

**United Nations Environment Programme (UNEP)**  
**Inputs to the Secretary-General's Report on Marine Debris, Plastics and Microplastics**

**Summary**

UNEP together with the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) has long been working to prevent, reduce and mitigate impacts by marine litter on marine and coastal ecosystems. Challenges posed by marine litter and responses to the challenges by UNEP are reviewed below.

At the First Session of United Nations Environmental Assembly (UNEA-1), member states adopted resolution 1/6 Marine plastic debris and microplastics, requesting “the Executive Director, in consultation with other relevant institutions and stakeholders, to undertake a study on marine plastic debris and marine microplastics, building on existing work and taking into account the most up-to-date studies and data”. The study has focused on key sources; possible measures and best available techniques and environmental practices to prevent the accumulation and minimize the level of microplastics in the marine environment; urgent actions; research needs, including key impacts on the environment and on human health; and other priority areas identified in the assessment of the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection. The study is going to be submitted to the Second Session of the UNEA in May 2016.

An analysis of socio-economic aspects of marine litter at a global level was prepared by IEEP, on behalf of UNEP, and delivered in time to provide input for the G7 Summit, in June, 2015 Germany. The G7 acknowledged UNEP’s work and invited UNEP to address marine litter, and echoed UNEA's decision to give this issue a high priority. UNEP has been working with the G7 countries since, to support preparation of follow-up action plans.

UNEP’s Regional Sea Programme spearheads monitoring, assessment and awareness-raising at the regional level. Through the Global Partnership on Marine Litter, several regional action plans have been developed. For example, in 2013, a legally binding Marine Litter Regional Plan was adopted by the 22 participating countries to the Barcelona Convention. Long-lasting monitoring programmes within the Northwest Pacific Action Plan (NOWPAP) region have also enhanced understanding of marine litter and associated impacts.

Recently UNEP launched a Massive Open Online Course on Marine Litter, aiming to raise citizen’s awareness across the world. Over 6,000 people were enrolled.

Although significant efforts have been made to tackle the issue of marine litter, further action is needed in order to effectively address the issue. Recommendations for future action include to

strengthen the GPML; develop and strengthen implementation of regional and national action plans on marine litter; ensure effective implementation of legal instruments and management measures based on sound monitoring and assessments; improve cooperation among various sectors; improve solid waste management infrastructure; raise and enhance public awareness; enhance public-private partnerships; and encourage a shift towards a more circular economic model.

## **1. Introduction**

UNEP's global initiative on marine litter, in response to United Nations General Assembly Resolution 60/30, fosters the establishment of cooperation and the coordination of activities for the control and sustainable management of marine litter. Significant attention has therefore been given to the problem of marine litter by UNEP, particularly through the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) Coordination Office and under the broad auspices of the UNEP Regional Seas Programme. This culminated in the publication of a global review of the approaches taken to mitigate this issue, as well as guidelines on the survey and monitoring of marine litter and guidelines on the use of market-based instruments to address the problem of marine litter.

Since 2006 marine litter has emerged as a major global marine pollution issue, and was further confirmed at the 5<sup>th</sup> International Marine Debris Conference (IMDC) in 2011, and through the formation of a Marine Debris Task Team led by UNEP/GPA within UN Oceans in 2011. In fact, the UN General Assembly in its resolution 65/37 (paragraph 136), welcomed "the activities of the United Nations Environment Programme relating to marine debris carried out in cooperation with relevant United Nations bodies and organizations" and encouraged "States to further develop partnerships with industry and civil society to raise awareness of the extent of the impact of marine debris on the health and productivity of the marine environment and consequent economic loss".

The GPA was adopted by 108 governments and the European Commission in an intergovernmental conference held in Washington D.C., USA, on November 3, 1995. UNEP hosts the Secretariat for the GPA, and the GPA-related activities have been largely embedded into UNEP's Programme of Work in order to effectively assist member states with the implementation of GPA-related activities.

At the third intergovernmental review meeting of the GPA (IGR-3), 64 Governments and the European Commission recommended establishment of the Global Partnership on Marine Litter (GPML) as contained in the Manila Declaration on Furthering the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities

(Manila Declaration)<sup>1</sup>. Following the recommendation, the GPML was officially launched at Rio + 20 in Brazil, in June 2012.

The GPML is a multi-stakeholder global partnership, which brings together international agencies, governments, NGOs, academia, the private sector, civil society and individuals under the common vision to reduce and better manage marine litter. At the heart of GPML is the implementation of the Honolulu Strategy – A Global Framework for Prevention and Management of Marine Debris<sup>2</sup>. The strategy has three main goals: (1) Reduce amount and impact of land-based litter and solid waste introduced into the marine environment; (2) Reduce amount and impact of sea-based sources of marine debris including solid waste, lost cargo, ALDFG (abandoned, lost or otherwise discarded fishing gear), and abandoned vessels introduced into the sea; and (3) Reduce amount and impact of accumulated marine debris on shorelines, in benthic habitats, and pelagic waters.

Based on the strategy, the GPML will continue assisting stakeholders to reduce the impacts of marine litter. UNEP, together with the GPML, continues providing technical assistance and raising awareness with regards to marine litter and its associated impacts so that member states can effectively achieve the Sustainable Development Goal Target 14.1, “*By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution*”.

