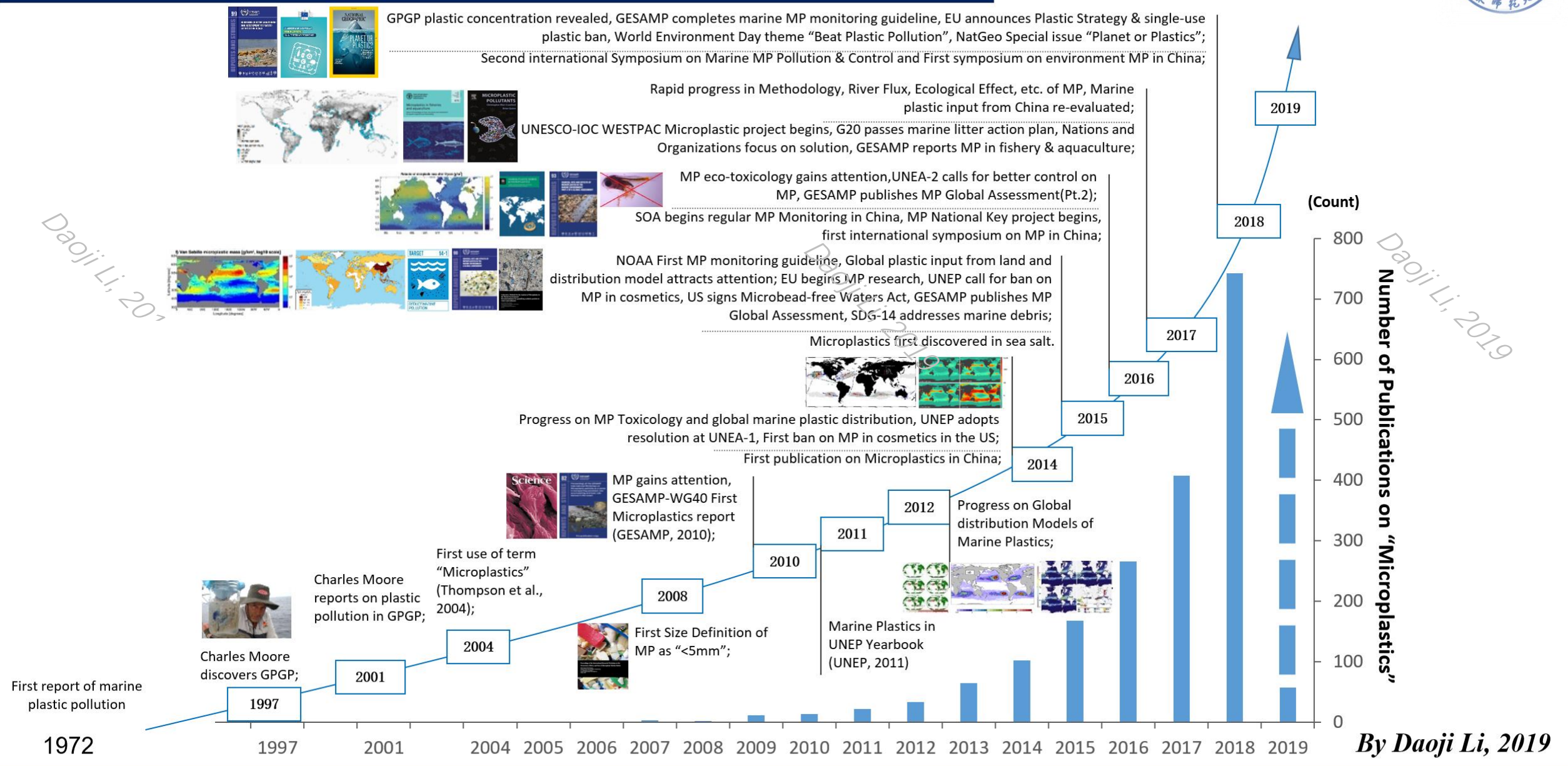
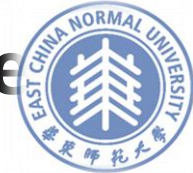


Some Initiatives on Harmonizing Marine Microplastic Monitoring Methodologies in the Asia-Pacific Region

