at national and regional levels including Sustainable Consumption and Production to reduce upstream sources of marine litter; and agreements, synergies and exchange of best practices with relevant global and regional partners with a particular focus on marine litter;
- 2) the [Regional Action Plan on Sustainable and Consumption and Production](#), also adopted in 2016;
- 3) finally, a novel and ambitious [Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and related Assessment Criteria \(IMAP\)](#), enabling for first time a quantitative, integrated analysis of the state of the marine and coastal environment and including two common and one candidate indicator on marine litter.



UN Environment/Mediterranean Action Plan cooperates with other Regional Seas Programmes (i.e. HELCOM, OSPAR and the Black Sea Commission), as well as with regional actors such as GFCM and the International bottom trawl survey in the Mediterranean ([MEDITS](#)) to combat marine litter, establishing synergies, exchanging best practices on marine litter management and implementing shared effective policies.

5. Overview of activities and conclusions

In this chapter, the relevant priority actions agreed upon by the G7 are compared with those included in the relevant Regional Seas Programmes with a view at identifying common objectives and possibly planning a shared implementation strategy.

In general terms, the six Regional Seas Programmes, in tackling the marine litter issue, have followed an approach fully compatible with the objectives and the priority actions established by the G7, although they show different degree of implementation of the activities. In addition, in some cases, specific regional circumstances lead to the prioritization of certain issues at a loss of others (Annex III).

Concerning **marine litter from land-based sources**, all Regional Seas show great interest and involvement in improving national waste management systems highlighting the need to improve reuse and recycle practices and reduce waste generation. With reference to sewage and storm water related waste, three Regional Seas (UN Environment/MAP, HELCOM and OSPAR) foresee specific activities to minimize the amount of litter entering the sea. Specific measures, instruments and incentives are planned to be used by five Regional Seas (UN Environment/MAP, HELCOM, OSPAR, SPREP and NOWPAP) to reduce the use of disposable single-use items impacting the marine environment with specific interventions at the local, national and regional level. The plastic manufacturing industry is addressed by five Regional Seas (UN Environment/MAP, HELCOM, OSPAR, SPREP and NOWPAP) with an effort to promote best practices, to develop sustainable packaging and to remove ingredients from products.

With reference to the **removal of marine litter**, although all Regional Seas foresee the implementation of a monitoring programme to

obtain data and information, UN Environment / MAP, HELCOM, OSPAR, SPREP and the Caribbean give special priority to the identification of hot spots and accumulation areas of marine litter. Best Environmental practices are foreseen for the actual removal of marine litter including the “fishing for litter” initiative.

Concerning **marine litter from sea-based sources**, all Regional Seas strongly support the full implementation of MARPOL Annex V and foresee specific measures to ensure its compliance. The fishing industry, and partly aquaculture, are addressed by UN Environment / MAP, HELCOM, OSPAR and NOWPAP through the implementation of *ad hoc* actions such as fishing gear marking and incentives for fishermen in order to minimize the loss of fishing gears.

Promoting **outreach and education activities** for the reduction of marine litter is indeed a priority for all regions. The activities range from specific training and education for a large number of sectors to the organization of voluntary cleanup campaign, the organization of a data bank on litter available to the large public and TV and radio programmes.

In conclusion, the review shows full compatibility between the G7 Action Plan for marine litter and the activities on marine litter of the six related Regional Seas Programmes, even considering the lower level of implementation of activities noted in some Regions. In fact, by reviewing the overarching objectives of the Regional Seas Programmes no discordance was found with those of the G7 countries.

Among the most relevant converging areas, the following can be highlighted:

- 1) There is a strong and common will to improve national systems for waste management;
- 2) The need to drastically intervene to reduce the

use of disposable single-use items is widely highlighted;

- 3) Changes in the plastics manufacturing industry from production to transport are considered priorities in a number of regions;
- 4) The identification of accumulation areas of marine litter and the preparation of a common platform of data and information are viewed as essential tools to proceed to the removal of marine litter;
- 5) The full implementation of Annex V to the MARPOL Convention is considered priority as well as the use of advanced practices in the fishing and aquaculture industries to reduce loss of items at sea;
- 6) Activities related to outreach and education are well addressed by all Regional Seas Programmes and fully harmonize with the objectives and priorities set by the G7 countries.

It was however noted that a number of priority actions agreed upon by the G7 countries (Annex I) were not incorporated in the activity lists of all Regional Seas Programmes (Annex III). In addition, the level of commitment for action is different among the Regions, varying from the legally binding Mediterranean Plan to the marine litter-related objectives included in the Pacific Regional Integrated Waste Management and Pollution Control Strategy of

SPREP. Monitoring and removal of marine litter are also addressed in different ways and in some cases just by encouraging private and local initiatives. The plastic manufacturing industry also receives different attention in the Regions. Although addressed strongly and with clear objectives/actions in some Regions, is not targeted enough by others.

In conclusion, if on the one hand the review reveals the overall compatibility of the G7 objectives and decisions on marine litter with the ongoing work of the Regional Seas Programmes, on the other hand it usefully shows a number of gaps where action needs to be strengthened. As a result, the possibility to use the Regional Seas Programme as a platform for the full implementation of the priority actions agreed upon by the G7 countries appears to be justified and sustained by the following considerations:

- 1) The full compatibility of objectives;
- 2) The existence of already working coordination mechanisms;
- 3) The opportunity for strengthening cooperation with International Organizations already active in the Regions; and
- 4) The opportunity for regional and inter-regional cooperation, technical and financial assistance and exchanges.



6. Questions for Participants

- 1) With a view to the implementation of the G7 Action Plan and on the basis of the comparison between the objectives and the priority actions agreed by the G7 countries and the work of the Regional Seas Programmes and the Regional Fisheries Management Organizations, what are in your opinion the main gaps and/or inconsistencies to be addressed?
- 2) On the basis of the analysis made and of the opportunities offered by the framework of the Regional Seas Programmes, what are the specific issues that in your opinion should be addressed as priority to strengthen the role of Regional Seas Programmes in the implementation of the G7 Action Plan?
- 3) How could your country strengthen the Regional Sea Programme of your concern and the Regional Fisheries Management Organizations specific activities on marine litter, if they were to be used as platforms to better fulfill the objectives and priority actions of the G7 Action Plan?
- 4) In this context, what should be, in your opinion, the strategic message as well as the technical one to be delivered by the G7 Leaders, in particular for future discussions in the UN context of the 2030 Agenda for Sustainable Development?