As is shown by the Leaders’ Declaration of the G7 Summit in 2015<sup>3</sup>, there are increasing concerns over marine debris and associated impacts among the policy makers. Increasing efforts will be made, driven by the 2030 Agenda for Sustainable Development and the G7 Leaders’ Declaration in order to prevent, and reduce marine litter across the world. With the long-lasting experiences on the issues, UNEP will continue providing links between science and policy in order to effectively address the challenges posed by marine litter.

## **2. Progress to date**

### **2.1 UNEP**

The UNEP/GPA Coordination Office has led efforts in addressing the issues related to marine litter globally. Among its efforts include a publication on “Valuing Plastics”, which was launched during the First United Nations Environment Assembly (UNEA-1) and which noted that the overall natural capital cost of plastics use in the consumer goods sector each year is US\$75 billion—calculated as the negative financial impact of issues such as pollution of the marine environment or air pollution caused by incinerating plastics.

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<sup>1</sup> UNEP/GPA/IGR.3/6

<sup>2</sup> <http://unep.org/gpa/documents/publications/honolulustrategy.pdf>

<sup>3</sup> [https://www.g7germany.de/Webs/G7/EN/Home\\_en/home\\_node.html](https://www.g7germany.de/Webs/G7/EN/Home_en/home_node.html)

During UNEA-1, member states adopted resolution 1/6 Marine plastic debris and microplastics<sup>4</sup> requesting “*the Executive Director, in consultation with other relevant institutions and stakeholders, to undertake a study on marine plastic debris and marine microplastics, building on existing work and taking into account the most up-to-date studies and data, focusing on: (a) Identification of the key sources of marine plastic debris and microplastics; (b) Identification of possible measures and best available techniques and environmental practices to prevent the accumulation and minimize the level of microplastics in the marine environment; (c) Recommendations for the most urgent actions; (d) Specification of areas especially in need of more research, including key impacts on the environment and on human health; (e) Any other relevant priority areas identified in the assessment of the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection*”. The UNEP and GPA are leading the preparation of this proposed study, which is going to be submitted to the Second Session of the United Nations Environment Assembly (UNEA-2) in May 2016. An Advisory Group, made up of 30 representatives nominated by governments and major groups, has been established to review the draft report and further formulate policy relevant recommendations.

Components of the study include:

- a. Core study focusing on strengthening the evidence base concerning microplastics (with the Joint Group of Experts for the Scientific Aspects of Marine Environmental Pollution, GESAMP)
- b. Impact of microplastics on fisheries and aquaculture (led by FAO)
- c. Compilation of Best Available Techniques
- d. Compilation of Best Environmental Practices (with American Chemistry Council)
- e. Modeling of marine debris (with the Commonwealth Scientific and Industrial Research Organisation, CSIRO)
- f. Socioeconomic aspects of marine litter (with the Institute for European Environmental Policy, IEEP).

An analysis of socio-economic aspects of marine litter at a global level, comprising of a scoping of current issues and research findings, identifying gaps in current knowledge and priority actions, and identifying the main costs of non-action and costs of action was prepared by IEEP, on behalf of UNEP, and delivered in time to provide input for the G7 Summit, 7/8 June, 2015 in Schloss Elmau, Germany. The G7 acknowledged UNEP’s work and invited UNEP to address topics of priority concern to the Summit, including marine litter, where the G7 echoed to UNEA's decision and call to give this issue a high priority. The G7 recognised UNEP’s work and

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<sup>4</sup> Resolutions and decisions adopted by the United Nations Environment Assembly of the United Nations Environment Programme at its first session on 27 June 2014

in particular the role of the GPA. Leaders from the G7, in particular, recognized that the use of existing platforms and tools for cooperation such as the GPA and the GPML will reduce duplication and take advantage of progress, and therefore supported their use. Since the G7 Summit, UNEP has been involved, along with other partners and the G7 to prepare follow-up action plans.

Marine litter is viewed by the UNEP/GPA Coordination Office and Regional Seas Programmes as a key crosscutting issue. The development, by the Regional Seas Programmes, of Regional Marine Litter Action Plans has been promoted and supported to address this problem. UNEP has been providing support to the development of these regional and national action plans on Marine Litter, through the GPML. The UNEP Regional Seas Programme is spearheading regional implementation of the GPA, including the GPML. The Regional Seas Programme encompasses eighteen Regional Seas Conventions and Action Plans (RSCAPs) across the world, of which seven RSCAPs are administered by UNEP (Abidjan Convention, Barcelona Convention, Cartagena Convention, East Asian Seas Action Plan, Nairobi Convention, Northwest Pacific Action Plan and Teheran Convention). Several RSCAPs have already developed Regional Action Plans on Marine Litter and various activities are undertaken at regional as well as national levels, as described in the following section.