Daoji Li

September 7, 2020

PROGRESS in Understanding Marine Plastic and Microplastic Issue



By Daoji Li, 2019

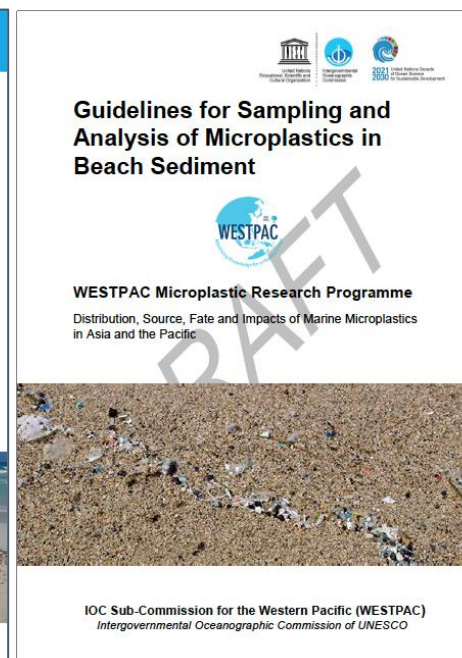
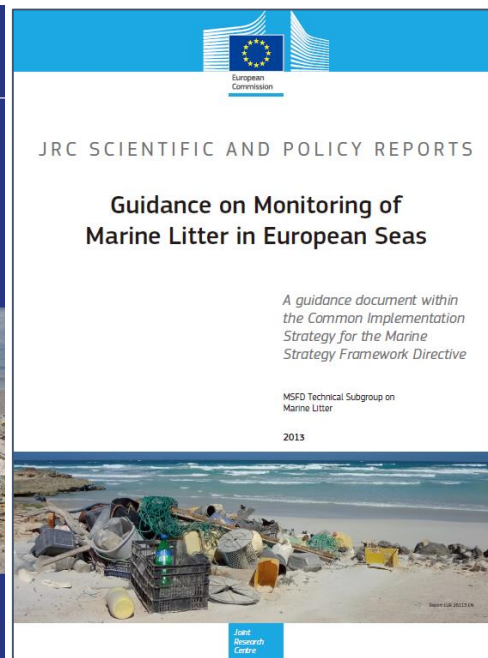
CHALLENGES of Marine Microplastic Monitoring

One of the considerable challenges is harmonizing standardized methods for microplastic sampling and analysis in different environmental matrix

- Standardized methodology that could extract the actual MP contamination level in the environment
- Harmonized methodology that could make the data comparison across studies and regions impossible
- Assess the MP contamination level and hotspots at regional and global levels

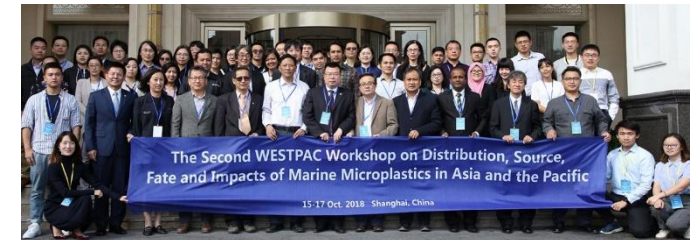
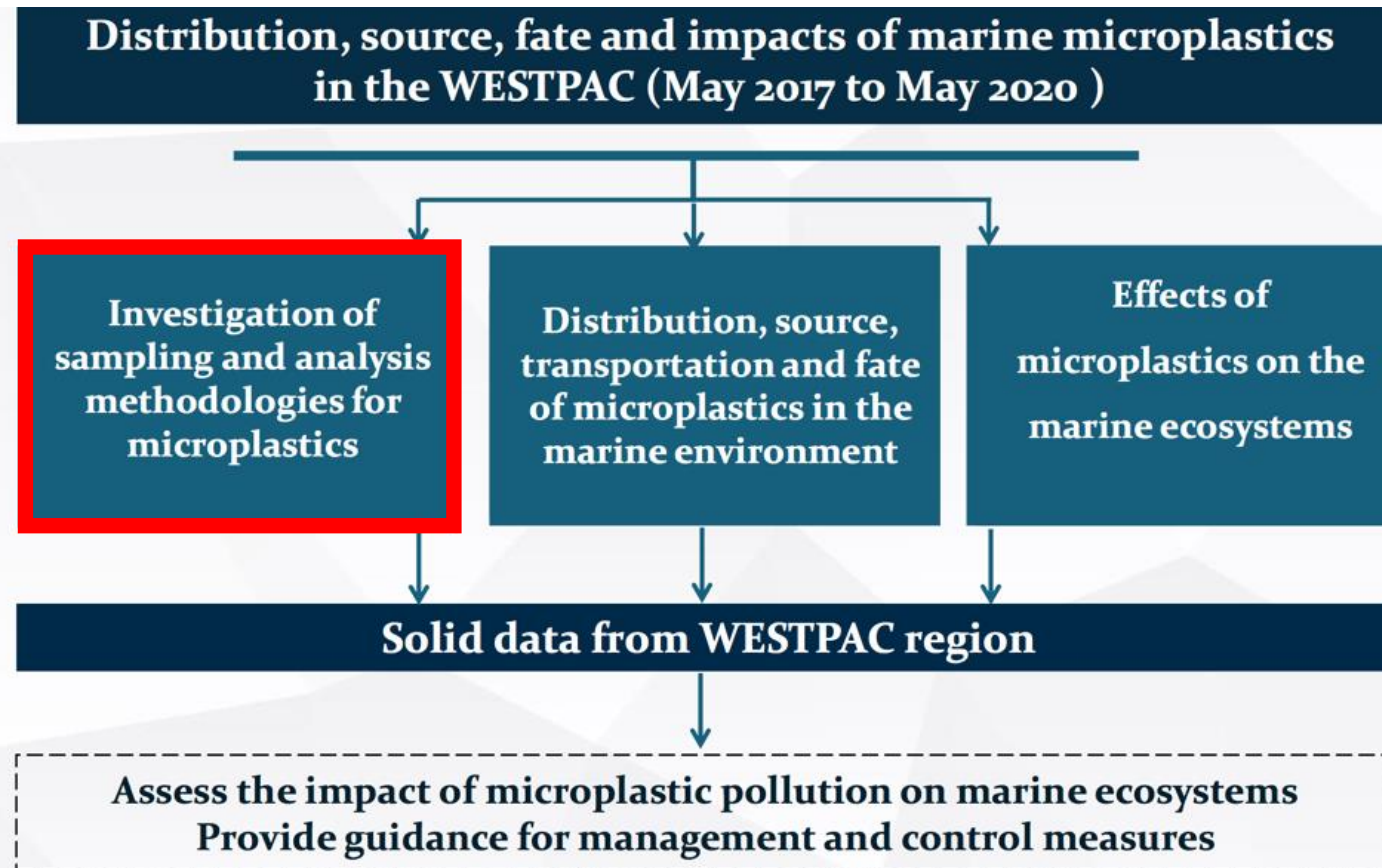
GLOBAL Initiatives to Harmonize Methodology

