



MARINE LITTER IN THE ASEAN REGION AND PHILIPPINE RESPONSE AS A MEMBER STATE

Session 2.2: Enhancing Ways to Reducing Impact of Marine Debris in the East Asian Seas Region



OUTLINE

- I. State of the Problem
- II. Institutional Arrangement
- III. Initiatives and Programmes
- IV. Way Forward





State of the Problem

Top 10 Debris (2017 ICC Philippines)



1. FOOD WRAPPERS
939,063



2. CIGARETTE BUTTS
369,186



3. OTHER PLASTIC BAGS
294,030



4. STRAWS, STIRRERS
291,397



5. PLASTIC GROCERY BAGS
227,250



6. PLASTIC BOTTLE CAPS
213,719



7. PLASTIC TAKEOUT/TAKE AWAY CONTAINERS
193,569



8. PLASTIC BEVERAGE BOTTLES
154,849

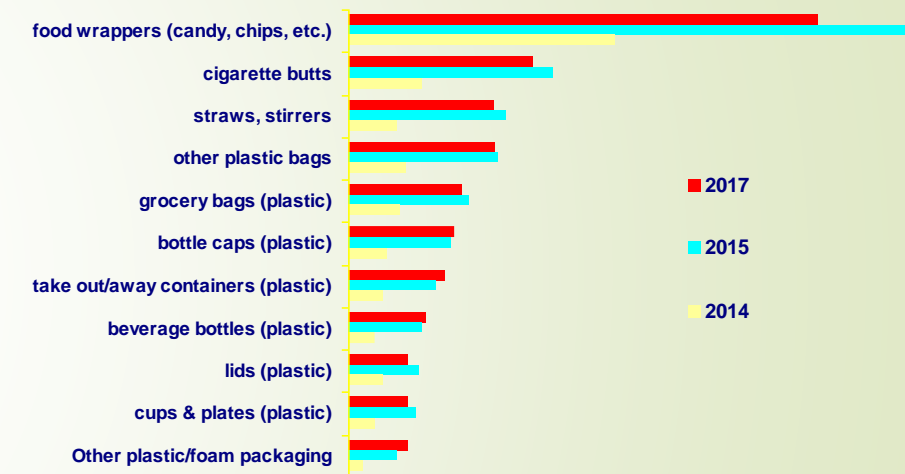


9. PLASTIC CUPS, PLATES
119,594



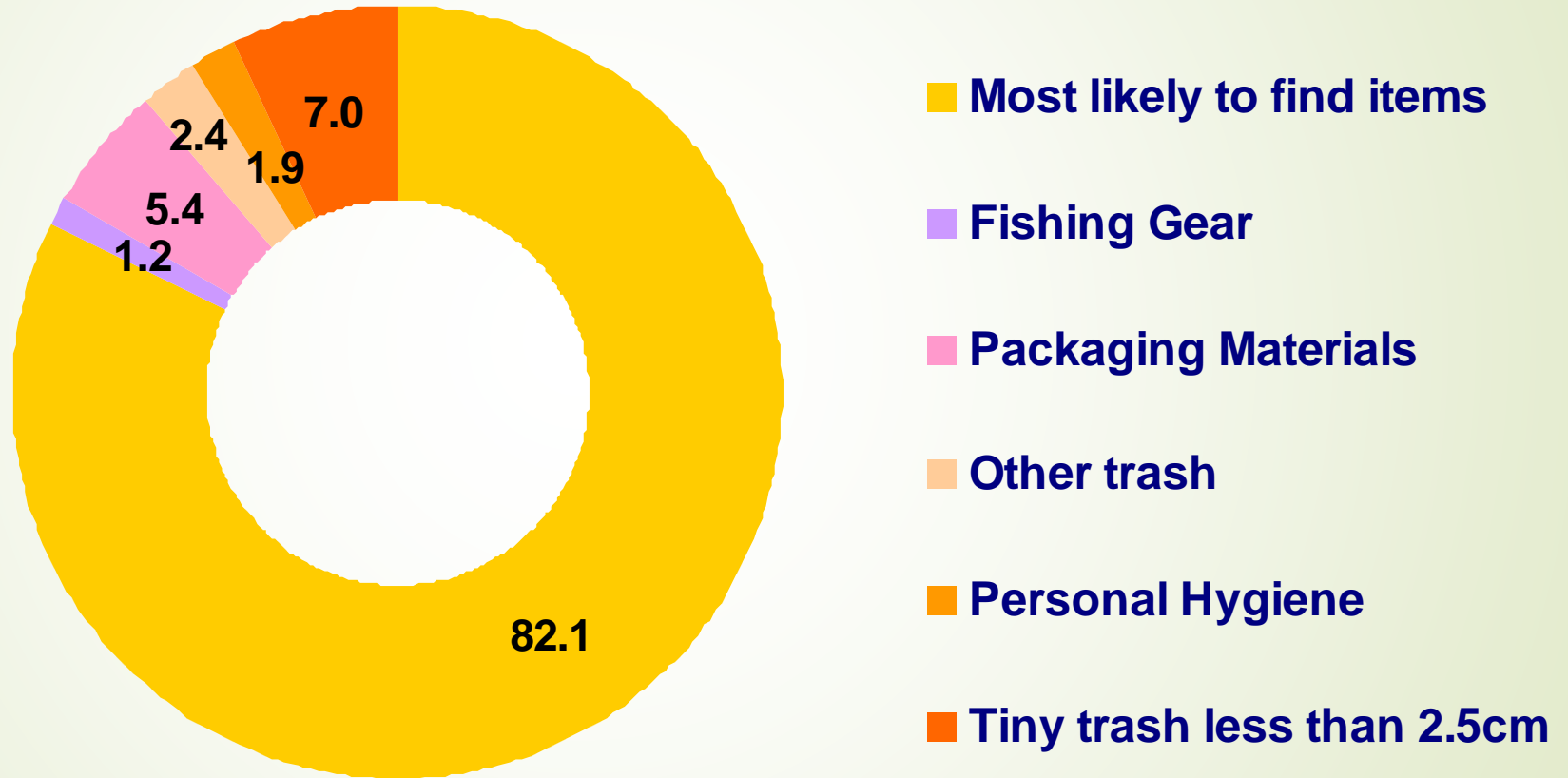
10. OTHER PLASTIC/ FOAM PACKAGING
118,841

