



Workshop: A national source inventory approach to support and inform marine litter action planning

Meeting summary

Friday, 15 November 2019, 13:00-15:30, Bangkok, Thailand, United Nations Conference Centre

The workshop was convened by the United Nations Environment Programme (UNEP) Global Programme of Action (GPA), Global Partnership on Marine Litter (GPML), and the Coordinating Body on the Seas of East Asia (COBSEA). Organized in the context of the COBSEA Regional Action Plan on Marine Litter (RAP MALI) and the COBSEA-UNEP SEA circular¹ initiative, the workshop aimed to present and promote a national source inventory approach in national marine litter planning and monitoring.

The workshop was attended by representatives of COBSEA national focal agencies, national consultants and team members of the SEA circular marine litter initiative, and partners from UN entities, academia and civil society. The workshop was held back-to-back with the SEA of Solutions² partnership week for plastic pollution prevention and included presentations by COBSEA, UNEP and knowledge partners from the University of Wollongong and the Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP).

This document provides a summary of issues discussed, identifies relevant resources, and includes a list of participants. All presentations are available online at www.cobsea.org. For more information on national source inventories and capacity development opportunities through COBSEA, the GPML and GPA, kindly contact unep-cobsea@un.org

¹ For more information on SEA circular, visit www.sea-circular.org

² For more information on SEA of Solutions, visit www.sos2019.sea-circular.org

Agenda

1. Opening, welcome, brief round of introductions: Jerker Tamelander, COBSEA
2. Presentations followed by Q&A
 - a. A strategic approach to National Marine Litter Action Planning in the context of regional frameworks: Karen Raubenheimer, University of Wollongong
 - b. The National Source Inventory approach: Heidi Savelli, UNEP
 - c. Towards a better understanding of plastics and microplastics in the ocean and sea-based sources of marine litter: Peter Kershaw, GESAMP
3. Discussion
4. Closing

Introducing a national source inventory approach

National source inventories are a means to identify the most important sources of marine litter and microplastics leaking into the environment, waterways and coastal seas. A national inventory can encompass statistics and databases on (plastic and other) product lifecycles and flows, waste sources and streams, and data gathered through monitoring of freshwater and wastewater, coastal and marine environments. By bringing different data sources together, the approach can provide the basis for identification and prioritization of actions, strategic development of national marine litter action plans in line with regional frameworks, and better tracking of results achieved. In other words, national source inventories are a key building block for evidence-based and effective national marine litter planning, as illustrated below.

National source inventory approach



Harmonized methodologies and approaches to data collection are key to ensure high quality and encompassing national source inventories that in turn inform targeted planning. In the COBSEA RAP MALI³, participating countries identify priority actions to tackle marine litter and recognize the importance of robust monitoring and assessment of marine litter, its impacts and trends, to support development, tracking and evaluation of science-based policy and management interventions. COBSEA is providing capacity development support to strengthen and harmonize marine litter planning and monitoring in the East Asian Seas in line with global guidance and standards, including through the SEA circular project, and trainings⁴ and a national source inventory workshop organized jointly with the GPA/GPML. Knowledge and tools shared through COBSEA and the GPML to support the development of regionally coherent national action plans and advance progress toward implementation include the *GESAMP Guidelines for the Monitoring and Assessment of Plastic Litter in the Ocean*.

In the context of the RAP MALI and COBSEA efforts to strengthen marine litter planning and monitoring for regionally coherent action, the workshop on a national source inventory approach presented guidance on developing evidence-based national marine litter action plans; developing national source inventories building on global guidelines and knowledge; and improving understanding of sources and impacts of plastics and microplastics in the ocean including from sea-based sources. The outcomes of the presentations and ensuing discussions are summarized in the following.