Annex I

G7 Action Plan to Combat Marine Litter

Overarching Principles

The G7 countries

- Commit to the improvement of countries' systems as a key goal of the action plan, to prevent, reduce and remove marine litter, including the below listed priority actions.
- Recognize that support through international development assistance and investments are important to combat marine litter and encourage both.
- Support development and implementation of national or regional action plans to reduce waste entering inland and coastal waters and ultimately becoming marine litter, as well as to remove existing waste.
- Share best practices, especially with developing countries, and encourage a similar call to action in other international fora.
- Recognize that, where available, the use of existing platforms and tools for cooperation will reduce duplication and take advantage of progress made (e.g. the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA), the Global Partnership on Marine Litter (GPML) and the Regional Seas Conventions and Action Plans) and therefore support their use.
- Promote individual and corporate behaviour change through public awareness and education to address marine litter.
- Recognize that prevention is key to long-term success in addressing and combating marine litter and that industries and consumers have an important role to play in reducing waste.
- Recognize that the need for removal actions is important, due to the vast amounts of litter already in the marine environment.
- Support the use of a broad range of policy toolkits and available instruments, including economic incentives, market-based instruments, and public private partnerships to support implementation of actions to effectively combat marine litter.

Priority Actions to Address Land-Based Sources

- Improving countries' systems for waste management, reducing waste generation, and encouraging reuse and recycling;
- Incorporating waste management activities into international development assistance and investments and supporting the implementation of pilot projects where appropriate;
- Investigating sustainable and cost-effective solutions to reduce and prevent sewage and storm water related waste, including micro plastics entering the marine environment;
- Promoting relevant instruments and incentives to reduce the use of disposable single-use and other items, which impact the marine environment;
- Encouraging industry to develop sustainable packaging and remove ingredients from products to gain environmental benefits, such as by a voluntary phase-out of microbeads;
- Promoting best practices along the whole plastics manufacturing, and value chain from production to transport, e.g. aiming for zero pellet loss;

Priority Removal Actions

- Identifying accumulation areas of marine litter and establishing an exchange platform on experiences in marine litter removal on beaches, riverbanks, seafloor, the water column and sea surface areas, ports and inland waterways;
- Supporting the removal of litter where it poses a threat to sensitive marine ecosystems, in an environmentally sound way, taking into account the socioeconomic aspects including cost effectiveness, thereby using best available techniques (BAT) and best Environmental practice (BEP) and engaging partners where possible;
- Assessing and analyzing removal data to support and target outreach efforts, potential policy options, and other means of preventing litter;

Priority Actions to Address Sea-based Sources

- Working to maximize the amount of waste delivered to port reception facilities and disposed of properly in accordance with Annex V of the International Convention for the Prevention of Pollution from Ships (MARPOL).
- Identifying the options to address key waste items from the fishing industry and aquaculture which could contribute to marine litter, and implement pilot projects where appropriate (including deposit schemes, voluntary agreements and end-of-life recovery) and take into account the expertise of the Food and Agriculture Organization of the United Nations (FAO);

Priority Action on Education, Research and Outreach

- Promoting outreach and education activities leading to individual behavior change that can reduce the amount of litter entering the environment, internal waters and the seas;
- Supporting the initiation of a harmonized global marine litter monitoring effort and the standardization of methods, data and evaluation;
- Supporting the effort of the United Nations Environment Programme (UNEP) and other organizations to help understand the sources, pathways and impacts of marine litter; and
- Supporting and calling for additional research initiatives to address marine litter.

Annex II

UN Environment marine litter activities 2017

Activity	Partner	Additional information	Timeline
Global Partnership on Marine Litter	100+ partners	Open-ended, voluntary multi-stakeholder partnership. An online marine litter network is being upgraded in collaboration with the University of Georgia and will be available online in April 2017 Regional nodes in Northwest Pacific and the Wider Caribbean Region.	June 2012-
UNEA-3 Marine plastic debris and microplastics Assessment	University of Wollongong, Australia Istanbul Bilgi University, Turkey	UN Environment is undertaking an assessment of the effectiveness of relevant international, regional and subregional governance strategies and approaches to combat marine plastic litter and microplastics, taking into consideration the relevant international, regional and subregional regulatory frameworks and identifying possible gaps and options for addressing them. The Assessment is guided by an Advisory Group with 34 members from Governments and Major Groups and Stakeholders.	January 2017- December 2017 Unedited draft in September 2017
Regional /national marine litter action plans	Regional Seas Conventions and Action Plans	UN Environment's contribution to develop action plans and implement priority activities of the regional action plans - Wider Caribbean Region, Mediterranean, Northwest Pacific, South Pacific Regional Action Plan, Black Sea, African Conventions, Support is also provided to national action plans: Nigeria, Panama, and Sierra Leone. UN Environment has also provided support to municipal action plans in Panama, Ecuador, Peru, Chile, and Colombia	2017-2018
Global Clean Seas marine litter campaign	Multiple partners including Governments, Businesses and NGOs	Launched in February 2017, by UN Environment the #CleanSeas campaign is a global public awareness campaign on marine litter. The campaign is planned to run for five years and will be carried out in three different phases. The overall goal of the campaign is to achieve a global ban on microbeads in cosmetics and personal care products and a drastic reduction in single-use plastics. To achieve these goals, the campaign is reaching out to the general public as well as Governments and the private sector.	5 year campaign in three phases
Massive Open Online Course (MOOC) on marine litter	Open University of Netherlands	A free online course on marine litter for all stakeholders. It consists of a "Leadership track" (2 blocks) which provides an overview of marine litter issues and solutions and an "Expert track" (6 blocks) for more in-depth studies. The Leadership track will be provided in all UN languages in 2017/18. The full course will be provided in English and Spanish. Registration was opened in mid-March 2017:	2 nd run of the English version of the MOOC in May 2017, Spanish in Q4/2017, and other UN languages for the "Leadership track" Q4-Q1 (2018)

