Marine Plastic Waste
-The Seas Connect Local and Global-

Satoquo SEINO (Ph.D., Asoc. Prof., Kyushu University, Japan)
清野聡子（九州大学大学院工学研究院 准教授）
East China Sea (Enclosed Sea)

Japanese Archipelago

Recently polluted by modernization + rapid economic growth in east Asia
Important:
Connect our efforts based on ocean currents
Currents bring various (natural and artificial) drifted matter. Microplastics ↓ ISSUE of Marine life to Human being.
Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Precious habitats are being buried

Can we really solve this problem? Tough challenges...
Engtangled ... by ghost fishing
Habitat deterioration
Marine Debris on Biodiversity

IMPACTS OF MARINE DEBRIS ON BIODIVERSITY
Current Status and Potential Solutions

Biological diversity
International Treaty
↓
National Strategy
↓
Local Strategy
Polluted fishing areas
Scenic blight
Plastic breaks into small pieces
Chunks $\rightarrow$ fragments $\rightarrow$ particles

“MICROPLASTICS”
PET Bottle Collection Survey
Where do they come from ??

Their origins are determined on the basis of characteristics of bottle bodies, caps and labels.
Nagasaki bana

Takasaki

Tondomari

Hassakubana

East

Japan

Korean

Chinese

Citizen Science Research for Science-based Collaboration among Sectors and Countries

Country of origin study of 100 bottles.
Goto, Nagasaki
Country of origin study of 100 bottles. Hakata Bay, Fukuoka

2010年9-10月
Munakata, Fukuoka June, 2019
Stranded PET Bottles Survey

Products of Japan and other countries

- Japan: 40%
- Korea: 34%
- China: 12%
- Other: 8%
- Unknown: 8%

合計: 394

- 日: 194 (49.0%)
- 韓: 135 (34.0%)
- 中: 33 (8.0%)
- その他: 0 (0.0%)
- 不明: 32 (8.0%)

Size of bottles

- Large: 30%
- Middle: 56%
- Small: 12%

サイズ

- L: 118 (30%)
- M: 227 (58%)
- S: 49 (12%)

(九州大学大学院工学研究院 環境社会部門 生態工学研究室 清野聡子・王燿・翟禕鵬)
ビーチクリーンロボットプロジェクト

①海岸でゴミを運搬するロボット
②海ゴミを調査するドローン
③可搬型高温焼却炉

BEACH CLEAN ROBOT PROJECT
“MARINE Initiative” toward Realization of the Osaka Blue Ocean Vision

- Toward realization of the “Osaka Blue Ocean Vision” that we aim to reduce additional pollution by marine plastic litter to zero by 2050, which was shared at the G20 Osaka Summit, Prime Minister Abe announced that Japan will support developing countries’ efforts including their capacity building and infrastructure development in the area of waste management at the summit.

- To this end, the Government of Japan has launched the “MARINE Initiative” to advance effective actions to combat marine plastic litter at a global scale focusing on (1) Management of wastes, (2) Recovery of marine litter, (3) Innovation, and (4) Empowerment.

Japan will support empowerment in developing countries to promote waste management, recovery of marine litter, and innovation, mainly through the following policy measures.

1. International Cooperation including bilateral ODA and assistance through international organizations

- Provide ODA and assistance through international organizations to:
  - Develop capacities and institutions including waste-related legal frameworks and waste sorting/collection systems to promote waste management and “3R (Reduce, Reuse, Recycle),”
  - Introduce quality environment infrastructure such as waste disposal facilities including recycling facilities and waste-to-energy plants.

- Provide training for 10,000 officials engaging in waste management all over the world by 2025.

2. International Operations by Japanese Companies, NGOs, and Local Governments

- Promote international business promotion and partnerships with NGOs and local governments, to facilitate export of infrastructure such as waste-management-related facilities, and innovation and technology introduction regarding plastic alternatives and recycling.

3. Dissemination and Sharing of Best Practices of Measures to combat marine plastic litter

- Disseminate and share Japan’s best practices through relevant international conferences and initiatives.
- Advance sharing knowledge with ASEAN, through the “Regional Knowledge Centre on Marine Plastic Debris.”
Input Citizen Voice of Marine Litter Issues to G20 Decision

Apr. 2019
Global marine circulation system disperse marine plastic waste!!

Plastic set adrift and breaking down, entering the open seas cannot be recovered!

(N. Maximenko et al. 2011)
Community leaders call international volunteers of next generation
Munakata World Heritage 世界遺産2017
National park 西海国立公園
国指定名勝
Geo-Park 世界遺産2018
ジオパーク推進

Marine Protected Areas 海洋保護区政策の実効化
Sustainable fisheries 持続可能な水産物
Beach clean-ups 海ゴミ市民活動

Conservation/Use hotspots in western Kyushu
↓
Marine environment activity network

National park 西海国立公園
国指定名勝
Geo-Park 世界遺産2018
ジオパーク推進

International conference 宗像国際環境会議
カブトガニ・元寇防塁発掘

↓
Marine environment activity network

北九州 壱岐

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北九州 壱岐
Thank you for your attention.
Floating piers washed away into Pacific
Drifted to west coast of U.S.!