

Korea's policies against microplastic to protect the marine environment

Northwest Pacific Action Plan(NOWPAP)

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Lee Yoon Jung senior researcher / Korea Maritime Institute

C O N T E N T S

Outline of Marine Debris Management policy	1
Management of EPS buoys	2
Current Issues(Microplastics)	3



Outline of Marine debris Management Policy

1

Marine debris in Korea

Definition

- **National Marine Debris Management Plan of Korea**
: Any manufactured or processed Solid Material entering in marine and coastal environment
 - ✕ including woods at the time of disaster, such as typhoon, heavy rain etc.

Sourced of generation

- **Generally known that Ocean-based source is 20%, Land-based source is 80% among the amount of Marine debris generated**
- **In Korea, estimated that the generation ratio of Ocean-based source is more than 20%**

History of Management policy

3 Step of policy

1996
establishing
MOF

1st Step

Removal Oriented Project

**Local government's
some Removal
projects**

at beaches, ports
(fishery, commercial)

2007
enacting
MEM act

2nd Step

Multilateral Management

**Central government-
led Policy**

- expanding the removal project into submerged and floating debris
- developing the disposal technology
- introducing the monitoring system

3rd Step

Precautionary & Systematic Management

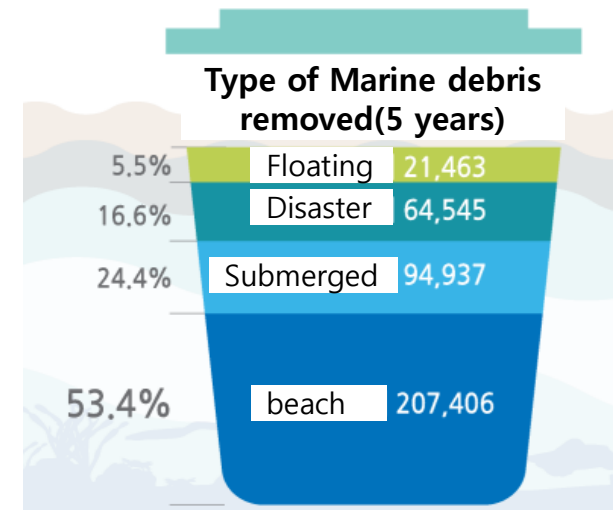
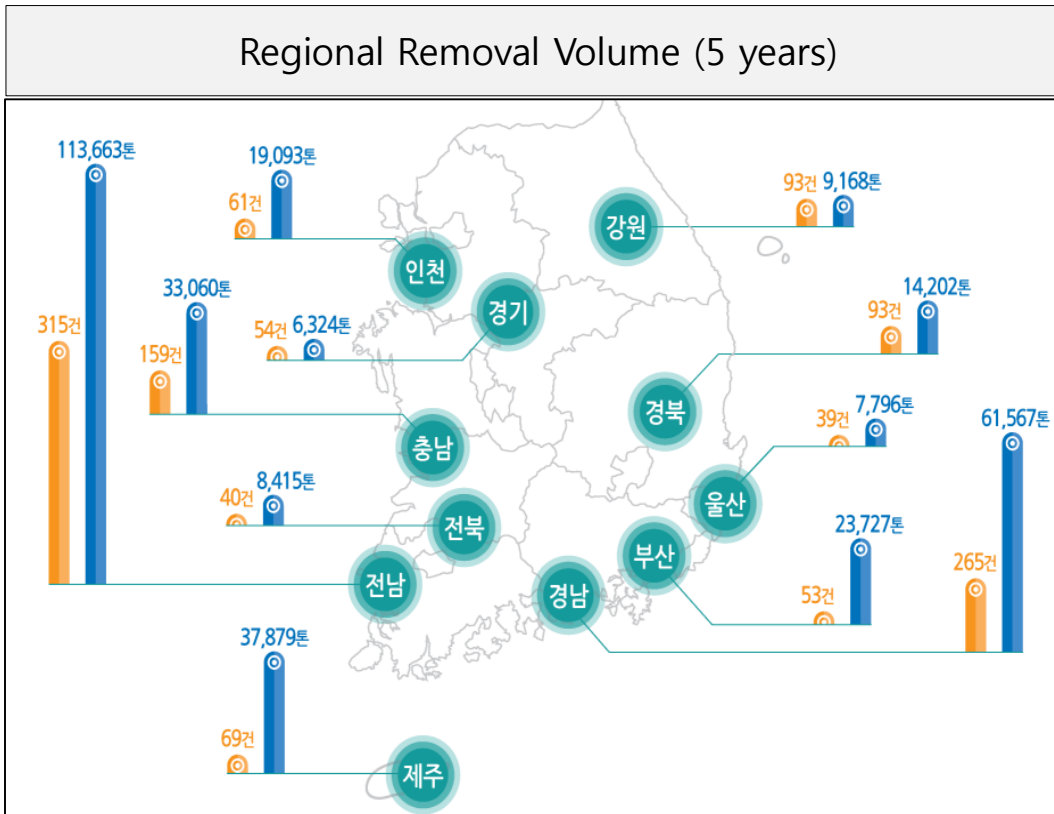
**Management by
national plan**