% of Top 10 Debris from Total Count



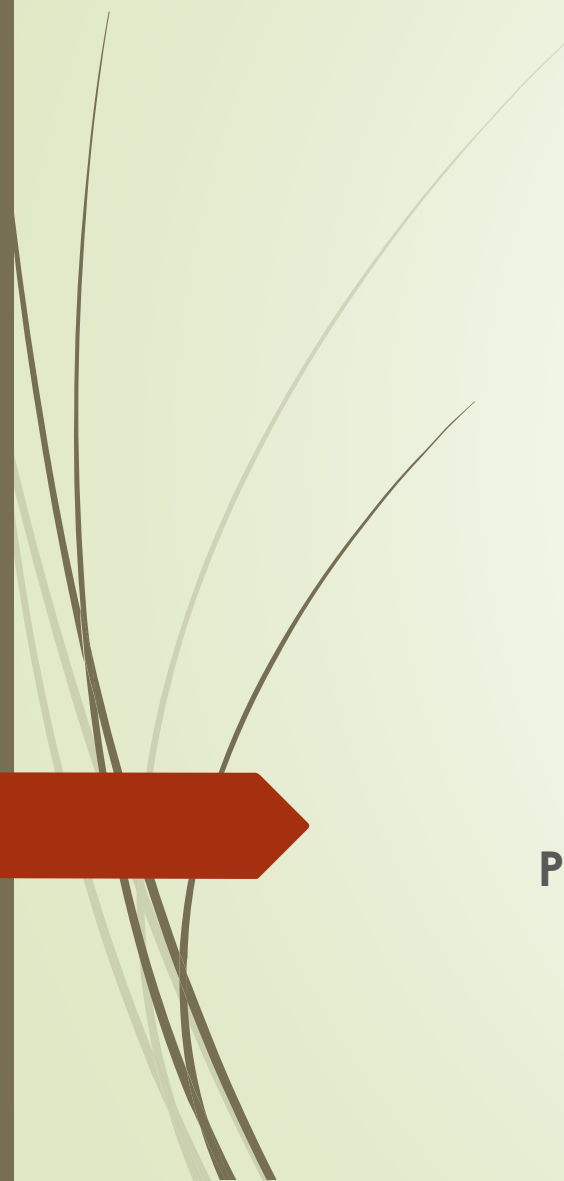

| | |
|-------------------------------------|--------------------------|
| Total Top Ten (no.) | 2,921,498 (67.6%) |
| Total Debris Collected (no.) | 4,319,981 |