Activity	Partner	Additional information	Timeline
Sixth International Marine Debris Conference	National Oceanographic and Atmospheric Administration, U.S.	Organized jointly by UN Environment and the U.S. National Oceanographic and Atmospheric Administration, the Sixth International Marine Debris Conference will bring together policy and decision makers, as well as academics, technical experts, civil society actors and other key stakeholders, and provides an opportunity to further strengthen coordination efforts within the international marine debris community. The conference will build upon the Honolulu Strategy, which was developed at the last conference in 2011. With a variety of tracks, themes and session types, the Sixth International Marine Debris Conference will promote new partnerships, further raise public awareness and support, and inspire new actions that will help us tackle the problem of marine plastic debris. The call for sessions was opened on 20 March 2017	12-16 March 2018 San Diego, U.S.A.
Marine litter Innovation Challenge for Universities	Think Beyond Plastic	The challenge as a whole focuses on tackling the issue of marine litter, and consists of four tracks; engineering challenge, communications challenge, monitoring/prediction challenge and economics/finance challenge to address different aspects of the problem. The Innovation challenge will be announced in different forums including at cleanseas.org	Pilot run in Q2 2017 -> Challenge opens in April 2017 Submissions will be received from June 8, 2017
Knowledge generation	Various	Short papers: Economics of marine litter, Hidden costs of plastic, Innovative/Alternative materials and marine litter, Microplastics and coral reefs, Microplastics and fisheries and aquaculture (FAO), Single-use plastics with the focus of plastic bags	December 2017
Plastic management strategy for small island developing states and islands	Pilot countries	A plastics management strategy for small island developing states and islands will be developed in 2017 and piloted during the 2 nd half of 2017 and in 2018 in all regions (TBD).	April 2017 -
Indicator work	UNESCO IOC and others	Support the development of indicators for Sustainable Development Goal 14.1	Ongoing up to 2020
Ocean Expeditions/Races	Plastic Change (NGO) Race for Water Tara Expeditions Volvo Ocean Race	UN Environment is partnering with several ocean expeditions and races to help raise awareness around marine litter. The aim is to use these events as platforms for raising awareness around marine litter, and amplify the reach of already other initiatives.	



Annex III

Comparative table: G7 priority actions and related activities of Regional Seas Programmes

The table lists the priority actions agreed upon by the G7 countries, grouped as “Land-based sources of marine litter”, “Removal”, “Sea-based sources” and “Education, research and outreach”, and shows the most relevant corresponding activities undertaken by the Regional Seas Programmes.

In reading the table, the following should be noted:

- 1) UN Environment/MAP: The Regional Plan on Marine Litter Management in the Mediterranean was adopted in 2013 (Decision IG.21/7) and became legally binding on 8 July 2014. The references in parenthesis included after each activity refer to the corresponding Article of the Regional Plan;
- 2) HELCOM: The Regional Action Plan on Marine Litter for the Baltic area was adopted in 2015. The references in parenthesis included after each activity refer to the corresponding Action of the Plan;
- 3) OSPAR: The Marine Litter Regional Action Plan for the North-East Atlantic area was adopted in 2014. The references in parenthesis included after each activity refer to the corresponding Action of the Plan;
- 4) The Caribbean: The Regional Action Plan on Marine Litter Management (RAPMali) for the wider Caribbean region was developed in 2007 and its implementation was enhanced in 2014. The references in parenthesis included after each activity refer to the corresponding Action of the Plan;
- 5) SPREP: The Pacific Regional Environment Programme does not have an Action Plan for marine litter. The activities listed in the table refer to marine litter-related actions included in the Pacific Regional Integrated Waste Management and Pollution Control Strategy finalized in 2015;
- 6) NOWPAP: The Northwest Pacific Regional Programme adopted a Regional Plan on Marine Litter in 2008. The references in parenthesis included after each activity refer to the corresponding Action of the Plan.

To address Land-based sources

G7 MLAP	Improving countries' systems for waste management, reducing waste generation, and encouraging reuse and recycling;
	Summary: The need to improve waste management systems to reduce the amount of marine litter seems to be given high priority in all Regions. Prevention, re-use and recycling are intended to be widely applied in urban waste management but also in industry, shipping and tourism. In general terms, the priority action set by the G7 countries is fully in line with the Regional Seas prospected and implemented actions.
UNEP/MAP	<p>Apply urban and solid waste management on reduction at source through prevention, preparing for re-use, recycling, energy recovery and environmental sound disposal (Art.9).</p> <p>The updated National Action Plans of the Contracting Parties of the Barcelona Convention already include a number of measures at country level related to the collection of solid waste, construction of municipal landfills, adoption of waste reduction, sorting, recycling, recovery and reuse measures, regulation and reduction of fraction of plastics, and closure of illegal solid waste dumps.</p>
HELCOM	<p>Cooperate on the establishment and/or further development of deposit refund systems for bottles, containers and cans (e.g. glass, plastics and aluminum) in the HELCOM Contracting Parties in accordance with national law as appropriate. Investigate and strive for bilateral and multilateral solutions between the countries for establishment of such systems in relation to passenger ships (RL11)</p> <p>On-going work: Questionnaire on national activities developed by EE (2016): Currently functioning deposit refund systems for bottles, containers and cans (e.g. glass, plastics and aluminum) are in place in DE, DK, SE, FI, EE and LT. In PL, LV and RU the system is not in place at the moment.</p>
OSPAR	<p>Highlight those waste prevention and management practices that impact significantly on marine litter (RAP 39).</p> <p>Engage with the industry and other appropriate authorities to develop BEP (RAP39).</p> <p>Encourage the recyclability of plastic products (RAP71).</p> <p>Share best practices on waste management , e.g. on landfill bans of high caloric wastes (especially for plastics) (RAP40).</p> <p>Exchange experience on best practices to prevent litter entering into water system (RAP41).</p>
CEP	<p>Mobilize resources for improving the capacity for enforcement of appropriate integrated waste management practices (Action 4.1.7).</p> <p>Ensure that debris and ecosystem health issues are integrated into emergency management plans and procedures (Action 4.1.5).</p> <p>Develop and implement a model of a national management plan for marine litter (Action 4.2.1).</p> <p>Develop and promote activities for waste minimization, including reuse and recycling (Action 4.5.3).</p> <p>Establish a clearinghouse of information on effective strategies and practices for enforcement of waste management practices (Action 4.1.6).</p>
SPREP	The 2017-2026 SPREP Strategic Plan contains a plan to strengthen national, regional and international mechanisms for waste management including marine plastic litter and other marine debris, and improve management of recyclable items. The Integrated Regional Waste and Pollution Management Strategy 2016-2025 is mirrored through national waste and pollution strategies.
NOWPAP	<p>Action 1.2 of the NOWPAP Regional Action Plan on Marine Litter (RAP MALI), 2008:</p> <ul style="list-style-type: none"> - Take appropriate measures to reduce the generation of solid wastes on land that can become marine litter. - Establish and ensure the proper operations of solid waste management facilities on shore (reception and disposal of waste from all sources). - Enhance and promote land-based waste management, including the proper management by municipalities of landfills, sewage treatment facilities and the proper care of household waste.