UNEP, through the GPA and the GPML, and in the lead up to the Samoa SIDS Conference, has implemented a project - " Pacific Islands Waste Management and Marine Debris Minimisation Best Practice - Samoa Demonstration Project " - in partnership with the Government of Samoa, the Secretariat of the Pacific Regional Environment Programme (SPREP) and the communities and private sector in Apia, which aims at reducing flux of marine litter into harbour and raising awareness on the issue of marine debris, while demonstrating effective waste management measures that can be implemented in Pacific island countries. The project included four main components: community and media awareness; improved waste management in the ports of entry into Samoa in particular the Samoa Port and Samoa Airport; waste disposal facilities within the UNSIDS venue and the accommodation providers; and working with the communities to improve waste practices. This also included provision of litter booms in major contributory rivers and upscaling of waste through craft workshops (see <http://unep.org/gpa/gpml/SamoaDemoProject.asp>)

Through the GPML, an online Marine Litter network has been developed ([www.marinelitternetwork.org](http://www.marinelitternetwork.org) ). The site contains a Resources Database, with documents and other resources submitted by Network members.

UNEP has also been engaged in education and awareness raising activities on marine litter. A Massive Open Online Course on Marine Litter (MOOC) was developed through the partnership of GPML with Open Universiteit of the Netherlands. The course, which started on 26 October

2015, had approximately 6500 participants<sup>5</sup> and consists of a leadership track and an experts/practitioners track. At the same time, the GPA is also preparing a Global Campaign on Marine Litter, expected to be launched during UNEA-2.

Technical publications prepared by UNEP and the GPA have also contributed to enhancing our knowledge on marine litter and its ecological, social and health impacts, including the following (some of which were previously mentioned):

- a) Plastic in Cosmetics. Are We Polluting the Environment Through Our Personal Care? (2015)<sup>6</sup>
- b) Valuing Plastics (2014)<sup>7</sup>
- c) Biodegradable Plastics & Marine Litter (2015)<sup>8</sup>

The GPA Coordination Office has informed regional and national action and the future work of the Cartagena Convention/Caribbean Environment Programme by supporting revision of the Regional Plan on Marine Litter Management for the Wider Caribbean Region. Marine litter chapters of the Global Partnership on Marine Litter are also being supported in some regions (e.g. the Northwest Pacific Action Plan - NOWPAP; Africa) and will soon be established in others (e.g. the Caribbean).

Support has also been provided to the Permanent Commission for the South Pacific (CPPS) for development of municipal action plans between municipalities and local stakeholders to reduce the impact of marine litter in coastal communities in Southeast Pacific countries. In NOWPAP countries, the GPA Coordination Office has enhanced knowledge on best practices in dealing with marine litter in fisheries, aquaculture and shipping, and prevention of marine litter inputs from land - based sources, including NGOs. The GPA Coordination Office also enabled adoption by Contracting Parties of the Barcelona Convention of a Regional Plan on Marine Litter Management in the Mediterranean Sea. Further details on specific activities in various regions are elaborated below.

## **2.2. UNEP's Regional Seas Programme and Marine Litter**

### **2.2.1 Abidjan Convention**

The Abidjan Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region is one of the 18 Regional Seas Conventions and Action Plans that bring together over

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<sup>5</sup> <https://www.marinelittermooc.org/learn/massive-open-online-course-mooc-on-marine-litter-october-2015>.

<sup>6</sup> [http://apps.unep.org/publications/index.php?option=com\\_pub&task=download&file=011718\\_en](http://apps.unep.org/publications/index.php?option=com_pub&task=download&file=011718_en)

<sup>7</sup> [http://apps.unep.org/publications/index.php?option=com\\_pub&task=download&file=-](http://apps.unep.org/publications/index.php?option=com_pub&task=download&file=-)

Valuing%20plastic:%20the%20business%20case%20for%20measuring,%20managing%20and%20disclosing%20plastic%20use%20in%20the%20consumer%20goods%20industry-2014Valuing%20plasticsF.pdf

<sup>8</sup> <http://www.unep.org/gpa/documents/publications/BiodegradablePlastics.pdf>

160 coastal states and territories. The Convention area covers 22 countries with three distinct large marine ecosystems, namely the Benguela, Guinea and the Canary currents.

### **i. Challenges posed by marine debris, plastics and microplastics**

There have not been any regional assessments of marine litter in the Abidjan Convention area and there is a need for data collection. Yet marine litter, mostly plastic, is visibly increasing in the region.

The major sea-based sources of marine litter include shipping and fishing activities; offshore mining and extraction; legal and illegal dumping at sea; ALDFG; and natural disasters. Major land-based sources include waste from dumpsites located on the coast or banks of rivers; rivers and floodwaters; industrial outfalls; discharge from storm water drains; untreated municipal sewerage; littering of beaches and coastal picnic and recreation areas; tourism and recreational use of the coasts; fishing industry activities; ship-breaking yards; and natural storm related events.

The main driver of marine litter in the area is likely to be the growing coastal settlements with high populations producing vast quantities of industrial and domestic waste. Proper wastewater and solid waste treatment plants are generally unavailable or inadequate. Domestic, industrial and agricultural wastes regularly flow into drainage channels and directly into lagoons and the sea.

The Lagos State Waste Management Authority, as an example, reports that an average of 16,100 tons of waste was generated daily in 2015. In the most heavily populated centres in the Abidjan Convention region, collection of waste remains a major weakness, leaving a high possibility of a significant percentage of this waste ending up as marine litter.