- formulating the National Plan to manage Marine debris ('09, '13)
- formulating the National plan to reduce trashes from rivers ('08, '13)
- organizing the management agency (KOEM)

Removal Amounts

The Results of Removal Projects

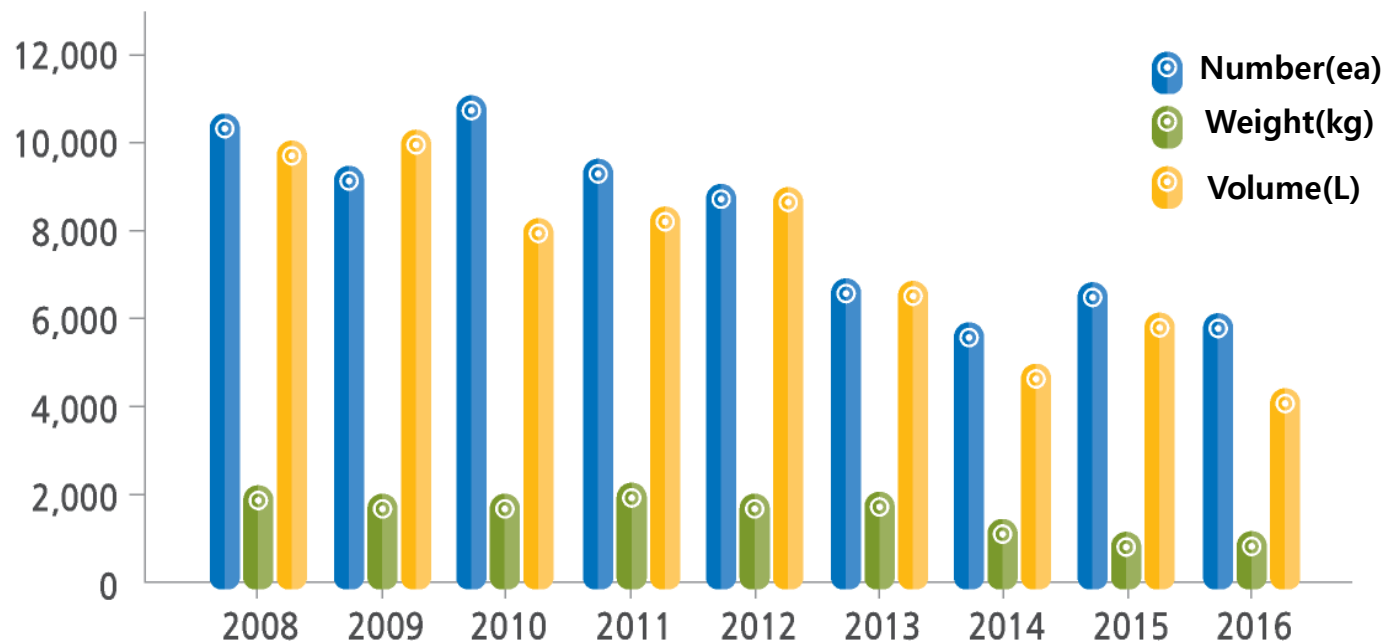
- Annual removal of marine debris
: in 2014 76,936 ton, in 2015 69,129 ton, in 2016 70,840 ton