G7 MLAP	Investigating sustainable and cost-effective solutions to reduce and prevent sewage and storm water related waste, including micro plastics entering the marine environment;
	Summary: The need to find sustainable and cost-effective solutions for a significant reduction of waste from sewage and storm water is clearly highlighted in three Regions, including the use of BAT and BEP in industries. Even if mentioned, it appears that more attention should be given in preventing microplastic waste in the marine environment. In conclusion, this area of work needs to be developed further in most regions in order to fulfill the objective of the G7 countries.
UNEP/MAP	Take necessary measures to establish an appropriate urban sewer, wastewater treatment plants and waste management systems to prevent runoff and riverine inputs of litter (Art.9). The updated National Action Plans of the Contracting Parties of the Barcelona Convention, have already take into account this provision for building and extending the sewage networks, as well as build/expand/upgrade municipal wastewater treatment plants, to fully take into consideration minimized input of marine litter entering the marine environment.
HELCOM	Improvement of storm water management in order to prevent litter, including microlitter, to enter the marine environment from heavy weather events (RL4). On-going work: Potential contribution from: <ul style="list-style-type: none"> - Blastic project – plastic pathways from land to sea, funded by the Central Baltic Programme (2016-2018) (https://www.blastic.eu/) - Baltic Flows (finished project, http://www.balticflows.eu/) - IWater (http://www.integratedstormwater.eu/), a project which has just started and is run by Union of Baltic Cities. - CCB proposal on concrete ways to reduce microplastics in stormwater and sewage which would contribute to Actions RL4, RL7 and RL8 (WS RAP ML 1-2016). Compilation of available techniques as well as research and develop additional techniques in waste water treatment plants to prevent micro particles entering the marine environment (RL7) On-going work: <ol style="list-style-type: none"> a. Swedish and an OSPAR report on best available techniques to reduce and prevent sewage and storm-water related waste entering the marine environment, including micro particles which could then be considered regarding the applicability in the Baltic Sea. SE national report on technical solutions for advanced treatment of waste water in order to reduce pharmaceutical residues and micro plastics envisaged for June 2017. b. Envisaged working process for this action: 2017 compilation of what has been done so far, including a review of the status in HELCOM area in order to build a basis for discussion with relevant stakeholders on how to proceed. c. FI: the removal of microlitter from wastewater during different treatment steps of mechanical, chemical and biological treatment (activated sludge) and biologically active filter (BAF) in a large (population equivalent 800 000) advanced WWTP has been examined. This work is a part of a PhD study and the results of this work will be available by the end 2016/beginning 2017. This study will give valuable information on the removal of microlitter, Microlitter balance and distribution in the WWTP. d. CCB proposal on concrete ways to reduce microplastics in stormwater and sewage which would contribute to this action.
OSPAR	Investigate and promote with the appropriate industries the use of BAT and BEP to develop sustainable and cost effective solution to reduce and prevent sewage and storm water related waste entering the marine environment (RAP42).
CEP	
SPREP	
NOWPAP	Action 1.5. Research Activities of the RAP MALL: Develop technologies to prevent marine litter input from land-based sources. Ongoing research on microplastics content on the beaches and with river discharge along the Northwest Pacific coast of the Russian Federation

G7 MLAP	Promoting relevant instruments and incentives to reduce the use of disposable single use and other items, which impact the marine environment
	Summary: The reduction of the use of disposable single-use items is addressed almost everywhere in the regions through voluntary agreements, the use of fiscal and economic incentives and possible ban of import of specific plastic items. The activities implemented or planned in the Regions fully comply with the related objective and priority action of the G7 countries.
UNEP/MAP	<p>Explore and implement prevention measures related to voluntary agreements with retailers and supermarkets for the reduction of plastic bags consumption including fiscal and economic instruments (Art.9).</p> <p>Explore and implement measures for the deposit, return and restoration of beverage packaging and expandable polystyrene boxes in the fishing sector (Art.9).</p> <p>Work is ongoing to support Contracting Parties to the Barcelona Convention to promote at national level the banning of single-use plastic bags, the reduction of plastic production, use in packaging and on other main issues through the development, where appropriate, of the required legal and regulatory framework to introduce the non-single use of plastic bags and also the Extended Producer Responsibility (EPR) for plastic bags. Moreover capacity building actions are envisaged with regard to plastic and microplastic production and consumption as well as to circular economy strategy.</p>
HELCOM	<p>Define and implement appropriate instruments and incentives to reduce the use of plastic bags, including the illustration of the associated costs and environmental impacts (e.g. establishment of levies, deposit fees, taxes or bans on plastic bags). Support regional coordination in the Baltic Sea of the implementation of the future revised Directive 94/62/EC on packaging and packaging waste to reduce the consumption of lightweight plastic carrier bags, for HELCOM Contracting Parties being EU members (RL10)</p> <p>Next steps proposed: gather information on national proposals/instruments to implement the EU Directive, as well as develop guidance for those countries who have not initiated the process</p>
OSPAR	<p>Assess relevant instruments and incentives to reduce the use of single-use and other items impacting the marine environment (RAP43).</p> <p>Reduce the consumption of single-use plastic bags and their presence in the marine environment, supported by quantifiable sub-regional targets (RAP44).</p>
CEP	
SPREP	Explore possible ban of import of single-use plastics such as styrofoam, straws and plastic shopping bags.
NOWPAP	<p>Action 1.1. of RAP MALI:</p> <ul style="list-style-type: none"> - Develop comprehensive national action plans to prevent and reduce marine litter targeting at changes in consumption patterns (e.g. avoiding the use of plastic bags, promoting the use of biodegradable plastics)

