

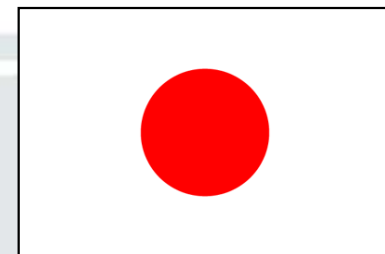
Outline of “Guidelines for Harmonizing Ocean Surface Microplastic Monitoring Methods” conducted by Ministry of the Environment Japan

May 7th, 2019

Office of Marine Environment, Water Environment Division,
Environmental Management Bureau, Ministry of the Environment

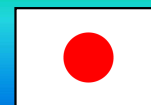


Ministry of the Environment





Guidelines for Harmonizing Ocean Surface Microplastic Monitoring Methods, conducted by MoEJ



Background

- Measures against marine litter and microplastics need to be considered and taken, based upon scientific knowledge.
- Comparing and synthesizing measured data of microplastic abundance obtained by various researchers are currently difficult due to the diversified monitoring methods taken.

- ◆ **Harmonization of monitoring methods for ocean surface microplastics is required. It is useful for validation of simulation models and evaluation of countermeasures taken.**

Process

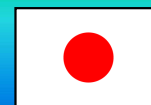
- To develop guidelines for harmonization, two projects (estimating “experimental variance” and estimating “field sampling error”) were implemented by scientists, and expert meetings were held in Dec 2016 and Feb 2018.
- Based on an analysis of differences in the results from various analytical and sampling methods obtained in these projects, recommendations for harmonization, as well as points to be noted when understanding monitoring results were summarized at the third expert meeting in Mar 2019.



Completion of Guidelines for Harmonizing Ocean Surface Microplastic Monitoring Methods Version 1.0



Guidelines for Harmonizing Ocean Surface Microplastic Monitoring Methods, conducted by MoEJ



<Target readers>

- Practitioners and analysts who conduct oceanographic surveys of microplastics, and those who intend to analyze and evaluate the state of actual pollution by using survey results.

Chapter and Contents

1.Introduction	Background, purpose, scope, etc. of the Guidelines
2.Sampling methods	Sea conditions at the time of the survey, sampling equipment, towing parameters, metadata recording, contamination prevention and accuracy control.
3.Laboratory analysis	Preprocessing, picking of microplastic particles, particle counting and size measurement, material identification, weight measurement and accuracy control during analysis.
4.Reporting	Recommendations on methods of reporting microplastic collection results and metadata to be attached.
5.Conclusions	Summary of the Guidelines, items that require further consideration, etc.

Planning



Equipment



Sampling



Onboard sample processing



Pretreatment



Picking of microplastics



Counting and Size Measurement

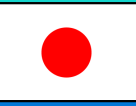


Identification of Microplastics



Weight Measurement





Progress

The expert meetings were held to discuss harmonization of monitoring method on microplastic monitoring.

➤ **The 1st meeting held in December 2016**

- Sharing recognition that harmonization on monitoring methods is important and necessary.
- Setting goals.
- Making a draft of recommendation of microplastic monitoring
- Suggesting two pilot projects in order to harmonization on microplastic monitoring (shown in the previous slide).

➤ **The 2nd meeting held in February 2018.**

- Reporting the result of inter laboratory comparison
- Revising and discussing the recommendation draft according to the result of inter-laboratory calibration exercise.
- Discussing the contents of the pilot study to estimate “sampling error”.
- Discussing the future work

➤ **The 3rd meeting held in March 2019.**

- Reporting the result of a comparison of microplastics sampling methods
- Discussing the guidelines.
- Discussing the future work

URL of guidelines is here

[http://www.env.go.jp/en/water/marine_litter/
method/guideline.pdf](http://www.env.go.jp/en/water/marine_litter/method/guideline.pdf)

If you have any questions, please send email to
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