% of Total Debris by Category





Institutional Arrangement

- 
- 
1. Department of Environment and Natural Resources (DENR)
(through the Environmental Management Bureau, EMB and Biodiversity Management Bureau, BMB)
 - Formulates policy, rules and regulations
 2. Department of Transportation (DOTr)
(through the Philippine Coast Guard, PCG)
 - Implements and enforces the rules and regulations

PRINCIPAL AGENCIES



Institutional Arrangements

Policy and Laws:

1. Marine Pollution Decree of 1976 (Presidential Decree (PD) No. 979)
2. Section 42 of the Philippine Environment Code (PD No. 1152)
3. Philippines' National Marine Policy of 1994
4. Ecological Solid Waste Management Act of 2000 (Republic Act (RA) No. 9003)
5. Philippine Clean Water Act of 2004 or RA No 9275
6. Toxic Substances, Hazardous and Nuclear Waste Control Act of 1990 or RA No. 6969



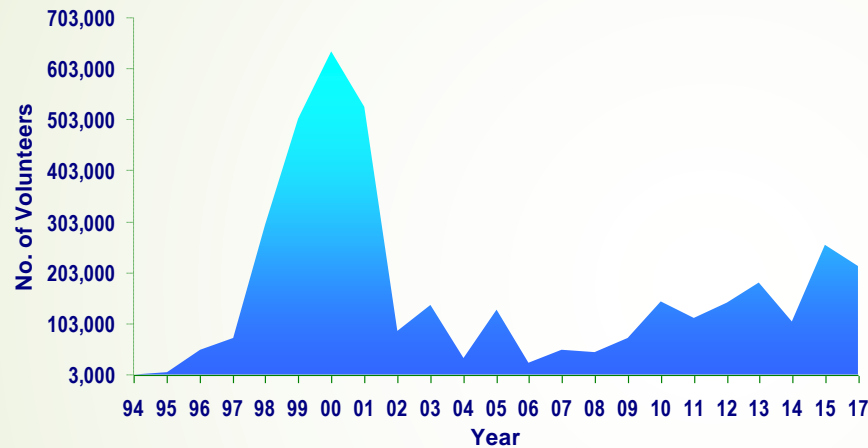
Initiatives and Programmes

International Coastal Cleanup

Participation in International Coastal Cleanup (2017)

| Country | Volunteers (people) | Weight of trash (kg) | Coastline / Length traversed (km) | Total Number of collected items |
|-------------|---------------------|----------------------|-----------------------------------|---------------------------------|
| Brunei | 360 | 1,754 | 89 | 20,130 |
| Cambodia | 14 | 55 | 0.3 | 1,489 |
| China | 10,748 | 57,025 | 79 | 16,406 |
| Indonesia | 2,987 | 2,155 | 80 | 95,051 |
| Laos | | | | |
| Malaysia | 1,073 | 5,274 | 114 | 77,001 |
| Myanmar | | | | |
| Philippines | 214,165 | 239,013 | 1274 | 4,223,167 |
| Singapore | 3703 | 14,566 | 62 | 195,706 |
| Thailand | 4081 | 9,663 | 57 | 57,474 |
| Vietnam | 543 | 7,569 | 8 | 20,661 |

Participation in International Coastal Cleanup (1994-2017)



| Rank | Province | Total People | Bags | Weight (kg) | Distance (km) |
|------|---------------------|--------------|--------|-------------|---------------|
| 1 | Zambales | 91784 | 20,860 | 43,136.72 | 236.85 |
| 2 | Batangas | 24423 | 4,882 | 22,580.61 | 229.74 |
| 3 | Metro Manila | 17883 | 5,127 | 21,926.87 | 15.30 |
| 4 | La Union | 15027 | 2,708 | 14,574.01 | 36.05 |
| 5 | Negros Occidental | 13885 | 3,041 | 19,580.90 | 111.73 |
| 6 | Cebu | 7107 | 2,102 | 12,936.53 | 48.64 |
| 7 | Cavite | 6320 | 3,017 | 16,837.35 | 33.81 |
| 8 | Davao Del Sur | 6252 | 2,632 | 6,868.25 | 34.40 |
| 9 | Bohol | 4951 | 997 | 6,665.35 | 72.59 |
| 10 | Palawan | 3948 | 1,325 | 12,868.11 | 46.94 |
| 11 | Quezon | 3350 | 783 | 4,044.06 | 23.05 |
| 12 | Akian | 1955 | 304 | 3,180.15 | 13.80 |
| 13 | Masbate | 1905 | 495 | 7,156.00 | 11.50 |
| 14 | Misamis Oriental | 1595 | 194 | 2,960.00 | 11.15 |
| 15 | Surigao Del Sur | 1552 | 270 | 136.60 | 4.29 |
| 16 | Zamboanga Del Norte | 1454 | 374 | 3,061.58 | 9.10 |
| 17 | Zamboanga Del Sur | 1367 | 350 | 2,023.13 | 25.60 |
| 18 | Pangasinan | 1101 | 182 | 1,235.71 | 18.35 |
| 19 | Leyte | 1011 | 335 | 4,010.40 | 14.59 |
| 20 | Iloilo | 798 | 352 | 2,836.00 | 23.20 |