G7 MLAP	Encouraging industry to develop sustainable packaging and remove ingredients from products to gain environmental benefits, such as by a voluntary phase-out of microbeads;
	Summary: The more industrialized Regions appear to widely address this issue through dialogue and negotiations with the industries through e.g. the reduction of fraction of plastic packaging, reduction of microplastics, improvement of packaging design, reduction of over-packaging, and the possible phase-out of microplastics in cosmetic products. Where applicable, the application of similar measures should be explored in the less industrialized Regions as well.
UNEP/MAP	<p>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).</p> <p>Explore and implement prevention measures related to procedures and manufacturing methodologies with the plastic industry in order to reduce microplastics (Art.9).</p> <p>Work is ongoing to support Contracting Parties to the Barcelona Convention to reduce the production, use and disposal of plastic ending up as marine litter through the following measures:</p> <ul style="list-style-type: none"> - Extended Producer Responsibility (EPR) strategy by making the producers, manufacturer brand owners and first importers responsible for the entire life-cycle of the product with measures prioritizing the hierarchy of waste management in order to encourage companies to design products with long durability for reuse, recycling and materials reduction in weight and toxicity; - Establish procedures and manufacturing methodologies together with plastic industry, in order to minimize the decomposition characteristics of plastic, to reduce micro-plastic.
HELCOM	<p>Establish a dialogue and negotiate on solutions with business and industry to (i) develop design improvements that reduce the negative impacts of products entering the marine environment, and (ii) reduce over-packaging and promote wise packaging (RL5)</p> <p>On-going work: DE National Round Table on Marine Litter:</p> <ol style="list-style-type: none"> a. Evaluation of findings in the marine environment b. R&D-project will be commissioned by Stiftung Grünes Bauhaus (2017-2020) which will evaluate national measures and regulations for the improvement of a sustainable product and packaging design (focus multiple use, long levity) – concept put together by end 2016, could be enlarged to other HELCOM CPs c. Overview and requirements within legal framework d. + OSPAR action on instruments and incentives to reduce the use of single use and other items which impact the marine environment (leads: IR/DE) could also be of use
OSPAR	<p>Evaluate all products and processes that include primary micro plastics and act to reduce their impact on the marine environment (RAP46).</p> <p>Explore with all the appropriate sectors the possibility of a voluntary agreement to phase out the use of micro plastics as a component in personal care and cosmetic products (RAP47).</p>
CEP	
SPREP	Explore possible ban of import of single-use plastics such as styrofoam, straws and plastic shopping bags.
NOWPAP	

G7 MLAP	Promoting best practices along the whole plastics manufacturing, and value chain from production to transport, e.g. aiming for zero pellet loss;
	Summary: The plastics manufacturing industry is strongly addressed by the more industrialized regions through e.g. the application of the producer responsibility strategy, Ecolabel and the research for alternative material to polystyrene. Where applicable, the implementation of similar measures should be explored in the less industrialized regions as well.
UNEP/MAP	<p>Explore and implement prevention measures related to producer responsibility strategy making producers, brand owners and importers responsible for the entire lifecycle of the product prioritizing long durability for reuse, recycle and materials reduction (Art.9).</p> <p>Explore and implement prevention measures related to sustainable procurement policy contributing to the consumption of recycled plastic-made products (Art.9).</p> <p>The Regional Plan on Sustainable Consumption and Production (SCP) in the Mediterranean is adopted since 2016 from COP 19, aiming in achieving as a first step the shift to sustainable patterns in priority areas of consumption and production.</p>
HELCOM	Encourage, based on existing labels such as the EU Ecolabel and the Nordic Ecolabel, exchange with international environmental certification schemes for information and inclusion of the management and prevention of marine litter in their lists of criteria (RL12)
OSPAR	<p>Investigate the prevalence and impact of expanded polystyrene (EPS) in the marine environment and engage with industry to make proposals for alternative material (RAP49).</p> <p>Promote initiatives and exchange of best practices aiming at zero pellet loss along the whole plastic manufacturing chain from production to transport (RAP52).</p>
CEP	
SPREP	Data analysis from pacific recycling study to feed into status of plastic accumulation areas, hubs, for plastic recycling.
NOWPAP	<p>Action 1.2. of RAP MALI:</p> <ul style="list-style-type: none"> - Apply the developed sectorial guidelines taking into account best management practices on marine litter in the tourism sector and the plastic industry <p>NOWPAP and its Regional Activity Centers published various sectorial guidelines on marine litter prevention in the tourism, shipping and fishing industries.</p>