Marine litter can lead to considerable economic losses to coastal communities, in the form of increased spending on beach cleaning, public health and waste disposal. The bad publicity associated with dirty beaches can drive away domestic and international tourists. Marine litter can entangle ship propellers and increase the costs of engine maintenance. Fish catch is being reduced; nets and other fishing gear are being damaged in a region where fish is the primary protein source and income for coastal communities.

### **ii. Actions and activities**

A Protocol to the Abidjan Convention for Cooperation in the Protection, Management and Development of Marine and Coastal Environment from Land-Based Sources and Activities of the Atlantic Coast of the Western, Central and Southern African Region was adopted by the

parties in 2012 to enhance cooperation in order to prevent, reduce, mitigate and control pollution from land-based sources.

In October 2015, the Abidjan Convention held a marine litter workshop of its network of marine environmental journalists in an effort to ensure sustained coverage of the problem and create heightened public and government awareness to the threat litter causes to marine life, coastal habitats and water bodies.

### **2.2.2 Barcelona Convention**

In 1975, 16 Mediterranean countries and the European Community adopted the Mediterranean Action Plan (MAP), the first-ever Regional Seas Programme under UNEP's umbrella. In 1976 these Parties adopted the Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention). Today, 30 years later, the Barcelona Convention and MAP are more active than ever. The Contracting Parties are now 22, and they are determined to protect the Mediterranean marine and coastal environment while boosting regional and national plans to achieve sustainable development.

#### **i. Challenges posed by marine debris, plastics and microplastics**

The Mediterranean Sea is considered as one of the areas most affected by marine litter in the world. Human activities generate considerable amounts of waste, and quantities are increasing, although they vary between countries. In the Mediterranean, reports classify land-based sources (up to 69% of litter) and vessel-based sources (up to 26%) as the two predominant litter sources. Plastic is the main litter component; it has now become ubiquitous and may comprise up to 95% of waste accumulated on shorelines, the ocean surface, or sea floor (UNEP/MAP, 2015). A large scale study in the Mediterranean Sea identified five different types of plastic items (pellets/granules, films, fishing threads, foam, fragments), with the majority of items being fragments of larger rigid objects (87.7%, e.g. bottles, caps) and thin films (5.9%; e.g. pieces of bags or wrappings)<sup>9</sup>.

Littering, land based sources from coastal landfills, water transportation, recreational beaches, illegal dumping and riverine inputs, all contribute to the marine litter problem. Marine litter from shoreline and recreational activities and from smoking related activities are two areas for priority action and awareness raising campaigns in the Mediterranean.

It is estimated that 6 million tons of waste are generated from ships worldwide. With 30% of the maritime traffic worldwide<sup>10</sup> occurring in the Mediterranean sea, it is estimated that more than a million tons of waste comes from ships annually to the Mediterranean.

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<sup>9</sup> Cózar, Andrés, et al. "Plastic Accumulation in the Mediterranean Sea." PloS one 10.4 (2015): e0121762.

<sup>10</sup> <http://www.unep.org/regionalseas/marinelitter/about/distribution/>



Assessments of the composition of beach litter in different regions of the Mediterranean Sea show that synthetic materials (bottles, bags, caps/lids, fishing nets, and small pieces of unidentifiable plastic and polystyrene) make up the largest proportion of overall litter pollution.

Tourism is the sector that contributes the most to marine litter and the amount of litter originating from recreational/tourism activities greatly increases during and after the tourism season. Household-related waste, including sanitary waste, is also of great relevance. Several surveys have shown<sup>11</sup> that smoking related wastes in general also seem to be a significant problem in the Mediterranean. Finally, the fishing industry is of significance as well as the shipping industry.

Sea and waterway activities account for approximately 5%<sup>12</sup> of marine litter in the Mediterranean and have remained steadily low. This could be largely due to the fact that all vessels above 400 tons or carrying more than 15 persons are obliged to implement waste management plans and thanks to an improved availability of reception facilities in the major Mediterranean ports. Prohibitions regarding the disposal of solid wastes are particularly strict in sea areas with special characteristics, such as the Mediterranean, which is termed a Special Area under the MARPOL International Convention. Problems still exist in relation to the operation and use of port reception facilities including high costs and complicated procedures. Seafarers and shipping companies and crews on board merchant vessels may implement waste management plans that include the separation of solid wastes, however, the efficiency of the shore side management of these separated waste streams often remains questionable. Coastal municipalities must make sure that the waste left in reception facilities is properly taken care of on land in a manner that is optimal in terms of caring for the environment and human health. There is a need for a strengthened collaboration among national authorities, local/port authorities, the maritime industry, and other stakeholders in order to address all above-mentioned problems. This need is more urgent in the case of smaller fishing harbours and marinas.

The Mediterranean situation appears particularly delicate regarding the possible accumulation of floating plastics, since the basin is characterized by a net inflow of surface waters of Atlantic origin through the Strait of Gibraltar, with no outflow possibility for items less dense than seawater anywhere.