| Rank | Province | Total People | Bags | Weight (kg) | Distance (km) |
|------|-------------------|--------------|------|-------------|---------------|
| 21 | Biliran | 721 | 214 | 1,874.00 | 5.30 |
| 22 | Sorsogon | 662 | 0 | 752.00 | 1.00 |
| 23 | Davao Oriental | 589 | 183 | 1,218.50 | 5.45 |
| 24 | Nueva Ecija | 561 | 290 | 1,883.14 | 3.55 |
| 25 | Marinduque | 528 | 82 | 483.98 | 4.03 |
| 26 | Mindoro Oriental | 437 | 128 | 1,220.50 | 5.50 |
| 27 | Antique | 370 | 100 | 878.50 | 1.50 |
| 28 | Surigao Del Norte | 344 | 77 | 212.80 | 3.00 |
| 29 | Bataan | 325 | 159 | 723.50 | 1.25 |
| 30 | Northern Samar | 324 | 92 | 792.25 | 3.45 |
| 31 | Davao Del Norte | 320 | 81 | 562.00 | 2.00 |
| 32 | Camiguin | 316 | 34 | 480.00 | 2.50 |
| 33 | Albay | 306 | 135 | 546.20 | 3.75 |
| 34 | Samar | 255 | 139 | 1,196.06 | 3.70 |
| 35 | South Cotabato | 235 | 36 | 138.70 | 2.05 |
| 36 | Sarangani | 220 | 438 | 0.00 | 1.80 |
| 37 | Siquijor | 190 | 97 | 291.00 | 2.00 |
| 38 | Camarines Sur | 186 | 60 | 516.00 | 1.50 |
| 39 | Western Samar | 175 | 0 | 0.00 | 1.40 |
| 40 | Guimaras | 171 | 28 | 224.00 | 1.00 |

| Rank | Province | Total People | Bags | Weight (kg) | Distance (km) |
|--------------|--------------------|----------------|---------------|-------------------|-----------------|
| 41 | Maguindanao | 150 | 48 | 80.00 | 0.25 |
| 42 | Agusan Del Norte | 149 | 29 | 333.00 | 1.64 |
| 43 | Bulacan | 136 | 140 | 809.00 | 2.25 |
| 44 | Pampanga | 125 | 50 | 200.00 | 2.00 |
| 45 | Mountain Province | 108 | 9 | 132.80 | 2.70 |
| 46 | Isabela | 103 | 35 | 160.00 | 5.20 |
| 47 | Aurora | 100 | 200 | 1,000.00 | 2.00 |
| 48 | Ifugao | 93 | 2 | 19.80 | 0.40 |
| 49 | Cagayan | 85 | 55 | 560.00 | 3.80 |
| 50 | Camarines Norte | 75 | 19 | 551.16 | 2.00 |
| 51 | Lanao Del Sur | 59 | 5 | 10.00 | 1.50 |
| 52 | Benguet | 40 | 7 | 10.80 | 1.20 |
| 53 | Misamis Occidental | 33 | 7 | 70.00 | 1.50 |
| 54 | Ilocos Sur | 27 | 5 | 40.00 | 1.50 |
| 55 | Rizal | 26 | 23 | 82.68 | 0.50 |
| 56 | Laguna | 19 | 43 | 350.60 | 0.10 |
| 57 | Eastern Samar | 13 | 4 | 80.00 | 0.50 |
| TOTAL | | 216,244 | 53,384 | 227,101.30 | 1,105.44 |