Removal Actions

G7 MLAP	Identifying accumulation areas of marine litter and establishing an exchange platform on experiences in marine litter removal on beaches, riverbanks, seafloor, the water column and sea surface areas, ports and inland waterways;
	Summary: Monitoring activities are ongoing in all Regions and data is collected both at the national and regional levels. Although the programmes are at different stages of implementation, it seems that the need to identify accumulation areas of litter in the different environmental compartments (sea, coastal areas, rivers, ports and inland waterways) is well acknowledged and ongoing, thus fulfilling the G7 countries' objective and priority action.
UNEP/MAP	<p>Explore and implement in collaboration with the relevant stakeholders the identification of accumulation/hot spots of marine litter and implement national programmes for their removal and sound disposal (Art.10).</p> <p>Work is ongoing to support Contracting Parties to the Barcelona Convention to develop a risk assessment tool to identify where in the Mediterranean marine litter - especially ghost nets which pose a threat for marine biota - is accumulating and should be removed.</p>
HELCOM	<p>Address landfills or dumpsites including historic ones which may eventually pose a risk to the marine environment due to factors such as coastal erosion and vicinity to rivers (RL14). On-going work: survey to HELCOM countries conducted by Estonia (2016) Feedback provided by all HELCOM members except Germany, Lithuania and Russia. The received feedback indicated that all the landfills are under control in the region and cannot be considered as sources of marine litter.</p> <p>Establish an exchange platform for spreading experiences on good cleaning practices in beaches, including cleaning beaches actions by local communities, riverbanks, pelagic and surface sea areas, ports, marinas and inland waterways, in cooperation with relevant fora.</p> <p>Develop best practice on environmental friendly technologies and methods for cleaning (RL15)</p>
OSPAR	<p>Develop sub regional or regional maps of hot spots of floating litter and identify hot spots of accumulation on coastal areas (RAP55).</p> <p>Develop a risk assessment for identifying where accumulation of ghost nets pose a threat to the environment (RAP57).</p> <p>Identify hot spots areas through mapping of snagging sites or historic dumping grounds (RAP56).</p> <p>Establish an exchange platform on experiences on good cleaning practices in beaches, riverbanks, pelagic and surface sea areas, ports and inland waterways.g grounds (RAP54).</p>
CEP	Conduct a GAP analysis of overlap of high density marine litter areas with highly sensitive areas in order to prioritize clean-up and mitigation efforts (Action 4.3.6).
SPREP	Address countries with most mismanaged waste that could end up in the marine environment. Data analysis from pacific recycling study to feed into status of plastic accumulation areas, hubs, for plastic recycling.
NOWPAP	<p>Regional review of marine litter in the NOWPAP region (2008); Annual mariner litter monitoring data are available for each member states since 2000-2002;</p> <p>Annual coastal cleanup campaigns and marine litter management workshops in each member state, organized jointly with the Tripartite Environmental Ministers Meeting Data and information is maintained in the Northwest Pacific Regional Node of the GPML</p>

G7 MLAP	<p>Supporting the removal of litter where it poses a threat to sensitive marine ecosystems, in an environmentally sound way, taking into account the socioeconomic aspects including cost effectiveness, thereby using best available techniques (BAT) and best Environmental practice (BEP) and engaging partners where possible;</p> <p>Summary: Not all Regions appear to have well established and regular systems for the removal of marine litter. However, important efforts are made in some Regions e.g. for the removal of litter in Specially Protected Areas, in the application of the “fishing for litter” approach and in the development of best practice for the removal of old pleasure boats and derelict fishing gears. It appears that, in spite of a number of solid initiatives, the regular removal of marine litter should be addressed more efficiently and widely if the G7 countries’ objective and priority action is to be fulfilled.</p>
UNEP/MAP	<p>Remove existing accumulated litter in particular from Specially Protected areas as well as litter impacting endangered species (Art.10).</p> <p>Explore and implement the “Fishing for litter” environmental sound practice to facilitate the cleanup of floating litter and the seabed (Art.10).</p> <p>Work is ongoing to support Contracting Parties to the Barcelona Convention to implement “Fishing-for-Litter” and “Adopt-a-beach” pilot projects, acting as a mechanism to remove litter from the sea and coastal environment in an environmentally sound way. A basin-wide reduction target of 20% till 2024 for beach marine litter, along with reduction targets for other marine litter types have been adopted since 2016 by COP 19. Moreover, BAT and BEP are effectively addressed by the Regional Plan Action Plan on Sustainable Consumption and Production in the Mediterranean.</p>
HELCOM	<p>Development of best practice on the disposal of old pleasure boats (i.e. intentional disposal of the boats at the ending of their lifetime in the sea and on shore) (RS1) On-going work: SE national project on recycling of pleasure boats by Sweboat, Båtskroten Sverige AB and Stena Recycling AB</p> <p>Through a multinational project, such as the MARELITT Baltic project, together with the fishing industry and other stakeholders, develop and promote best practice in relation to ALDFG and derelict fishing gear and their removal (RS6). On-going work:</p> <ul style="list-style-type: none"> a) MARELITT Baltic project ‘Removal of derelict fishing gear, lost or discarded by fishermen in the Baltic Sea’ (2016-2018). <ul style="list-style-type: none"> - done: methodology on retrieval of FG + 40 ports visited and surveyed for waste management and processing of FG - on-going: methodology for designating DFG hot spot areas + pilot action on sampling and preparation of DFG for processing - to be produced: map on the potential locations of underwater objects, shipwrecks and hooks + EIA (DE) + capacity building group; b) National (DE) experiences of FFL applied and assessed (amounts & composition).
OSPAR	<p>Reduction of marine litter through implementation of fishing for litter initiatives (RAP53). Reduction of abandoned, lost and otherwise discarded fishing gear (RAP55).</p> <p>Develop best practice on environmental friendly technologies and methods for cleaning beaches, riverbanks, pelagic and surface areas, ports and inland waterways (RAP54).</p>
CEP	
SPREP	
NOWPAP	<p>Action 3.2. of RAP MALI:</p> <ul style="list-style-type: none"> - Designate a local responsible authority to undertake regular removal operations of marine litter using modern technologies <p>Annual coastal clean-up campaigns in member states</p>