Characteristics of marine debris

At the Beaches

- **Amount**

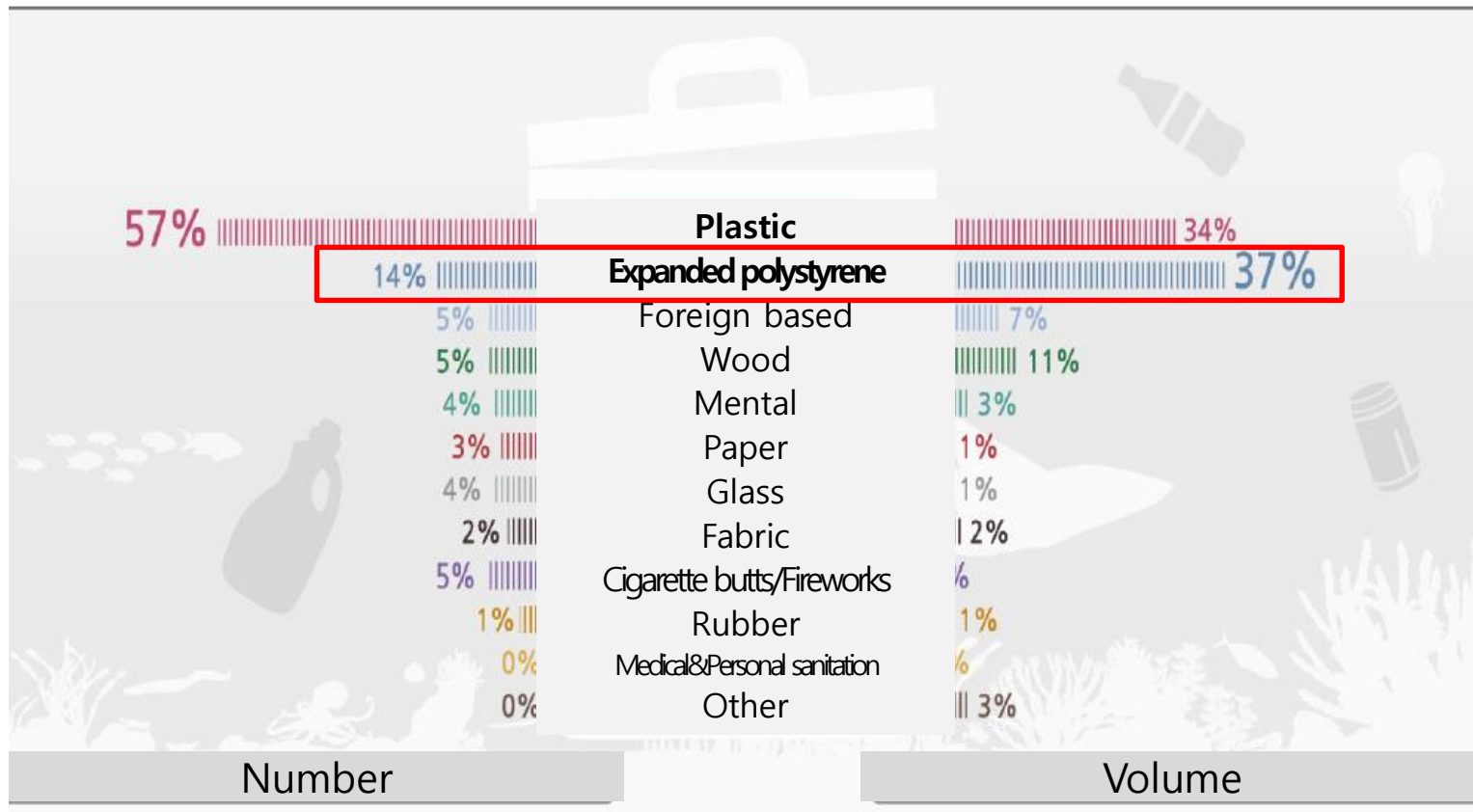


National Marine Debris Monitoring Program 2016.

Characteristics of marine debris

At the Beaches

- items in 2016



National Marine Debris Monitoring Program 2016.