Many organizations (NOAA, UNEP, WESTPAC, MSFD, WIOMSA) has done tremendous work publishing guidelines, trying to harmonize the plastic and microplastic monitoring methodologies



WESTPAC Initiatives on Marine Microplastic Issues

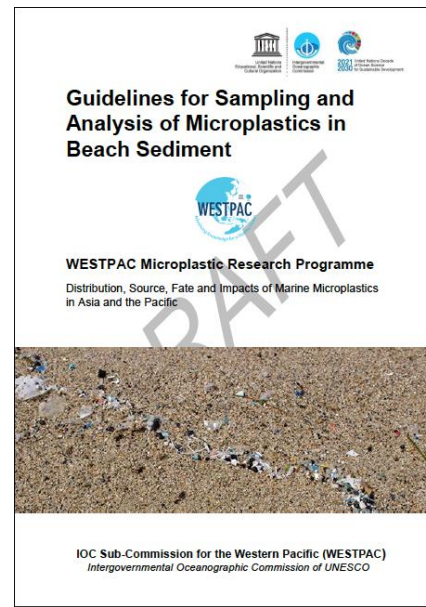
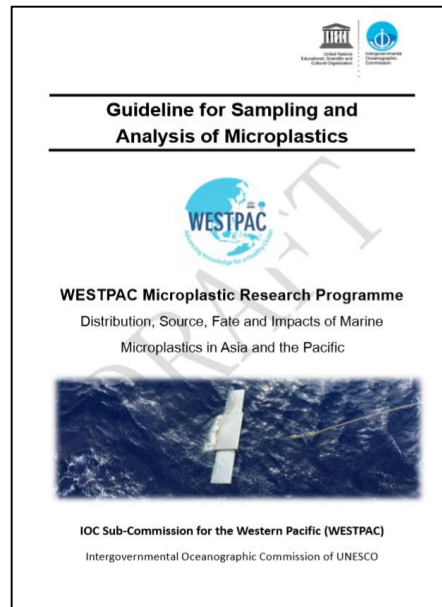
Program: Distribution, source, fate and impacts of marine microplastics in the WESTPAC (UNESCO IOC-WESTPAC)



WESTPAC Initiatives on Marine Microplastic Issues

Harmonizing guidelines, include improved methodologies based on current practices: Sediments (Beaches, Sea floor) , Seawater (surface, water column, and river flux) and marine biota