PPM by Cleanup Category



| LAND | | |
|--------------|---------------|---------------|
| Total People | Est. Wt. (Kg) | Distance (Km) |
| 215,964 | 226,500.66 | 1,091.59 |



| UNDERWATER | | |
|--------------|---------------|---------------|
| Total People | Est. Wt. (Kg) | Distance (Km) |
| 157 | 309.70 | 5.35 |



| WATERCRAFT | | |
|--------------|---------------|---------------|
| Total People | Est. Wt. (Kg) | Distance (Km) |
| 123 | 290.94 | 8.5 |

2017 ICC PPM Philippines



PEOPLE:
216,244



KILOGRAMS:
227,101.3



KILOMETERS:
1,105.44



TOTAL ITEMS COLLECTED:
4,319,981



Initiatives and Programmes

Adopt an Estero / Water body Program



Adopt-a-Water body Program

| YEAR | Number of Improved Water bodies | |
|------|---------------------------------------|--|
| | Measured in terms of Dissolved Oxygen | Measured in terms of Biochemical Oxygen Demand |
| 2013 | 38 | 29 |
| 2014 | 75 | 78 |
| 2015 | 67 | 68 |
| 2016 | 91 | 80 |
| 2017 | 95 | 92 |



Collected Garbage during Clean-ups

2013 Clean-up Activities

- 9 trucks and 47,003 kilos of bio and non-biodegradable waste collected

2014 Clean-up Activities

- 9 trucks, 4,454 sacks, 10 drums and 37,068 kilos of bio and non-biodegradable waste collected

2015 Clean-up Activities

- 17 trucks, 10,491 sacks, and 88,626 kilos of bio and non-biodegradable waste collected

2016 Clean Up Activities

- 33 trucks, 9,003 sacks, and 140,209 kilos of bio and non-biodegradable waste collected

2017 Clean-up Activities

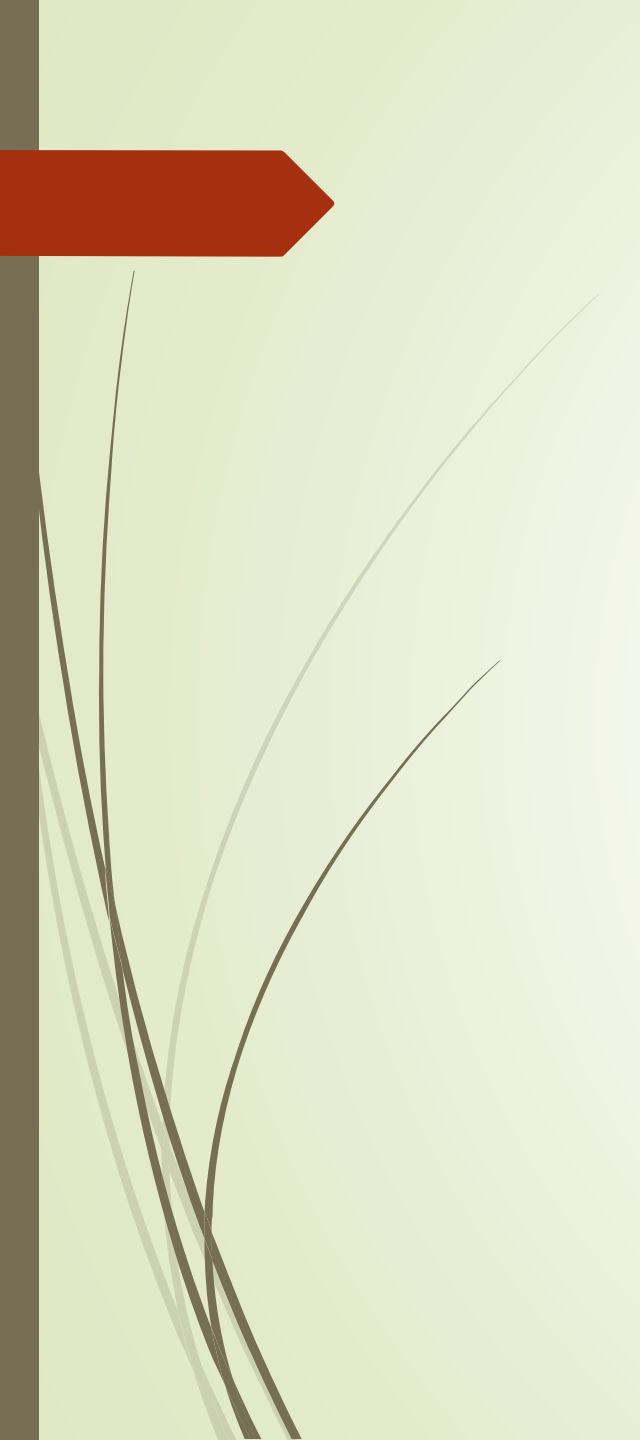
- 12 trucks, 3,331 sacks, 60 bags, 288,043.2 kilos of bio and non-biodegradable waste collected



