



# Adapting OAWG's Efforts to Meet and Address Environmental Challenges

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## Motivation for the Environmental Sector Task Group

The Consultative Committee for Amount of Substance Metrology in Chemistry and Biology (CCQM) is home to the Organic Analytical Working Group (CCQM-OAWG). Within the OAWG, there are four main focus areas:

- Clinical and Forensics
- Food sector
- Environmental sector
- Advancement of Measurement Science and Knowledge Transfer.

The group uses the WHO One Health Triad to drive our search for important new measurement challenges.



## Aims of the Environmental Sector Task Group

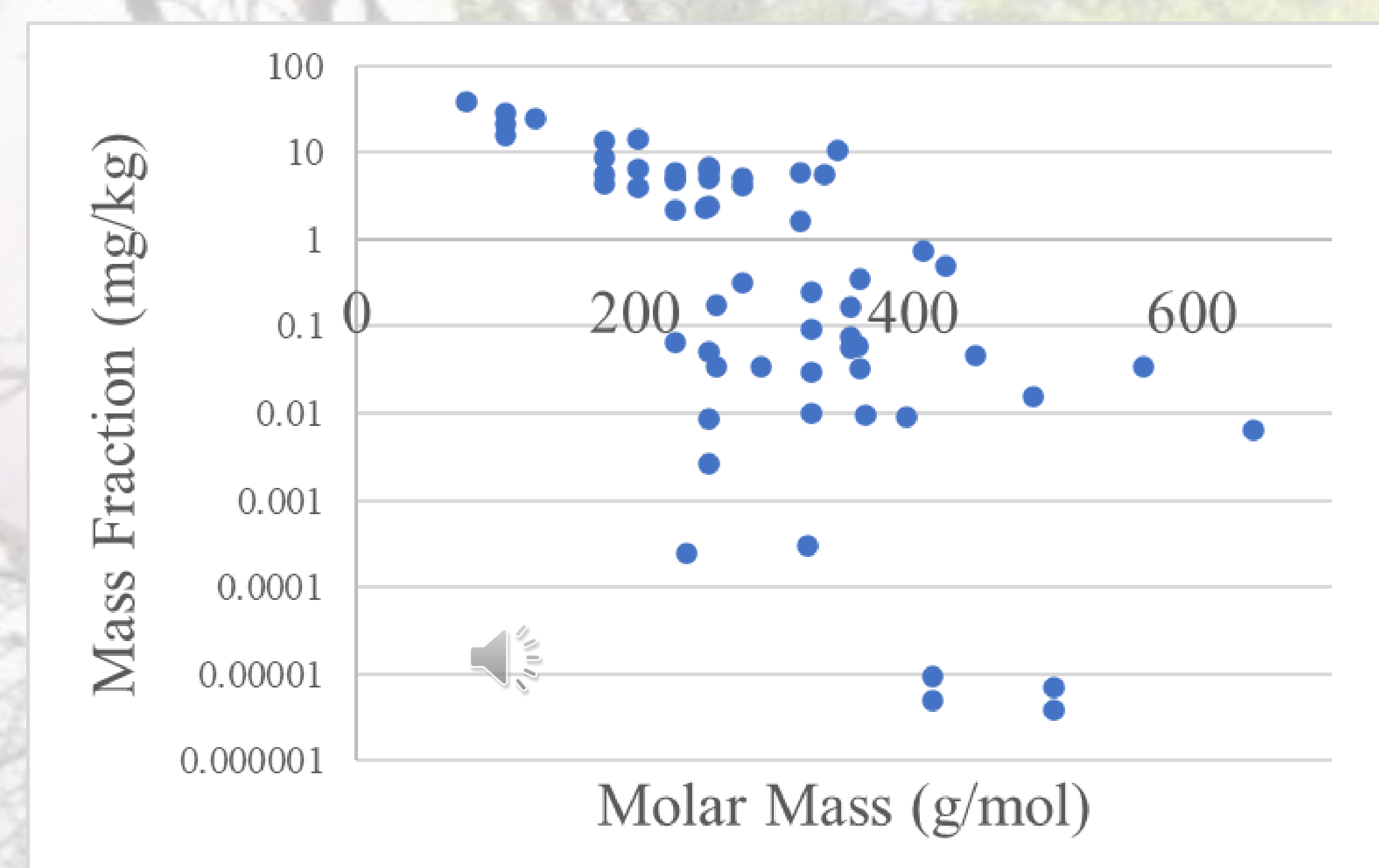
The sectors aim to identify gaps in measurement needs in the CCQM OAWG 2021-2030 strategy document. The environmental sector will then propose ways to update the strategy to address these metrological gaps and better capture NMI activities in the focus area. Among the topics monitored include:

- Providing intercomparisons with an abundance of types of matrices with different complexities and concentrations of measurands.
- Emerging global regulations and providing traceability to the SI supporting regional laws.
- NMI capabilities in novel measurements by offering key comparisons representative of large groups of compounds belonging to one family or class, allowing for broad-scope critical measurement capability (CMC) claims.

## As part of the Organic Analysis Working Group, the Environmental Sector Task Group works to Address Legacy and Emerging Environmental Challenges

### Previous Studies

A visual representation of environmental key comparison reference values reported in previous CCQM key studies. Of note, some values come from key studies that overlap with other OAWG sectors (e.g., Food sector, clinical sector).