In the Mediterranean, despite the scarcity and inconsistency of related data, ALDFG and in particular the issue of ghost nets has been recognized as a problem. Recent research carried out in several locations of the Mediterranean Sea indicates that fishing gear may account for a large or even the largest part of marine litter items recorded, with figures being as high as 89%<sup>13</sup> in some areas.

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<sup>11</sup> UNEP-MAP(2009)

<sup>12</sup> UNEP (2009) Marine Litter: A Global Challenge

<sup>13</sup> Angiolillo, M., di Lorenzo, B., Farcomeni, A., Bo, M., Bavestrello, G., Santangelo, G., ... & Canese, S. (2015). Distribution and assessment of marine debris in the deep Tyrrhenian Sea (NW Mediterranean Sea, Italy). *Marine pollution bulletin*, 92(1), 149-159

Recent findings show that synthetic polymer items among fishing nets make up the largest proportion of overall litter pollution. Further work is needed to make accurate estimates of the extent of the problem for the Mediterranean at local, national and regional level, in order to facilitate effective decision making and management responses.

A majority of marine litter materials does not decompose, or decomposes slowly. This phenomenon is particularly critical on the sea floor, where 90% of litter caught in benthic trawls is plastic, and even more so on the surface of the sea, where that figure can reach up to 100%<sup>14</sup>. Surveys conducted to date show considerable spatial variability. Accumulation rates vary widely and are influenced by many factors, such as the presence of large cities, shore use, hydrodynamics, and maritime activities. They are higher in enclosed seas such as the Mediterranean basin, which has some of the highest densities of marine litter stranded on the sea floor, sometimes reaching over 100,000 items / km<sup>2</sup><sup>15</sup>.

Collection of reliable information is a task that requires considerable human resources along with a sophisticated central coordination mechanism. This is a recent undertaking for the Mediterranean. However, sources for amounts and types of litter is usually based on various initiatives in the region by NGOs, local authorities and other partners at national and local level in almost all Mediterranean countries.

## **ii. Actions and activities**

The most important action taken in the Mediterranean is the adoption of the Regional Plan on Marine Litter in December 2013 and its entry into force in July 2014. The Regional Plan provides for a range of measures to address the marine litter challenges in the Mediterranean, including the following:

the development and implementation of appropriate policy, legal instruments, and institutional arrangements, including solid waste and sewer system management plans, which shall incorporate marine litter prevention and reduction measures; raising awareness by the development education programmes by the Contracting Parties; ensuring institutional coordination and close coordination and collaboration between national, regional, and local authorities in the field of marine litter; and key prevention measures for land based sources and sea-based sources. The MLRP also encourages to use a no special fee system for port reception facilities. It also provides for manufacturer brand owners, and first importers to enhance their responsibility for the entire life-cycle of the product, thereby contributing to the promotion of the consumption of recycled plastic-made products as well as applying sustainable procurement policies. It also contains measures requiring prevention of any marine littering from dredging activities by 2020, providing for enforcement measures to combat illegal dumping in accordance

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<sup>14</sup> Bergmann, M., Gutow, L., & Klages, M. (2015). *Marine Anthropogenic Litter*. Springer.

<sup>15</sup> Galgani, F., Hanke, G., & Maes, T. (2015). Global distribution, composition and abundance of marine litter. In *Marine anthropogenic litter* (pp. 29-56). Springer International Publishing.

with national and regional legislation, including littering on the beach, illegal sewage disposal in the sea, the coastal zone, and rivers in the area of the application of the Regional Plan.

As a follow-up to its implementation, UNEP MAP has undertaken several key activities during 2014-2015:

#### At regional level

- The elaboration of Fishing for Litter Guidelines, to implement Article 9 and 10 of the Regional Plan, subject to approval by COP 19, February 2016;
- Preparation and publication of a Marine Litter Assessment Report in 2015, addressing main challenges and priority measures;
- Regional survey and preparation of an assessment report in 2016, on abandoned, lost and discarded fishing gears including 11 national reports.
- Preparation of marine litter related educational kit and communication material disseminated to a large number of stakeholders so as to promote awareness raising among different stakeholders;
- Publication and dissemination of marine litter management best practices in 2015;
- Preparation of a comprehensive marine litter monitoring and assessment programme for the Mediterranean addressing beach and floating litter, subject to approval by COP 19, February 2016
- Proposal for consideration by COP 19, February 2016, of a Mediterranean-wide 20% reduction target on beach litter by 2024

#### National level

The most important action taken at the national level is the formulation of national action plans on marine litter management that contain measures and programmes of measures and timetables for their implementation. Such measures address priority actions to prevent and reduce marine litter to achieve good environmental status.

### **2.2.3 Cartagena Convention**

The Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region (WCR), or Cartagena Convention, is a comprehensive, umbrella agreement for the protection and development of the marine environment. The Convention was adopted in Cartagena, Colombia on 24 March 1983 and entered into force on 11 October 1986, for the legal implementation of the Action Plan for the Caribbean Environment Programme (CEP). It also provides the legal framework for cooperative regional and national actions in the WCR.