To address Sea-based sources

G7 MLAP	Working to maximize the amount of waste delivered to port reception facilities and disposed of properly in accordance with Annex V of the International Convention for the Prevention of Pollution from Ships (MARPOL).
	Summary: The implementation of Annex V to the MARPOL Convention seems to be well advanced in most Regions and efforts are made to promote ratification where needed. In addition, in most Regions special importance is given to the monitoring of violations and to the identification of best practices in relation to inspections. Considering that the specific objective and priority action are fully compatible with those of the Regions, efforts should be mainly concentrated on assisting countries where needed, to ensure the ratification and the implementation of Annex V of the MARPOL Convention.
UNEP/MAP	<p>Explore and implement charging reasonable costs for the use of port reception facilities or, when applicable, the introduction of no-special-fee system (Art.10).</p> <p>Work is ongoing to support Contracting Parties to the Barcelona Convention to better manage sea-based litter in ports through charging reasonable costs for the use of port reception facilities or, when applicable, apply a No-Special-Fee system, with a view to ensure the provisions of adequate reception facilities for ship-generated litter.</p>
HELCOM	<p>Develop best practice in relation to inspections for MARPOL Annex V, including harmonized management of data. Support regional coordination of IMO regulations in accordance with EU requirements for those HELCOM countries which are EU members (RS2).</p> <p>On-going work: Draft report on analysis of penalties and fines issued by OSPAR and HELCOM members for waste disposal offences at sea (DE).</p> <p>Further work on implementation and harmonization of the no-special-fee system in ports of the Baltic Sea countries, addressing:</p> <ul style="list-style-type: none">- gaps in existing regulations,- enforcement and practices concerning shipping,- port reception facilities auditing to assess adequacy of garbage collection,- fair waste burden sharing between ports (RS3). <p>Implementation of the ISO standard (ISO 201070:2013) in relation to port reception facilities. Differentiate according to the size of the port. Promote the development of regional statistics on waste collected in ports based on existing information as far as possible (RS4)</p>
OSPAR	<p>Identify best practice in relation to inspections for MARPOL Annex V ship generated waste, including better management of reporting data (RAP32).</p> <p>Ensure regional coordination on the implementation of MARPOL Annex V. Such a coordination should:</p> <ol style="list-style-type: none">deliver a cost recovery system, ensuring the maximum amount of MARPOL Annex V ship generated waste delivered to port reception facilities;not solely focusing on reception facilities but also other relevant differences;analyse the implementation of compulsory discharge of waste in each port for all ships leaving the OSPAR maritime area for non-EU ports (RAP30). <p>Improve implementation of ISO Standard in relation to port reception facilities (RAP34).</p>
CEP	<p>Expand ratification and promote effective implementation of MARPOL Annex V by all states of the Caribbean (Action 4.1.4).</p> <p>Implement the 2012 amendment to the MARPOL Annex V and implementation of Annex V Special Area status for the wider Caribbean region (Action 4.1.3).</p>
SPREP	Implement monitoring of violations to the MAPOL Annex V.
NOWPAP	<p>Action 1.2 of RAP MALI:</p> <ul style="list-style-type: none">- Provide assistance in implementing the requirements of Annex V to the MARPOL Convention to provide and improve port reception facilities for all type of ship generated waste in ports, harbours, terminals and marinas- Prepare administrative regulations and disseminate related information on waste management in ports and marinas taking into account best practices related to marine litter

G7 MLAP	Identifying the options to address key waste items from the fishing industry and aquaculture which could contribute to marine litter, and implement pilot projects where appropriate (including deposit schemes, voluntary agreements and end-of-life recovery) and take into account the expertise of the Food and Agriculture Organization of the United Nations (FAO)
	Summary: The identification and the implementation of measures to minimize litter from fishing and aquaculture activities are well addressed in the Regions where the fishing industry is more developed. Specific measures include "fishing gear marking", the use of environmentally neutral nets, pots and traps, best practice application in waste management onboard and at ports, operational losses/net cuttings, deposit schemes, voluntary agreements and extended producer responsibility. Similar initiatives should be promoted also in regions and countries with more limited and local fishing activities.
UNEP/MAP	Explore and implement "fishing gear marking" and reduced ghost catches concepts through the use of environmentally neutral (upon degradation) nets, pots and traps (Art.9).
HELCOM	Promote and disseminate best practice in relation to all relevant aspects of waste management within the fishing sector (including e.g. waste management on board, waste management at harbors and operational losses/net cuttings) (RS5) On-going work: <ul style="list-style-type: none"> - National (SE) report on management on board and in harbours; - OSPAR report on best practices for waste management within the fishing sector to be ready during 2017. Applicable to the Baltic Sea? - National PoM (SE) includes a measure to reduce the input of ALDFG from commercial and recreational fishing in national waters;
OSPAR	Develop and promote best practice together with fishing industry and relevant authorities in relation to marine litter including dolly rope, waste management on board and at harbours and operational loss/net cuttings (RAP36). Identify the options to address key waste items from the fishing industry and aquaculture including deposit schemes, voluntary agreements and extended producer responsibility (RAP35).
CEP	
SPREP	
NOWPAP	Action 1.2 of RAP MALI: <ul style="list-style-type: none"> - Develop and apply operational fishing methods that minimize the loss of fishing gears according to FAO technical Guidelines - Develop and use marked fishing gears to identify its owner thus contributing to reducing fishery-related marine litter - Apply market-based economic instruments such as incentives for fishermen for removal of marine litter and port reception fees - Various guidelines published

Education, research and Outreach

G7 MLAP Promoting outreach and education activities leading to individual behavior change that can reduce the amount of litter entering the environment, internal waters and sea

Summary: Very numerous and diversified are the activities implemented in all the Regions in the framework of education, research and outreach. They include the consolidation of a data bank on marine litter and information sheets available to the large public, training for seafarers, fishermen, ship owners, port operators and users of pleasure crafts, development of a communication strategy linked to national initiatives, organization of model beach clean-ups, community-based public education campaigns, radio talks and TV shows. It appears that the objective and priority action agreed by the G7 countries are well reflected in the activities implemented in the Regions.

UNEP/MAP Undertake public awareness and education activities with regard to marine litter management, prevention and promotion of sustainable consumption and production (Art.16).