Pilot studies in countries under the framework of IOC-WESTPAC



WESTPAC Initiatives on Marine Microplastic Issues

UNESCO/IOC Regional Training and Research Center on Plastic Marine Debris and Microplastics

Under the IOC-WESPAC and all the member states, the RTRC will stay in close contact with other institutions and make unremitting efforts for our due contribution to coping with marine plastic litter and microplastic pollution



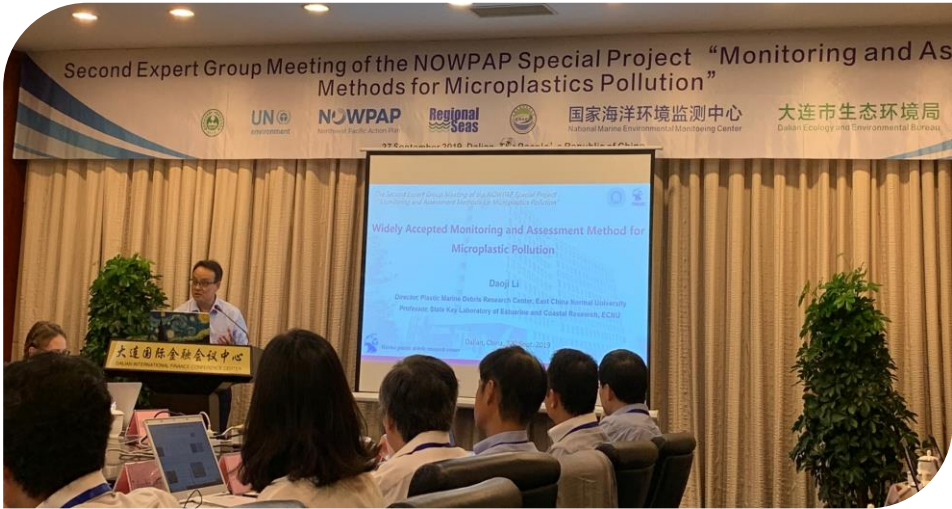
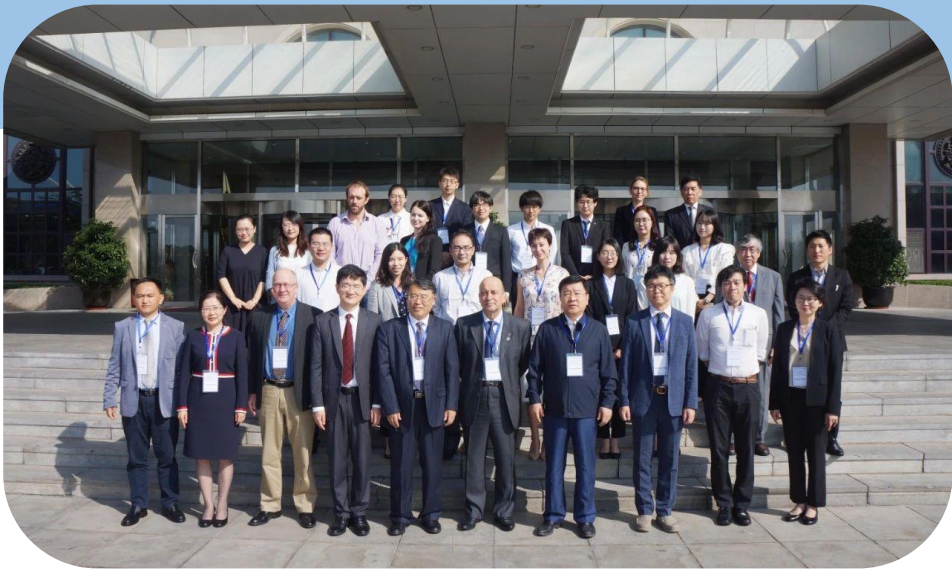
NOWPAP Harmonizing Methods to Monitor Microplastics

the four member states of the Northwest Pacific Action Plan:
China, Japan, Korea and Russian



UNEP Northwest Pacific Action Plan (NOWPAP)

Toyama office: 5-5 Ushijimashin-machi, Toyama 930-0856, Japan Tel. (81-76)-444-1611; Fax (81-76)-444-2780	Busan office: 152-1 Haean-ro, Gijang-up, Gijang-gun, Busan 619-705, Republic of Korea Tel. (82-51)-720-3000; Fax (82-51)-720-3009
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CHINA Initiatives to Harmonize Methodologies for MP