Recent Change in policy

Efforts to solve the problems

- **'14, Strengthening the management of Abandoned & Derelict EPS buoys for aquaculture**
 - selecting 'the abandoned & derelict EPS buoys for aquaculture' as a core subject in the 2nd National Marine Debris Management Plan, in order to solve the microplastics pollution of seawater and seashores
 - after then, developing the several projects to reduce the amount of buoys left in the ocean
- **'16, Preparing to enact 'the Fishing Gears Management Act'**
 - MOF has prepared 'Fishing Gears Management Act' to manage efficiently abandoned and derelict fishing gear



The management of Expanded Polystyrene(EPS) buoys

2

Expanded Polystyrene buoys

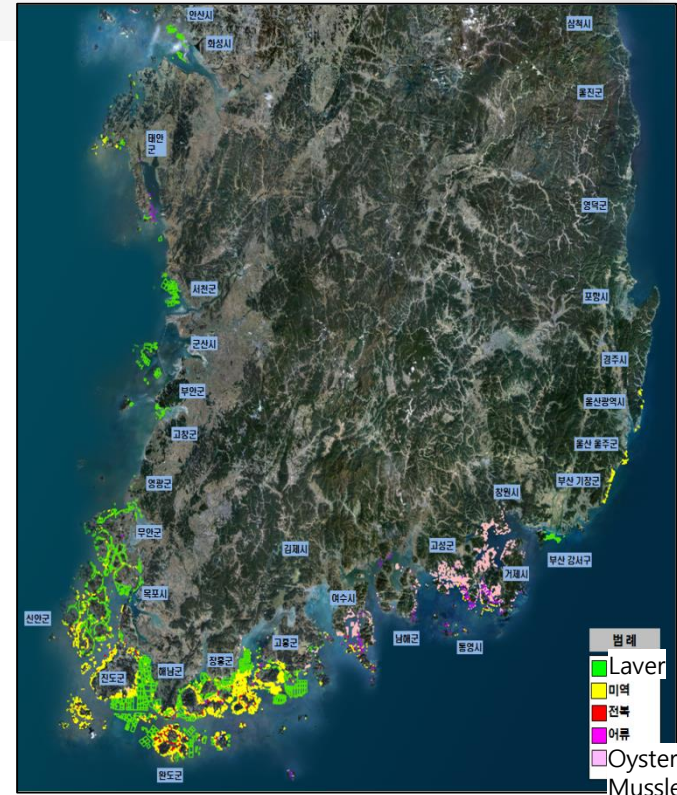
Aquaculture

- Species which farmed with buoys : Laver, Oyster, Mussels

species	Area(ha)	ratio
Total	149,793	100%
Aquatic plants	89,654	59.9%
Seashell	48,179	32.2%
Fish & others	11,961	8.0%