A strategic approach to National Marine Litter Action Planning

Karen Raubenheimer from the University of Wollongong presented on existing and forthcoming guidance for national marine litter action planning. A strategic approach to designing action plans involves initiating development, broadening the reach, maintaining momentum, measuring effectiveness and building capacity. Technical elements of developing a plan include establishing baselines and targets, identifying land-based and sea-based sources of marine litter as well as measures for removal and awareness raising. Designing a marine litter action plan may include the following steps:

- Step 1:** *Scientific assessment and data collection*
- Step 2:** Position the marine litter action plan
- Step 3:** Determine the strategic approach
- Step 4:** Stakeholder mapping and engagement
- Step 5:** Decide the approach to selecting action measures
- Step 6:** *Design the monitoring program*
- Step 7:** *Define implementation actions*
- Step 8:** *Monitoring & review of implementation & action plan*
- Step 9:** Set review cycles for the action plan

³ Find the COBSEA RAP MALI online at: www.cutt.ly/COBSEARapmali

⁴ For more information on a regional training held in September 2019, see: www.cutt.ly/TOTmonitoring2019

Step 10: Maintaining momentum

Both top-down and bottom-up approaches are feasible, and progress need not be delayed by a lack of baseline information or setting targets. National action plans can broaden the scope of regional frameworks such as the COBSEA RAP MALI beyond a focus on marine ecosystems and Sustainable Development Goal (SDG) target 14.1, to include issues of water and air quality, chemical and waste lifecycles and sustainable consumption and production targets. Maintaining momentum in line with the RAP MALI and ensuring stakeholder engagement may include selecting national focal points, establishing national committees, and conducting an early scoping study of existing institutions to facilitate coordination.

Measuring effectiveness of the action plan beyond available impact indicators can include tracking outputs and outcomes, identifying existing guidelines, putting in place a national monitoring programme building on existing baselines (such as beach litter data or waste profiles), identifying SMART targets and developing reporting templates early on. A research agenda to measure progress may include mapping waste profiles and plastic flows throughout markets, identifying economic incentives for consumers and producers, identifying capacity, policy strengths and weaknesses, and conducting socio-economic studies such as cost-benefit analysis. An action plan can be a tool to build capacity and raise funding, map progress, identify existing frameworks and gaps, and track compliance with guidelines.

Marine litter action plans that map material flows, analyse policy gaps and existing frameworks, and identify economic policy incentives and waste management strategies, can leverage funding and be the foundation for inter-agency coordination. Including enabling language and supporting measures in an action plan is an opportunity to establish a common understanding and awareness of marine litter and possible solutions across stakeholders and to delineate clear mandates across national agencies. Harmonizing language use, definitions and terminology and reducing technical and scientific language can provide a common basis for cooperation.

Global efforts to support national source inventory approaches

Heidi Savelli from UNEP presented global efforts to support national source inventories and action plans through the GPML. The Partnership supports the coordination of regional and global efforts on marine litter and provides technical guidance and shares best available scientific knowledge, including through established platforms and mechanisms (such as GPML Regional Nodes) to support the development and achievement of evidence-based marine litter action plans. This includes pilot efforts and capacity support to develop national source inventories and improve monitoring and assessment in line with regional frameworks and global guidelines.

National source inventory pilots to guide action plan development are conducted in Kenya and the Seychelles. This includes a waste data survey in Mombasa conducted in cooperation with UN-

Habitat (linked to SDG 11.6.1) identified municipal solid waste generation, collection and control management. The exercise mapped sources, processes and amounts of waste collected, transported, recovered and lost to the marine environment, as well as the roles of public and private stakeholders, including waste pickers. In a national source inventory approach, mapping of data across SDG targets and of relevant stakeholders can inform the development of action plans and identification of needed interventions, building on existing frameworks. Establishing baselines is key to measure progress and impact of interventions that can be part of a package of interlinked approaches rather than a one-product action plan.

Assessing marine litter accumulation and waste leakage hotspots can guide prioritization of actions. UNEP and UN-Habitat, together with the University of Leeds, conducted Geographic Information System (GIS) modelling of marine litter hotspots⁵ in Africa and South Asia. Data modelled include waste management characteristics (such as waste generation and dumpsite locations), geographic and meteorological data (such as waterways, slope of the land, surface runoff and drainage systems), and behaviour and socio-economic indicators (such as gross domestic product, GDP, per capita). Pollution flow modelling can support monitoring efforts and evaluation and investigate sea-based and land-based sources of marine litter.