#### **i. Challenges posed by marine debris, plastics and microplastics**

The WCR is made up of small islands and low-lying coastal states within a tropical climate with occasional natural disasters. The region's climate is conducive to year-round beach and water-related activities and therefore more waste production and potential marine litter. The islands in the WCR face special challenges unique to Small Island Developing States (SIDS). These challenges include small land mass (a greater proportion of which is coastal land), poorly developed solid waste management infrastructure, vulnerability to extreme weather events, and the location of the majority of their populations within 10 kilometres of the ocean.

Vital economic sectors such as tourism, fisheries, and maritime transportation are highly dependent on these vulnerable coastal ecosystems. Unfortunately, the ecosystems that underpin the economic stability of many countries in the WCR are being severely degraded by overuse and anthropogenic impacts including marine debris, plastics and microplastics resulting in loss of biodiversity and loss of natural storm buffers such as corals and mangroves.

In recent years, the Cartagena Convention Secretariat has published the following reports related to marine litter:

- a) Regional overview of marine litter in the WCR region<sup>16</sup>.
- b) Negative impacts of marine litter in the WCR: country case studies<sup>17</sup>.

## **ii. Actions and activities**

The CEP Regional Action Plan on Marine Litter (RAP MALI) was adopted in 2007, and several activities to address negative effects of marine debris have been implemented. The Cartagena Convention Secretariat has supported International Coastal Clean-up (ICC) activities, and is in the process of establishing a joint regional node for Marine Litter Management in collaboration with the Gulf and Caribbean Fisheries Institute (GCFI) to support the Global Partnership on Marine Litter. Other activities include:

- a) Updating of the Wider Caribbean Regional Action Plan for Marine Litter Management in 2014, taking into account emerging issues relating to plastics and microplastics as well as new regional and global resolutions and commitments such as the SAMOA Pathway for SIDS;
- b) Development and dissemination of educational material on the negative impacts of marine litter including the development of an online interactive kids game on marine litter<sup>18</sup>;

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<sup>16</sup> [http://www.cep.unep.org/content/about-cep/amep/marine-litter-in-the-wider-caribbean-a-regional-overview-proposed-action-plan/at\\_download/file](http://www.cep.unep.org/content/about-cep/amep/marine-litter-in-the-wider-caribbean-a-regional-overview-proposed-action-plan/at_download/file)

<sup>17</sup> See [www.cep.unep.org](http://www.cep.unep.org)

<sup>18</sup> <http://www.cep.unep.org/kids-corner>

- c) Launch of a Trash Free Partnership at the 2015 Our Oceans Conference in Chile in collaboration with the Peace Corps, US Environmental Protection Agency and the Governments of Panama and Jamaica.
- d) Regional capacity building workshop in support of MARPOL Annex V: Special Area Designation for the Caribbean Sea, in coordination with the Regional Marine Pollution Emergency, Information and Training Centre and the International Maritime Organization.

#### **2.2.4 East Asian Seas Action Plan (COBSEA)**

The Action Plan for the Protection and Development of the Marine Environment and Coastal Areas of the East Asian Seas Region (the East Asian Seas Action Plan) was approved in 1981, stimulated by concerns on the effects and sources of marine pollution. Initially, the action plan involved five countries (Indonesia, Malaysia, Philippines, Singapore and Thailand). In 1994, it was revised to involve another five countries (Australia, Cambodia, People's Republic of China, Republic of Korea and Vietnam) and up to this date the action plan has nine participating countries (Australia is no longer a participating country).

East Asian Seas Action Plan is steered by the Coordinating Body on the Seas of East Asia (COBSEA) that consists of the member countries. The COBSEA Secretariat is in fact the lead agency of the United Nations for marine environmental matters in East Asia, responsible for coordinating the activities of governments, NGOs, UN and donor agencies, and individuals in caring for the region's marine environment.

##### **i. Challenges posed by marine debris, plastics and microplastics**

The COBSEA region is one of the most populous regions in the world. Approximately 75% of the population in the region, which is close to 2 billion people, live in the coastal area. The region has experienced rapid population growth with economic development in coastal areas putting pressures on coastal and marine ecosystems. The region is also known for one of the world's highest concentration of shipping and fishing vessels activities. The ongoing rate of urban and industrial development along the coastlines in the region suggests that marine litter will continue to be a major marine pollution problem in the COBSEA region. Lost and Abandoned Fishing Gear (LAFC) is an increasing concern considering the significance of fisheries industry in the region and the difficulty of controlling Illegal, Unregulated and Unreported (IUU) fishing<sup>19</sup>. The recent Ocean Conservancy report indicated that five 'key' countries in the COBSEA region - China, Indonesia, Philippines, Thailand and Vietnam, greatly contribute to the global marine litter problem<sup>20</sup>.

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<sup>19</sup> COBSEA (2009) State of Marine Environment Report

<sup>20</sup> Ocean Conservancy (2015) Stemming the Tide: Land-based strategies for a plastic-free ocean

## **ii. Actions and activities**

With support from UNEP’s Global Partnership on Marine Litter, COBSEA produced two documents on marine litter: 1) Regional Review – Marine Litter in the East Asian Seas Region, and 2) COBSEA Regional Action Plan on Marine Litter (RAP-MALI). The regional review showed that there were serious gaps with regard to marine litter management in the region. These include: few scientific studies and limited monitoring data on marine litter; low levels of awareness of the marine litter problem at all levels, including decision-making level; and lack of national and regional strategies and action plans on marine litter, designated lead agencies and coordination between government agencies. In 2008, the COBSEA Regional Action Plan on Marine Litter for the East Asian Seas (RAP-MALI) was adopted by participating countries, which recognized marine litter as a priority strategic and emerging issue to be addressed in the “New Strategic Direction of COBSEA” (2008-2012). In 2016, COBSEA is planning to revise its Regional Action Plan on Marine Litter with support from UNEP and the GPML.

