

Significance of harmonised monitoring and data compilation

Challenges and opportunities to achieving harmonised monitoring

Dr Peter Kershaw
Independent consultant

Co-chair GESAMP Working Group 40 Sources, fate and effects of plastics and microplastics in the marine environment

GESAMP: Joint Group of Experts on Scientific Aspects of Marine Environmental Protection, an inter-agency advisory body of the United Nations since 1969.

Problems and challenges

The problem:

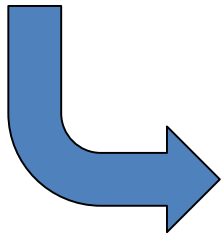
- Plastic litter and microplastics are found throughout the world ocean, from the Southern Ocean to the deepest ocean trenches
- It causes social, economic and environmental impacts, but these can be difficult to quantify

Challenges:

- The sources are highly variable in space and time, and poorly controlled
- The distribution and quantities of plastic litter and microplastics are difficult to quantify accurately
- There is a need to introduce cost-effective reduction measures
- Measures need to be carefully designed and targeted to have greatest effect
- We need to be able to measure the effectiveness of the measures
- There can be confusion in the use of definitions and terminology

Solutions

- Find out how much litter is entering the environment and from where
- Find out its distribution in space and time
- Characterise it (size, shape, categories, chemical composition, interactions with biota)
- Use this information to design measures to reduce the inputs
- Use this information to design targeted removal measures



monitoring and data compilation

Monitoring marine litter – some definitions

Monitoring – measuring the state of the environment in a consistent manner

Indicator – a defined property of the environment, for example:

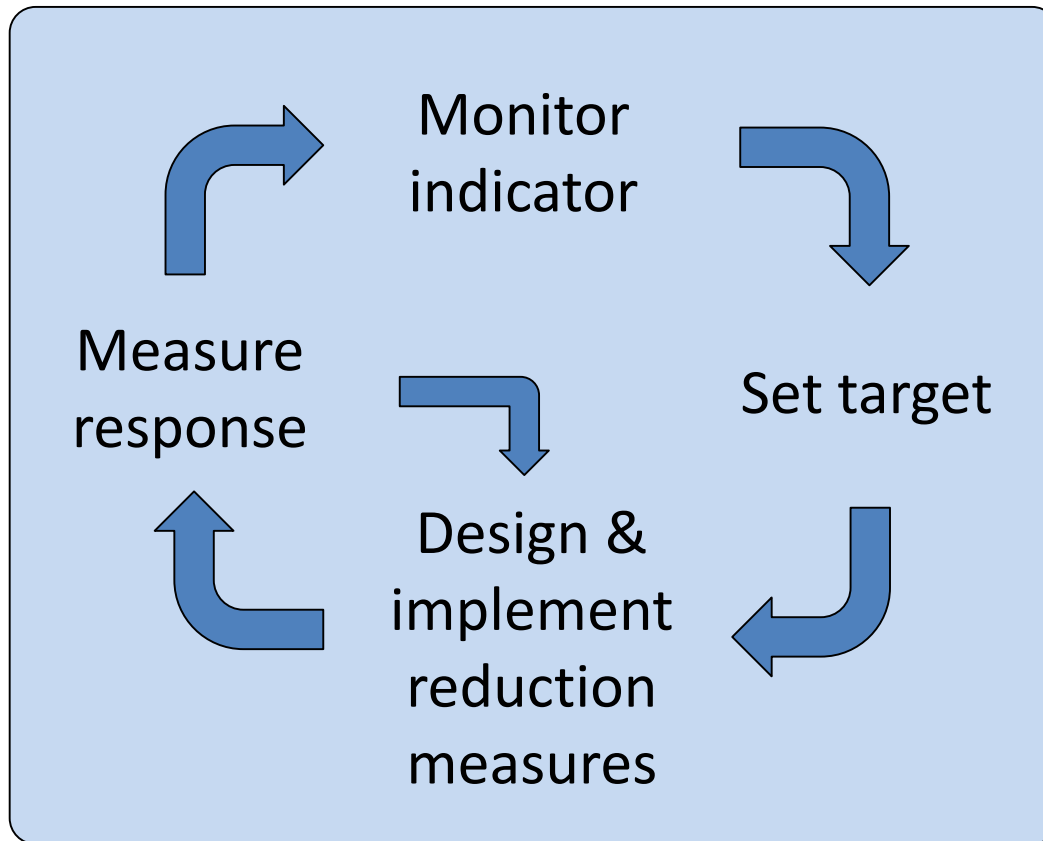
- Number of microplastic particles per unit area of the surface ocean
- Quantity (mass) of plastic particle/objects in the gut of a bird/fish/reptile
- Number of items of litter per unit length of shoreline



Benefit of monitoring indicators

'If we could first know where we are, and whither we are tending, we could better judge what to do, and how to do it '

Abraham Lincoln, June, 1858¹



'If you cannot measure it you cannot manage it'

anon.

¹ quote from Meadows, 1998 in 'Indicators and information for sustainable development', The Sustainability Institute

Meeting the challenge – monitoring guidelines and protocols to promote harmonised approaches

General principles



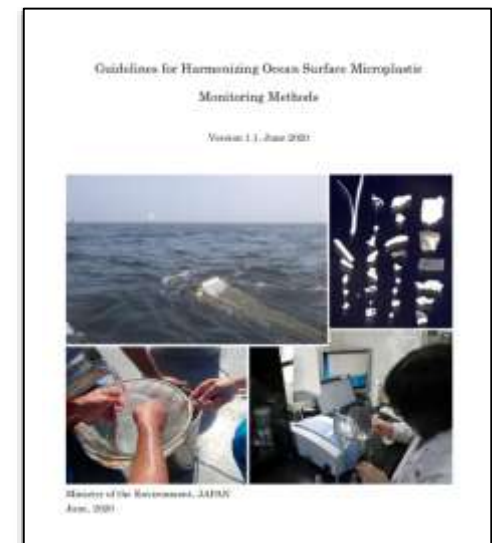
Detailed protocols - examples

Shoreline litter



Floating microplastics

Guidelines for Harmonising Ocean Surface Microplastic Monitoring Methods
2020, MoEJ

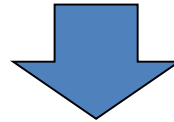


Definitions, terminology, survey design, environmental context, sampling & analysis methods, citizen science

www.gesamp.org/publications

Benefits of harmonised monitoring

Harmonised indicator selection & monitoring methods



Benefits:

- Reduces uncertainty
- Allows data comparisons
- Permits data sharing
- Encourages cooperation
- Spreads good practice
- Helps fulfil the SDG targets & indicators

Scale of integration:

- National
- Regional
 - Regional Seas
 - ASEAN
 - EU
- International
 - UNEA
 - G20



Thank you!

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peter@pjkershaw.com