Inter-agency coordination and stakeholder engagement at the national and local level is difficult but important to ensure buy-in for collective action across sectors and sources of marine litter. Developing a meaningful way of tracking pollution and material flows across borders and enabling access to applicable data sets at the regional level is an essential element of tackling transboundary issues of plastic trade and disposal.

Ongoing work on pathways, accumulation zones and flows to identify priority areas for interventions, includes developing *Guidelines for Harmonization of Monitoring Methodologies of Macroplastics and Microplastics in Rivers and Lakes*, developing and applying a hotspot assessment methodology (including in the East Asian Seas), and identifying a model for assessment of plastic leakage and pollution reduction through rivers in the Japanese-funded counterMEASURES project. The GPML works closely with the GESAMP Working Groups 40 and 43 to share guidance and knowledge on assessing and addressing both sea-based and land-based sources of marine litter, including an upcoming Risk Assessment report. Capacity building efforts include Training of Trainers on Monitoring and Assessment of Marine Litter and Microplastics (conducted in Bali in September 2019) and the Massive Open Online Course on Marine Litter.

A better understanding of plastics and microplastics in the ocean and sea-based sources of marine litter

⁵ Key hotspots include: Tanzania – Dar es Salaam, Nigeria – Lagos, Pakistan – Karachi, Liberia – Montserrado, Cote d'Ivoire – Abidjan.

GESAMP assessments, reports and guidance documents provide a common understanding of marine litter terminology and share best available knowledge and accepted methodologies to assess sources pollution to inform decision making. This includes the GESAMP guidelines for the monitoring and assessment of plastic litter and microplastics and an upcoming Risk Assessment of marine litter and nano-/microplastics. GESAMP guidelines provide guidance to identify social, economic, environmental risks and impacts of marine litter that can help countries to address exposure pathways and environmental and societal endpoints that impact human health, ecosystems and economies. This includes risk assessment and public risk perception of microplastics in seafood.

GESAMP Working Group 43 on Sea-based sources of marine litter including fishing gear and other shipping related litter will focus on establishing a common understanding of sea-based sources, quantifying sea-based sources of marine litter, identifying data gaps, mapping of impacts (such as on economic sectors) and opportunities for hotspot assessment and actions (such as the recovery of ghost traps that cause revenue losses). Continued coordination between GESAMP and the Regional Seas is key to support existing efforts in the region.

Toward evidence-based regionally coherent action on marine litter

The revised COBSEA RAP MALI adopted by participating countries at the 24th Intergovernmental Meeting in June 2019 identifies priority actions towards marine litter prevention and reduction. This includes the development of national action plans or other equivalent policies/plans, as well as development of harmonized monitoring programmes. As outlined above, sound monitoring and assessment that is nationally appropriate and regionally coherent in line with global guidance is key to evidence-based planning and decision making. Strengthening the capacity of country partners and relevant stakeholders for monitoring and strategic development of national source inventories will accelerate targeted national planning in line with the RAP MALI and enable tracking of progress. The RAP MALI provides guidance for priority actions to address marine litter and leverages COBSEA mechanisms to strengthen capacity, share knowledge and build coherence.

Better understanding of sources, flows and impacts of marine litter is key to identifying effective interventions and improve national policies and plans. Beyond improving data collection, there is a need for meaningful use of data and better awareness of existing data sources to develop targeted data collection systems that answer monitoring questions relevant in participating countries. Existing monitoring capabilities, technologies and systems vary across COBSEA countries, calling for regional knowledge exchange, peer-to-peer support and coordination for regionally coherent systems that avoid retrofitting and duplication. Moreover, while datasets across countries may not always be comparable due to use of different methods, applying established guidance can help to identify similar trends and facilitate coordination. Support is needed to both strengthen the harmonization of methodologies as well as to develop good metadata and establish high data quality standards in the East Asian Seas that ensure flexibility and facilitate comparability.