HELCOM To prepare information sheets to assist Contracting Parties in developing material for education programs, especially for professional seafarers including fishermen, highlighting the marine litter problem and including codes of practice in cooperation with relevant organisations including IMO (RE1)

OSPAR Develop marine litter assessment sheets to assist countries to develop material for education programmes including seafarers and fishermen (RAP58).
Establish and share a database on good practice examples of marine litter measures and initiatives (RAP59).
Develop a communication strategy on the Regional Action Plan linked with national initiatives/measures (RAP60).

CEP Develop and implement community-based public education campaigns for marine litter prevention, including specialized marine litter prevention programmes for key user groups and stakeholders (Action 4.4.1).
Develop a regional campaign for international coastal cleanup (Action 4.4.2).
Develop a regional, web-based database as clearinghouse for marine litter information and research (Action 4.3.2).

SPREP Implement coast cleanups, radio talk, TV shows.

NOWPAP Action 1.3 of RAP MALI:

- Develop and implement education and training programmes for ship owners, operators, crews, port users, fishermen, users of pleasure crafts and the general public on marine litter causes, effects and possible prevention
- Formulate and implement public awareness campaign for the general public, all related industrial sectors, municipal authorities, local communities and media to reduce the generation of waste and environmentally sound disposal and reuse
- Organize and coordinate voluntary beach clean-ups as a tool to educate and involve local communities, stakeholders and media
- Annual coastal cleanup campaigns in member states with active role of local NGOs

References

- Cole M. et al., 2011. Microplastics as contaminants in the marine environment: A review. *Marine Pollution Bulletin* 62:2588–2597.
- Eriksen M. et al., 2014. Plastic Pollution in the World's Oceans: More than 5 Trillion Plastic Pieces Weighing over 250,000 Tons Afloat at Sea, *PLoS ONE* 9(12): e111913,
- 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. *FAO Fisheries and Aquaculture Technical Paper* 600, Food and Agriculture Organization of the United Nations, Rome, 2016: <http://www.fao.org/3/a-i5051e.pdf>.
- Fossi, M. C. et al., 2012. Are baleen whales exposed to the threat of microplastics? A case study of the Mediterranean fin whale (*Balaenoptera physalus*). *Mar. Pollut. Bull.* 64, 2374–2379.
- Galgani F. et al., 2015. Global Distribution, Composition and Abundance of Marine Litter, in *Marine Anthropogenic Litter*, Springer Int. Publishing, Eds.: Bergmann M., Gutow L., Klages M., ISBN 978-3-319-16510-3.
- GESAMP, 2015. "Sources, fate and effects of microplastics in the marine environment: a global assessment" (Kershaw, P. J., ed.). (IMO/FAO/UNESCO-IOC/UNIDO/WMO/IAEA/UN/UNEP/UNDP Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection). *Rep. Stud. GESAMP No. 90*, 96 p.
- IMO, 2016. Review of the Current State of Knowledge Regarding Marine Litter in Waster Dumped at Sea under the London Convention and Protocol, Final Report, International Maritime Organization: http://www.imo.org/en/OurWork/Environment/LCLP/newandemergingissues/Documents/Marine%20litter%20review%20for%20publication%20April%202016_final_ebook_version.pdf.
- Jambeck J. R. et al., 2015. Plastic waste inputs from land into the ocean, *Science* 347(6223): 768-771, DOI: 10.1126/science.1260352.
- Lane S.B. et al., 2007. Regional Overview and Assessment of Marine Litter Related Activities in the WIO Region. Nairobi Convention and GEF WIO-LaB Project Countries. Prepared on behalf of UNEP (GPA and Regional Seas Programme).
- Leous J.P., and Parry N.B., 2005. "Who is responsible for marine debris? The international politics of cleaning our oceans". *Journal of International Affairs* 9(1): 257-269. doi:10.1371/journal.pone.0111913.
- McIlgorm A. et al., 2008. Understanding the economic benefits and costs of controlling marine debris in the APEC region (MRC 02/2007). A report to the Asia-Pacific Economic Cooperation Marine Resource Conservation Working Group by the National Marine Science Centre (University of New England and Southern Cross University), Coffs Harbour, NSW, Australia, December.
- National Research Council of the National Academies, 2005. Tackling marine debris in the 21st century. Washington, D.C.: National Academies Press. http://www.nap.edu/catalog.php?record_id=12486.
- PlasticsEurope, 2015. Plastics – the Facts 2015: An analysis of European plastics production, demand and waste data. http://www.plasticseurope.org/documents/document/20151216062602-plastics_the_facts_2015_final_30pages_14122015.pdf.
- Potts T. and Hastings E., 2011. Marine litter issues, impacts and actions. Scottish Government; p. 138.
- Rochman C.M. et al., 2013. Ingested plastic transfers hazardous chemicals to fish and induces hepatic stress, *Scientific Reports* 3:3263. doi:10.1038/srep03263.
- Rochman C. M. et al., 2016. The ecological impacts of marine debris: unraveling the demonstrated evidence from what is perceived. *Ecology* 97(2):302-12.
- Scheld et al., 2016. The Dilemma of Derelict Gear, *Scientific Reports* 6:19671. doi:10.1038/srep19671.
- UNEP, 2005. *Caribbean Environment Outlook*, ISBN: 92-807-2526-2.
- UNEP, 2013. *Guidelines for National Waste Management Strategies: Moving from Challenges to Opportunities*, United Nations Environment Programme 2013, ISBN: 978-92-807-3333-4.
- Veiga J.M. et al., 2016. Identifying Sources of Marine Litter. MSFD Technical Group Marine Litter - Thematic Report. JRC Technical Report. European Commission, Joint Research Centre. EUR28309 EN, doi:10.2788/018068.
- Werner S. et al., 2016. Harm caused by Marine Litter. MSFD GES TG Marine Litter - Thematic Report; JRC Technical report; EUR 28317 EN; doi:10.2788/690366.
- Wright S.L. et al., 2013. The physical impacts of microplastics on marine organisms: A review. *Environmental Pollution* 178:483-492. doi: 10.1016/j.envpol.2013.02.031.



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