### **2.2.5 Nairobi Convention**

The Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region was signed in 1985 and came into force in 1996. The Convention was amended and adopted in April, 2010. The Nairobi Convention provides a mechanism for regional cooperation, coordination and collaborative actions in the Eastern and Southern African region that enables the Contracting Parties to harness resources and expertise from a wide range of stakeholders and interest groups towards solving interlinked problems of the coastal and marine environment including critical national and transboundary issues.

#### **i. Challenges posed by marine debris, plastics and microplastics**

The Western Indian Ocean Region is one of the most biologically rich regions with a great diversity of habitats. Marine litter has negative impacts not only on tourism but also on the biodiversity as a result of ingestion, entanglement and smothering. For instance, marine litter has been identified as a threat for sea turtles in the region<sup>21</sup>. The Marine Litter in the Eastern African Region Report (2008)<sup>22</sup> found that most countries in the Western Indian Ocean region have solid waste management but in many cases effective implementation has been a challenge even though the main source of marine litter seems to be land-based solid waste from urban areas. The study also showed that, for most countries, effectively policing of their territorial waters or exclusive economic zones (EEZs) in order to prevent waste dumping is a challenge.

#### **ii. Actions and activities**

The contracting parties adopted the Protocol for the Protection of the Marine and Coastal Environment of the Western Indian Ocean from Land-Based Sources and Activities in 2010.

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<sup>21</sup> UNEP Nairobi Convention (2015) State of Marine Environment

<sup>22</sup> UNEP Nairobi Convention (2008) Marine Litter in the Eastern Africa Region: An Overview Assessment

Since then the Nairobi Convention has contributed to the strengthening of the legal capacity of countries in the region to address land-based pollution. A regional guidance paper on “the State of ratification and implementation of the LBSA protocol: Challenges and Solutions for the WIO region<sup>23</sup>”, which aims at assisting member states to address identified policy, legal and institutional gaps and constraints that have an impact on domestication processes, has been widely disseminated.

## **2.2.6 Northwest Pacific Action Plan (NOWPAP)**

The Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Region (NOWPAP) was adopted in September 1994 as a part of the Regional Seas Programme of UNEP. The overall goal of the Northwest Pacific Action Plan is "the wise use, development and management of the coastal and marine environment so as to obtain the utmost long-term benefits for the human populations of the region (China, Japan, Korea and Russia), while protecting human health, ecological integrity and the region's sustainability for future generations".

### **i. Challenges posed by marine debris, plastics and microplastics**

In the NOWPAP region, where fisheries and aquaculture are well-developed and supply seafood for people in the region, and where maritime transportation is very active, marine litter has serious negative effects on these sectors of national economies. Tourism is also affected through reduced aesthetic value of beaches and the coastline in general. Microplastics and contaminants associated with marine litter have negative effects on marine life and may affect food safety. In recent years, NOWPAP has published the following reports related to marine litter:

- a) Regional overview of marine litter in the NOWPAP region<sup>24</sup>.
- b) Negative impacts of marine litter in the NOWPAP region: case studies<sup>25</sup>.
- c) Regional report on sea based marine litter in the NOWPAP region<sup>26</sup>.

### **ii. Actions and activities**

The NOWPAP Regional Action Plan on Marine Litter (RAP MALI) was adopted in 2008. Since then, numerous activities to address the negative effects of marine debris have been implemented. For example, every year, a NOWPAP International Coastal Cleanup (ICC) campaign has been organized in one of the member states along with a workshop where representatives from member states, neighboring countries, NGOs and intergovernmental organizations (such as Ocean Conservancy, the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection, GPA, COBSEA, Partnerships in Environmental Management for the

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<sup>23</sup> UNEP(DEPI)/EAF/CP.7/Inf.19

<sup>24</sup> [http://dinrac.nowpap.org/documents/NOWPAP\\_Marine\\_Litter\\_2011.pdf](http://dinrac.nowpap.org/documents/NOWPAP_Marine_Litter_2011.pdf)

<sup>25</sup> [http://merrac.nowpap.org/FPM/download.html?mfi\\_idx=62](http://merrac.nowpap.org/FPM/download.html?mfi_idx=62)

<sup>26</sup> [http://dinrac.nowpap.org/documents/NOWPAP\\_MERRAC\\_Regional\\_Report\\_Seabased\\_Marine\\_Litter.pdf](http://dinrac.nowpap.org/documents/NOWPAP_MERRAC_Regional_Report_Seabased_Marine_Litter.pdf)

Seas of East Asia, Yellow Sea Large Marine Ecosystem project) share their experience and best practices in preventing, monitoring and removing marine litter. The following reports were published in recent years<sup>27</sup>:

- a) Best practices in dealing with marine litter in fisheries, aquaculture and shipping sectors in the NOWPAP region<sup>28</sup>.
- b) Regional report on measures and best practices of prevention of marine litter input from land-based sources in the NOWPAP region<sup>29</sup>.
- c) Marine litter management within a river basin: a case study of Oyabe river<sup>30</sup>.
- d) Marine litter guidelines for tourists and tour operators in marine and coastal areas<sup>31</sup>.
- e) Sectoral guideline for the marine litter management: recreational activities<sup>32</sup>.
- f) Port reception facilities in the NOWPAP region<sup>33</sup>.
- g) Marine litter management: the approach of Incheon city<sup>34</sup>.
- h) Report on the technologies and research outcomes on the prevention, collection and treatment of marine litter in the NOWPAP region<sup>35</sup>.
- i) Proceedings of NOWPAP annual workshops on marine litter<sup>36</sup>.

### 3. Suggestion for further actions

The following recommendations have been made at meetings involving UNEP, the GPA and Regional Seas Programmes, in order to strengthen efforts to prevent and reduce marine litter.

- Develop Regional Action Plans on Marine Litter in regions where no action plan exists;
- Strengthen the implementation of Regional Action Plans on Marine Litter where an action plan exists;
- Support the implementation of National Action Plans and identify priority measures addressing waste management, landfilling, prevention measures and awareness;
- Strengthen the Global Partnership on Marine Litter (GPML);
- Revitalize the Global Partnership on Waste Management (GPWM) and foster greater synergies between the two Partnerships;

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<sup>27</sup> For the publications please refer to: <http://www.nowpap.org/>

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[http://merrac.nowpap.org/down/Best%20Practices%20in%20dealing%20with%20Marine%20Litter%20in%20Fisheries,%20Aquaculture%20and%20Shipping%20Sectors%20in%20the%20NOWPAP%20Region.pdf/1/Best%20Practices%20in%20dealing%20with%20Marine%20Litter%20in%20Fisheries,%20Aquaculture%20and%20Shipping%20Sectors%20in%20the%20NOWPAP%20Region.pdf/2/dataFile/board/data/tech\\_1/](http://merrac.nowpap.org/down/Best%20Practices%20in%20dealing%20with%20Marine%20Litter%20in%20Fisheries,%20Aquaculture%20and%20Shipping%20Sectors%20in%20the%20NOWPAP%20Region.pdf/1/Best%20Practices%20in%20dealing%20with%20Marine%20Litter%20in%20Fisheries,%20Aquaculture%20and%20Shipping%20Sectors%20in%20the%20NOWPAP%20Region.pdf/2/dataFile/board/data/tech_1/)

<sup>29</sup> [http://www.cearac-project.org/RAP\\_MALI/Regional\\_report\\_on\\_best\\_practice.pdf](http://www.cearac-project.org/RAP_MALI/Regional_report_on_best_practice.pdf)

<sup>30</sup> See <http://www.nowpap.org/>

<sup>31</sup> [http://www.cearac-project.org/RAP\\_MALI/Tourism%20Guidelines.pdf](http://www.cearac-project.org/RAP_MALI/Tourism%20Guidelines.pdf)

<sup>32</sup> [http://merrac.nowpap.org/down/recreational%20activities.pdf/1/recreational%20activities.pdf/2/dataFile/board/data/tech\\_1/](http://merrac.nowpap.org/down/recreational%20activities.pdf/1/recreational%20activities.pdf/2/dataFile/board/data/tech_1/)

<sup>33</sup> [http://dinrac.nowpap.org/documents/NOWPAP\\_MERRAC\\_Port\\_Reception\\_Facilities.pdf](http://dinrac.nowpap.org/documents/NOWPAP_MERRAC_Port_Reception_Facilities.pdf)

<sup>34</sup> [http://dinrac.nowpap.org/documents/NOWPAP\\_MERRAC\\_Marine\\_Litter\\_Management\\_Approach\\_Incheon.pdf](http://dinrac.nowpap.org/documents/NOWPAP_MERRAC_Marine_Litter_Management_Approach_Incheon.pdf)

<sup>35</sup> [http://dinrac.nowpap.org/documents/NOWPAP\\_MERRAC\\_Report\\_T&R\\_Outcomes.pdf](http://dinrac.nowpap.org/documents/NOWPAP_MERRAC_Report_T&R_Outcomes.pdf)

<sup>36</sup> See <http://www.nowpap.org/>



- Ensure a better integration and cooperation among the various sectorial branches and sectors of the administration (fisheries, tourism, environment, industry, port activities etc.);
- Exchange experiences and best practices on marine litter management at national, sub regional, regional and global levels;
- Harmonize clean-ups to enable collection of relevant scientific information;
- Improve solid waste management infrastructure with a focus on economic opportunities such as the use of waste as a resource, plastic recycling and the reduction of single-use plastics;
- Enhance public awareness on marine litter including microplastics;
- Enhance public private partnerships to address marine litter, plastics and microplastics as part of an integrated solid waste management issue;
- Encourage a shift towards a more circular economic model for the plastic production cycle.