COBSEA will continue to cooperate with the GPML, GPA, GESAMP and regional knowledge partners to share regional and global-level guidance and build capacity to apply existing methodologies to national needs and contexts and improve coherence while avoiding prescriptive action. COBSEA mechanisms and initiatives such as SEA circular can effectively facilitate exchange of lessons learned and build capacity for national source inventories, strategic marine litter action planning, and effective monitoring programmes to maintain momentum and accelerate concerted action toward achieving the RAP MALI. Cross-sector coordination and leveraging of synergies with other regional frameworks (such as through the Association of Southeast Asian Nations, ASEAN, and the Asia-Pacific Economic Cooperation, APEC) is key to ensure cohesion and reduce duplication of efforts.

Relevant resources and websites

- GESAMP Guidelines for the Monitoring and Assessment of Plastic Litter in the Ocean: <http://bit.do/gesamptguidelines>
- COBSEA online resources: www.cobsea.org
- GPML online resources: www.gpmarinelitter.org
- Commonwealth Scientific and Industrial Research Organisation (CSIRO) research: www.csiro.au

The Coordinating Body on the Seas of East Asia (COBSEA) is a regional intergovernmental mechanism and one of 18 Regional Seas programmes. It is the decision-making body for the East Asian Seas Action Plan, bringing together nine countries – Cambodia, People's Republic of China, Indonesia, Republic of Korea, Malaysia, the Philippines, Thailand, Singapore and Viet Nam – in protection and sustainable development of the marine and coastal environment in the East Asian Seas region. Our efforts focus on addressing marine pollution, advancing ecosystem-based marine and coastal planning and management, and strengthening ocean governance through regional collaboration. The COBSEA Secretariat is hosted by Thailand and administered by the United Nations Environment Programme (UNEP).

The Global Partnership on Marine Litter (GPML) is a multi-stakeholder partnership that provides a unique mechanism to bring together all actors working to prevent marine litter and microplastics, with the aim of sharing knowledge and experience and advancing solutions to this pressing global issue. Its mission is to protect the global marine environment, human wellbeing and animal welfare by addressing the global problem of marine litter, in line with Target 14.1 of the Sustainable Development Goals (SDGs). Any entity working to prevent and reduce marine litter can join the Partnership at: <https://gpmarinelitter.org/form/join-us>

The Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA) is the only global intergovernmental mechanism directly addressing the connectivity between terrestrial, freshwater, coastal and marine ecosystems. It aims to be a source of conceptual and practical guidance to be drawn upon by national and/or regional authorities for devising and implementing sustained action to prevent, reduce, control and/or eliminate marine degradation from land-based activities.

The Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) is an advisory body, established in 1969, that advises the UN system on the scientific aspects of marine environmental protection. Working Group 40 of leading global experts focusses on the sources, fate and effects of plastics and microplastics in the marine environment. Working Group 43 on sea-based sources of marine litter was established formally in April 2019.

List of participants

Title	First Name	Family Name	Affiliation
Ms.	Tessa	Goverse	UNEP, Chemicals, Waste and Air Quality Programme
Ms.	Jacqueline	Chang	SEA circular national consultant for Malaysia
Mr.	Peter	Kershaw	FAO, GESAMP
Dr.	Qamar	Shuyler	CSIRO
Ms.	Orathai	Pongruktham	SEA circular national consultant for Thailand
Mr.	Solene	Le Doze	United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), Environment and Development Division
Mr.	Omar	Siddique	ESCAP, Environment and Development Division
Mr.	Manuel	Castillo	ESCAP, Environment and Development Division
Ms.	Yukeling	Tay	National University of Singapore (NUS)
Mr.	Kanin	Laopirun	NUS
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Mr.	Kim	Nong	Ministry of Environment, Cambodia
Mr.	Vann	Monyneath	Ministry of Environment, Cambodia
Mr.	Sreng	Sophal	Ministry of Environment, Cambodia
Ms.	Kim	Hangsuk	Ministry of Oceans and Fisheries, Republic of Korea
Mr.	Seo	Jiwon	Ministry of Oceans and Fisheries, Republic of Korea
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