→ Laver : 62%

→ Oyster : 16%
Mussel : 2%



Laver



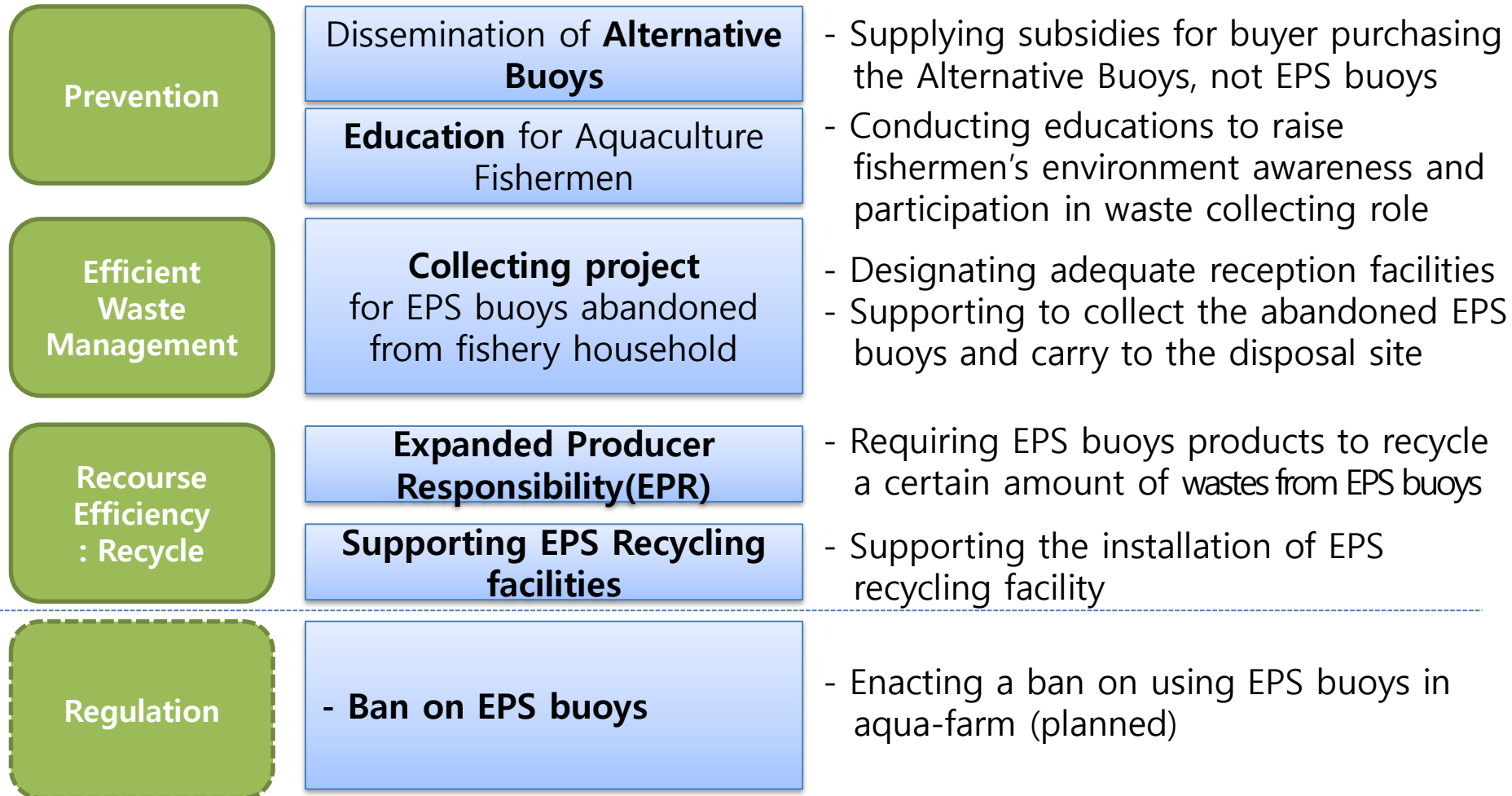
Oyster
Mussel



Expanded Polystyrene buoys

Management Structure

Korea government utilizes various management tool to reduce amount and impact of EPS buoys



Expanded Polystyrene buoys

Management tool : Prevention

▪ Subsidy for the Alternative Buoys

- Applicant : Aquaculture fishermen who to buy alternative buoys
- Subsidy ratio : 70% of purchase price
- Start year : 2015
- Alternative buoys : Certified Buoys of using material other than EPS, such as PE, EPP
Certified EPS Buoys which wrapped material other than EPS like PE
- Certification system : Standards(functional, Environmental), Test Method and Procedure
- Obligations : Required to return the quantity equivalent to 50% of alternative buoys
which purchased with government subsidy
- Supported quantity : 1,350 thousand buoys (2016)



Expanded
Polypropylene
(EPP) Buoy



PE film-wrapped EPS
Buoy



PE (Injection mold)
Buoy

Expanded Polystyrene buoys

Management tool : Prevention

Education for aquaculture fishermen

- Development of education toolkits for fishermen and teachers
 - to learn about the impacts of EPS buoys to marine environment & aquatic organism
 - to learn about guidelines for the proper collection and disposal method of EPS buoy