Select studies contributing to the scope covered in the Environmental Sector:

- CCQM-K25 Determination of PCB Congeners in Sediment
- CCQM-K78.b Non-Polar Pesticides in Organic Solvent Solution Methoxychlor and Trifluralin
- CCQM-K154 Mycotoxin Calibration Solution Series
- CCQM-K156 Per- and Polyfluoroalkyl Substances in Groundwater (Track C)
- CCQM-K102 Polybrominated Diphenyl Ethers in Sediment
- CCQM-K184 Polycyclic Aromatic Hydrocarbons (PAHs) in Sediment (in progress)

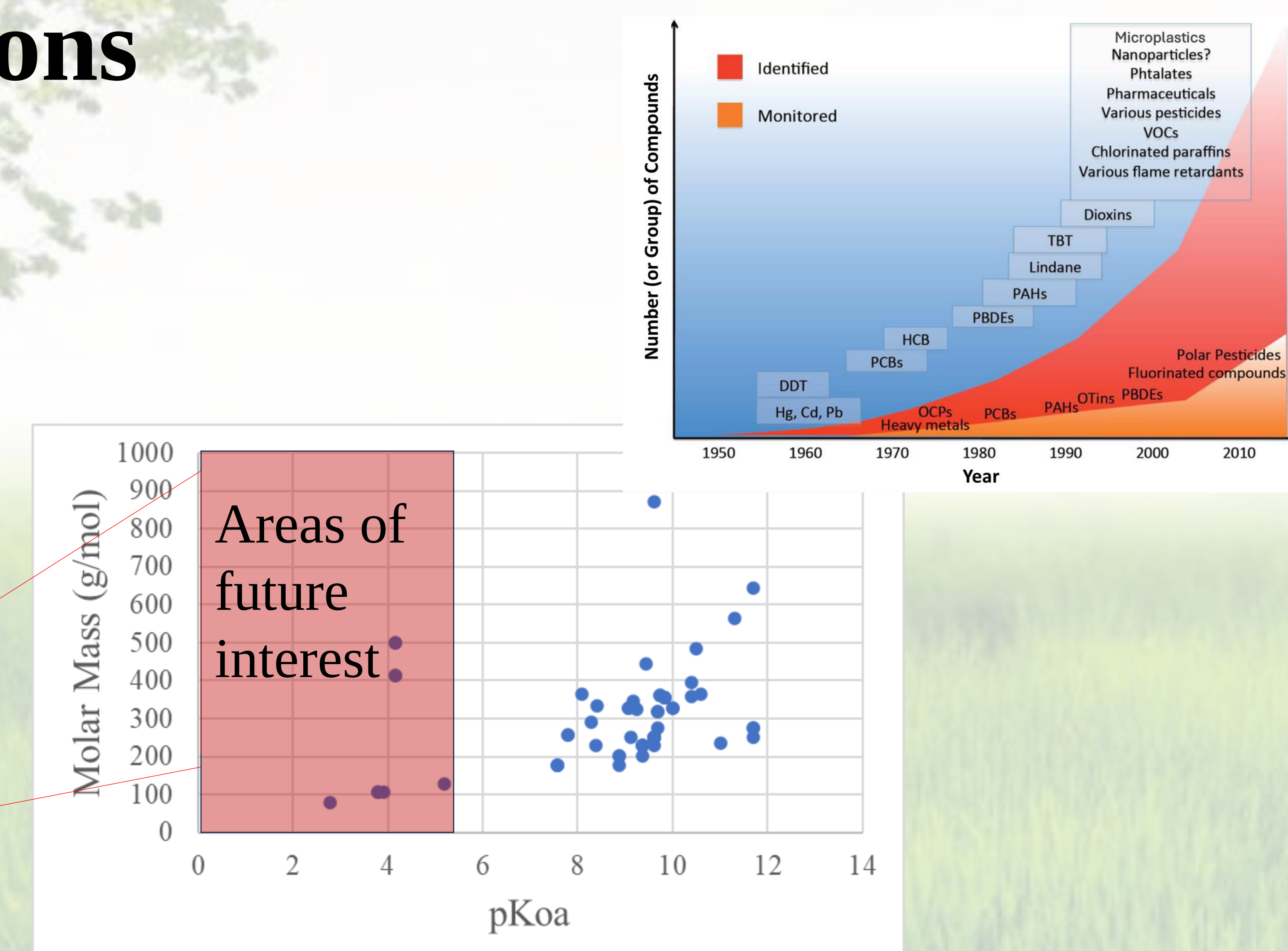
### Future Actions

#### Anticipating Future Needs:

- Identify unmet stakeholder engagement opportunities
- Recommend workshops/stakeholder engagements
- Promote the benefits of metrology and NMI services
- Identify new measurement needs
- Make recommendations on matrices and associated physicochemical properties (e.g., mass, concentration, etc.) for key comparisons and pilot studies to underpin new or existing services delivered by WG members in this sector

#### Upcoming Measurement Challenges :

- Persistent organic pollutants (POPs)
- Per- and polyfluoroalkyl Substances (PFAS)
- Endocrine disrupting compounds
- Organophosphate flame retardants
- Antibiotics in environmental matrices
- Micro- and nano-plastics



### Want more information?

The authors would like to acknowledge contributions from Benjamin J. Place and Catherine A. Rimmer for their contributions to the figures