National Key Research and Development Program (2016-2020):

Marine Microplastic Monitoring and Ecological Risk Assessment Technology Research (East China Normal University)

One of major scientific question is to establish a standardized method for microplastic monitoring in China

Outcomes: Technical regulation for monitoring of marine microplastics (NMEMC & ECNU, In Chinese)

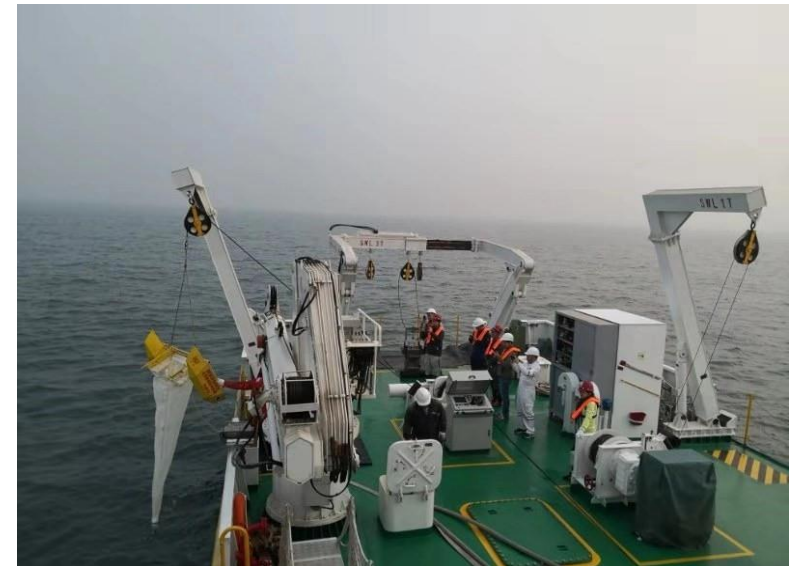


海洋微塑料监测技术规程（试行）	
1 范围	本规程规定了海洋微塑料分类、样品采样、分析和鉴定、数据处理和质量保证的基本要求。本规程适用于海水和海滩微塑料的监测评价工作。
2 规范性引用文件	下列文件对于本文件的应用是必不可少的。凡是注日期的引用文件，仅所注日期的版本适用于本文件。凡是未注日期的引用文件，其最新版本（包括所有的修改单）适用于本文件。 GB/T 12763.2 海洋调查规范第2部分：海洋水文观测 GB/T 12763.3 海洋调查规范第3部分：海洋气象观测 GB 17378.3 海洋监测规范第3部分：样品采集、储存与运输
3 术语和定义	下列术语和定义适用于本文件。
3.1 海洋微塑料 Marine microplastic debris	海洋环境中尺寸小于 5 mm 的塑料废弃物。
3.2 监测断面 Monitoring transect	在监测区域布设采样单元，采样单元的长度是自采样开始到采样结束之间的直线距离。采样单元的宽度根据具体的监测项目而定。
4 通则	
4.1 分类	
4.1.1 按尺寸分类	按尺寸可分为： ——毫米级，尺寸 $\geq 1\text{mm}$ ，且 $< 5\text{mm}$ ； ——微米级，尺寸 $\geq 1\mu\text{m}$ ，且 $< 1\text{mm}$ ； ——纳米级，尺寸 $< 1\mu\text{m}$ 。
4.1.2 按形状分类	按形状可分为： ——线状； ——片状； ——纤维状。

CHINA-JAPAN Cooperation in the field of marine litter

under the framework of high-level consultation on Ocean affairs

- the international laboratory comparison of microplastics monitoring technology and methods organized by the Japanese Ministry of Environment
- the seminars on the monitoring technology of micro plastics in Japan, so as to promote the coordination and Harmonization of the monitoring technology and methods of microplastics
- the marine litter joint survey in Dalian



SINO-NORWEGIAN Initiatives for Combating Microplastics

Sino-Norwegian cooperation project on capacity building for reducing plastic and microplastic pollution (SINOPLAST)

Harmonized methodologies will be used in this project

Sino-Norwegian cooperation project on capacity building for
reducing plastic and microplastic pollution (SINOPLAST)

中挪合作-海洋废塑料和微塑料管理能力建设项目(SINOPLAST)

Organizer: Basel Convention Regional Centre for Asia and the Pacific (BCRC China)





State Key Lab of Estuarine & Coastal Research
EAST CHINA NORMAL UNIVERSITY



PMDRC

Plastic Marine Debris Research Center
East China Normal University

THANK YOU FOR YOUR ATTENTION

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