Textbook



Leaflets



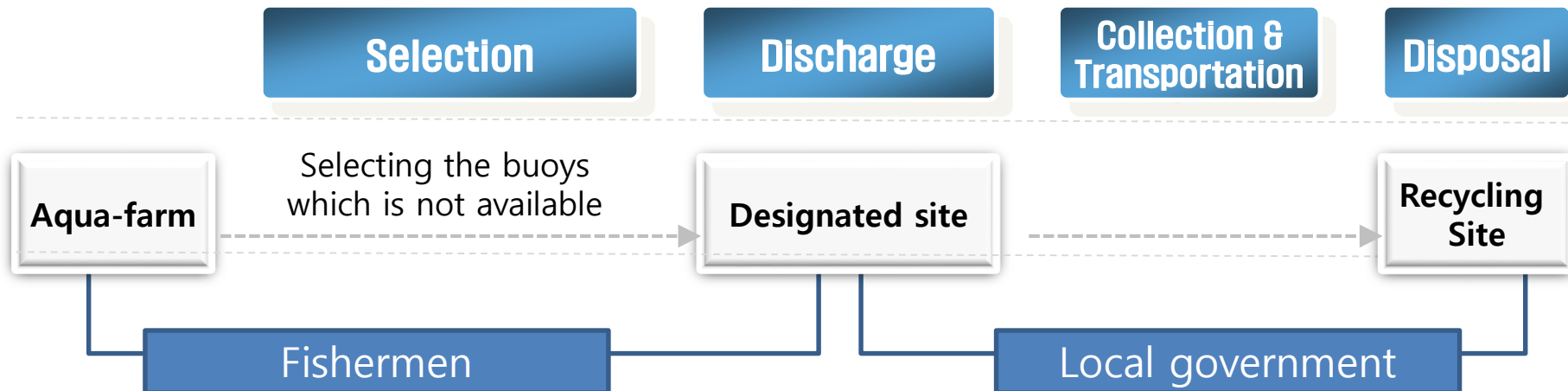
PPT materials

Expanded Polystyrene buoys

Management tool : Efficient waste management

▪ Collecting project

- Problems : Governor is focusing the removal of derelict EPS buoys, and fishermen can not afford to properly collect and carry discarded buoys.
In result, most EPS buoys are abandoned improperly on the beach. And the sand of beach is polluted by EPS grains
- Regulation : EPS buoys is classified as municipal wastes according to the Waster Management law
- Project
 - Fishermen should be discharged EPS buoys properly at the designated site and the designated day
 - Local government does collect the waste of EPS buoys and carry them to disposal site
- Start of pilot project : 2016



Expanded Polystyrene buoys

Management tool : Efficient waste management

Collecting project

- Procedure

Prior consultation

- Local government & Fishermen, Project team
- Where is target region
- When is proper time
- What is efficient method
- Sharing of participant (public officer, fishermen, researcher team)



Implementation

- Local government & Fishermen, Project team
- How many amount is collected
- How many amount is recycled
- Calculating execution costs



Feedback

- Local government & Fishermen, Project team
- Economic analysis
- What is problems with the recovery process
- What is Improvement Items

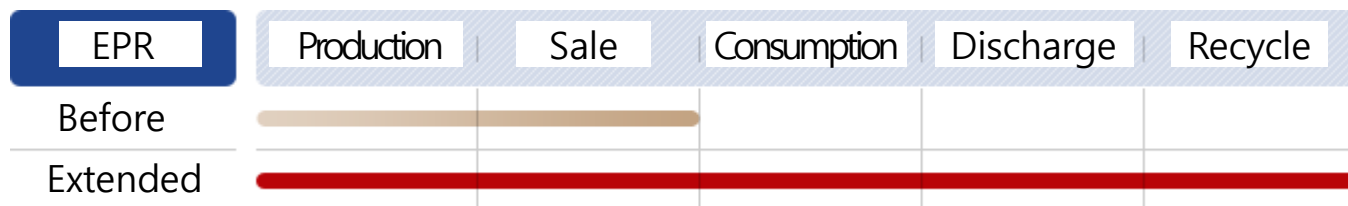


Expanded Polystyrene buoys

Management tool : Resource Efficiency

1. EPR(Extended Producer Responsibility)

- Extended Producer Responsibility (EPR) mandates producers of EPS buoys to recycle a certain amount of wastes from discarded, abandoned, derelict EPS buoys. If to fail this obligation, they should be paying recycling charges.
- Certified recycling method : production of ingots
- Determination of Recycling Obligation by Producers
: The mandatory recycling volume of each producers is calculated by multiplying the mandatory recycling rate* for EPS buoys by the volumes of sales
* the Amount of Ingots production : 28% of the volumes of EPS buoys sales
- Fulfillment of Recycling Obligation
 - Producers set up the recycling obligation fulfillment plan, seek the approval of the Minister of Environment, and fulfill their recycling responsibilities.
 - Producers also fulfill the recycling obligations by joining 'Recycling Business Cooperative(acting agency)'

