Applying precautionary principle to marine litter and microplastics governance framework: Solutions in the absence of “complete” scientific evidence

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Vladivostok, Russia
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cont. by Aaron Vuola / UNEP

NOWPAP
Northwest Pacific Action Plan

GPML
Global Partnership on Marine Litter

UN environment

GPA
Global Programme of Action for the Protection of the Marine Environment from Land-based Activities
Sources of microplastics (land-based)
Sources of microplastics (sea-based)

sources of primary microplastics
- commercial shipping
  - accidental loss of pellets
  - PCPs
  - wastewater treatment
- tourist cruises

sources of secondary microplastics
- fisheries
  - wear and tear of nets, ropes and other gear during use
- aquaculture
  - wear and tear of equipment during use
- recreational users
  - textile fibres
- tourist cruises
  - wastewater treatment

GESAMP (2016)
Types of microplastics: San Francisco Bay (2015)
**Marine plastics global policy timeline**

- **1960**: First reports of marine plastic debris impacting on marine species were published.
- **1972**: UNEP Regional Seas Programme launched.
- **1973**: MARPOL convention.
- **1974**: UNEP Regional Seas Programme launched.
- **1975**: MARPOL Protocol is adopted.
- **1978**: CMS Convention.
- **1979**: MARPOL 73/78 Convention enters into force.
- **1980**: Convention on Biological Diversity enters into force.
- **1983**: Workshop on the Fate and Impact of Marine Debris (First Honolulu conference).
- **1984**: Annex V of the MARPOL Convention enters into force.
- **1990**: Convention on Biological Diversity enters into force.

*Global Programme of Action for the Protection of the Marine Environment from Land-based Activities*

UNEP and GRID-Arendal (2016)
Governance landscape (cont.)

UNEPA and GRID-Arendal (2016)
Global Partnership on Marine Litter (GPML):

- Launched in Rio+20, June 2012 to protect human health and the environment by the reduction and management of ML

- Stand alone resolutions on marine plastic litter and microplastics adopted both at the First and Second United Nations Environmental Assemblies (UNEA 1/6 and UNEA 2/11)

- Recognized in G-7 and G-20 (Global Network of the Committed – GNC) Action Plans on marine litter

- Voluntary multi-stakeholder partnership ~ 100 partners, many networks in their own right (African Marine Waste Network, Clean Europe Network etc.)

- Help countries reach their targets related to Sustainable Development Goal target 14.1
How can Members engage with the GPML:

**Participate**

Members can present their activities and find out what other members are doing

Thematic webinars for GPML Activities

**Registry**

- Being upgraded with the University of Georgia making it easier than ever to use
- New BAT/BEP database to be added
- Directory gives members access to the GPML community
- Members can share events and activities

Visit [www.uncep.org/gpa/gpml/](http://www.uncep.org/gpa/gpml/)
GPML: Regional Nodes

Current:

• Caribbean: Gulf and Caribbean Fisheries Institute (GCFI)
• Northwest Pacific (Japan)
• South Pacific

In the pipeline:

• Mediterranean
#Clean Seas, truly global campaign on Marine Litter

- Improve plastics management (reduce, redesign, reuse, recycle)
- Global phase out non-recoverable plastics (e.g. microplastics in cosmetics)
- Reduce single-use plastics drastically
  - Global ban on certain types of single-use plastic bags
- Move towards: Plastics consumed re-enter the product life cycle, i.e. generate zero waste, all plastics recyclable

[Logos and graphics]
Ocean Races and Expeditions

- Volvo Ocean Race kicks off in October 2017 – UN Environment / #Clean Seas campaign is one of the three sustainability partners
  - Marine litter education and awareness raising in race villages throughout the route
- Plastic Change
  - Microplastics research expedition
Massive Open Online Course (MOOC) on Marine Litter

- First Massive Open Online Course on Marine Litter in 2015 (6500 registered students)
- **Second ML MOOC in May-July 2017**
- Spanish MOOC in Q4/2017
- Other UN languages in 2017-2018 (leadership track)
- **Leadership Track:**
  5 hours of learning consist of 2 blocks
- **Expert Track:**
  32 additional hours consisting of 6 blocks

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Marine Litter Innovation Challenge for Universities

Challenge has four tracks:

1. Engineering and Design Challenge – material innovation, manufacturing innovation, packaging design and other related innovations that demonstrate a measurable impact on marine plastics;

2. Communication Challenge – mobile apps, creative communication strategies, music, short film, media, or story-telling that can engage large groups of people in addressing the marine plastics issue;

3. Economics Challenge - Valuation methodology and framework, financial and business model, creative financing and other, focus on assessing the impact of marine plastics and recommended solutions;

4. Prediction and Recovery Challenge - Algorithms, Models, hotspot identification etc.
Ocean Conference and SDG 14:

**SUSTAINABLE DEVELOPMENT GOALS**

17 GOALS TO TRANSFORM OUR WORLD

**GOAL 14:** Conserve and sustainably use the oceans, seas and marine resources for sustainable development

- By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts.
- By 2025, prevent and significantly reduce marine pollution of all kinds, including through improved monitoring and control of sources.
- By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing.
- By 2030, increase scientific knowledge, develop research capacity, and transfer marine technology, taking into account the need for conservation and sustainable use of oceans and their resources.

**Northwest Pacific Action Plan**

NOWPAP

Northwest Pacific Action Plan
Towards UNEA-3: UNEA 2/11 Marine Plastic Litter and Microplastics:

→ Requested UNEP to provide **support to the development of marine litter action plans** upon request by countries

→ Requested **UNEP ED** to **assess the effectiveness of relevant international, regional and sub-regional governance strategies and approaches** to combat marine plastic litter and microplastics and **identify gaps and options** for addressing them. Draft resolution is proposed (→ UNEA-3)

→ Establishment of **public-private partnerships**, development of **campaigns** for awareness-raising, prevention and clean-up

→ Encouraged product manufacturers to consider the lifecycle environmental impacts of products containing **microbeads and compostable polymers**
Regional Seas

Regional action plans on marine litter


Note: countries with two or more colors promote multiple action plans.

NOWPAP Regional Action Plan on Marine Litter

Prevent ML input

Monitoring quantities and distribution of ML

Remove existing ML
Regional Dimension of Marine Litter Management is Important 6 R’s: Refuse, Redesign, Reduce, Reuse, Recycle, and Recover
Future direction: The new plastics economy

1. Create an effective after-use plastics economy

- Recycling: Radically improved economics & quality
- Other material streams

2. Decouple plastics from fossil feedstocks
3. Drastically reduce the leakage of plastics into natural systems & other negative externalities

3. Decouple plastics from fossil feedstocks

1. Anaerobic digestion
2. The role of and boundary conditions for, energy recovery in the New Plastics Economy need to be further investigated.

Source: Project Mainstream analysis.

WEF and Macarthur Foundation (2016)

Cradle-to-Cradle is an innovative and sustainable industrial model that focuses on design of products and a production cycle that strives to produce no waste or pollutants at all stages of the lifecycle.
Addressing marine litter and microplastics: Strong case for bridging science-policy divide

→ One size does not fit all: adjust strategy and policies to circumstances

→ Integrate circular economy principles into policy design

→ Support for research into impacts and plastic alternatives is crucial

→ Raise awareness and undertake effective campaigns and education among general public to drive change

→ Engage business and support innovation, encourage flows of green finance into the waste management sector
Thank you for your attention!