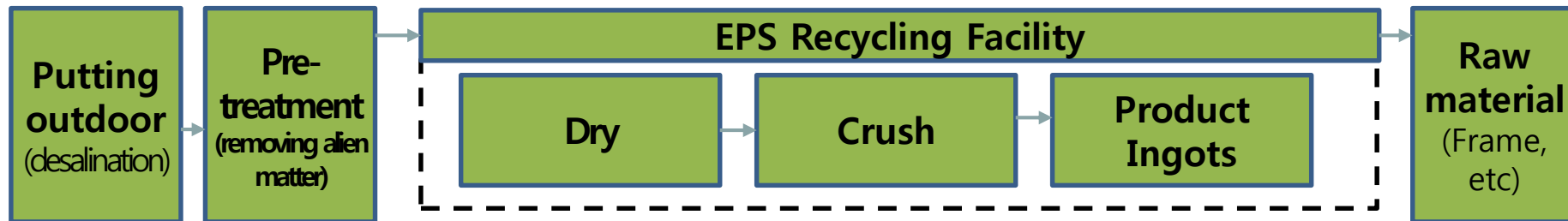


Expanded Polystyrene buoys

Management tool : Resource Efficiency

2. Supporting the EPS Recycling facility

- Since 2004, 36 Recycling facilities have been installed in 36 regions through supporting project
 - * Central government installed the facility, and local governments are operating the facility at its own expenses
- The recycling facility products ingots with EPS buoys through the process of pre-treatment, crushing, and melting



Expanded Polystyrene buoys

Management tool : Regulation

1. Ban on EPS buoys in aqua-farm

- EPS buoys will be prohibited in aqua-farm by revising Aqua-farm Management Law, when the alternative buoys suitable for aquaculture are developed and the ratio of alternative buoys exceeds 50%





Current Issues

: Microplastics

3

Current Issues

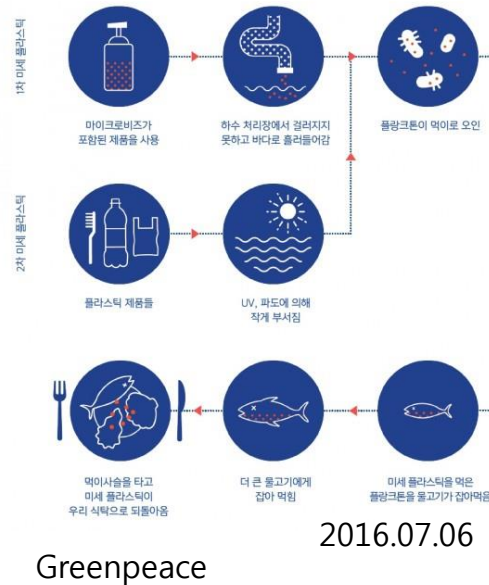
Microbeads became as a social issue in Korea by NGO

Participation in 'FACE to FISH' campaign Since 2015



Korean Women's Environmental Network & Greenpeace

Publishing reports on Microbeads
Starting campaign



Press Conference to call for regulation on Microbeads



2016.09.07

Korean Women's Environmental Network & Greenpeace

Performance for ban 'Microbeads'



2016.08.09

Regulation on Microbeads

- **2016. 06** **55 Cosmetic companies, Declaration on the disuse of Microbeads**
- **2016. 09** **Ministry of Food and Drug Safety, Notice on the revision of 'Regulation on Safety standards for Cosmetics'**
 - since 2017.07, ban on the importation and production of cosmetics including microbeads
 - since 2018.07, ban on the sale of cosmetics including microbeads
- **2017. 01** **Ministry of Food and Drug Safety, Notice on the revision of Regulation on non-medicinal product**
 - regulated subject : toothpaste, tooth whitener, etc
 - since 2017.07, ban on the importation and production
 - since 2018.07, ban on the sale