Community Participation



| Clean-up Year | Number of Participants |
|---------------|------------------------|
| 2013 | 13,161 |
| 2014 | 11,725 |
| 2015 | 19,395 |
| 2016 | 30,470 |
| 2017 | 24,575 |



Results of the Adopt-an-Estero/ Water body Program

Improved waste collection efficiency



Surigao del
Norte



Benguet

Quicker flooding subsidence



San Roque Creek(Zamboanga City)



Arellano Creek(Dagupan
City)



Physical Improvements in the Adopted Water Bodies

SPINE CREEK

DONOR PARTNER:

MAUNLAD CANNING AND FORTUNE GROUP

LOCATION:

MALABON CITY, NAVOTAS CITY and CALOOCAN CITY



MANARIGO CREEK

DONOR PARTNER: **MACH UNION WATER LABORATORIES, INC.**
LOCATION: **LAS PIÑAS CITY**

BEFORE



AFTER

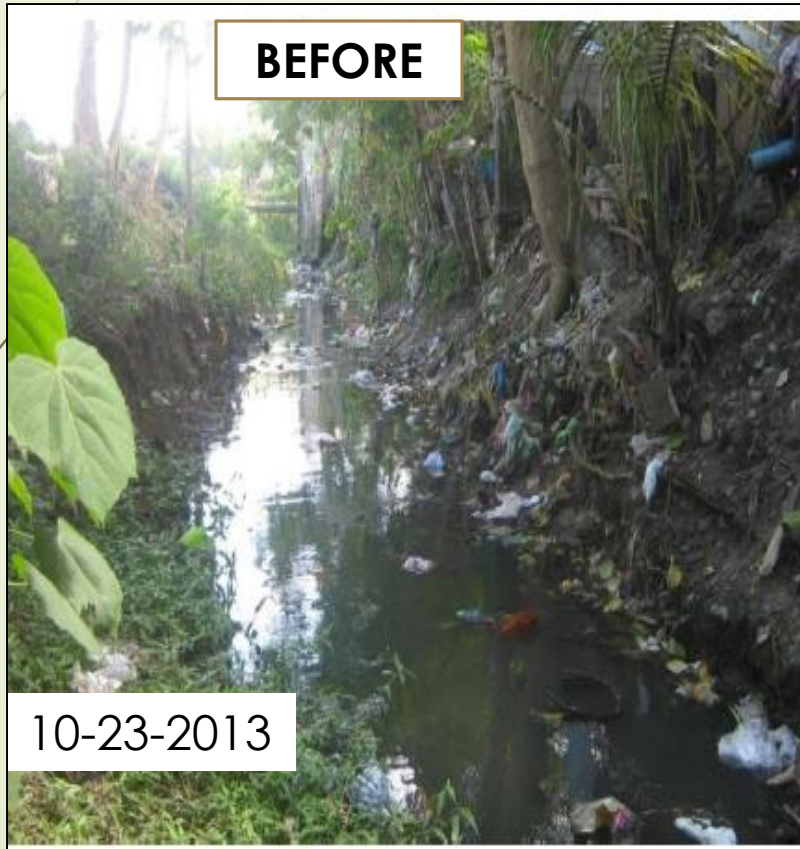


Conducted clean-up activity last April 22,
2017

PACRI CREEK

DONOR PARTNER: SOUTHERN ISABELA GEN. HOSP., SICAT, PAG-ASA HOME OWNERS ASSOCIATION, SANTIAGO CITY NATIONAL HIGH SCHOOL, LGU-SANTIAGO CITY

LOCATION: BARANGAY MALVAR, SANTIAGO CITY, ISABELA



DELA PAZ NORTE CREEK

DONOR PARTNER: **PETRON CORPORATION**
LOCATION: **SAN FERNANDO, PAMPANGA**



TABOK RIVER

DONOR PARTNER: **AG & P**

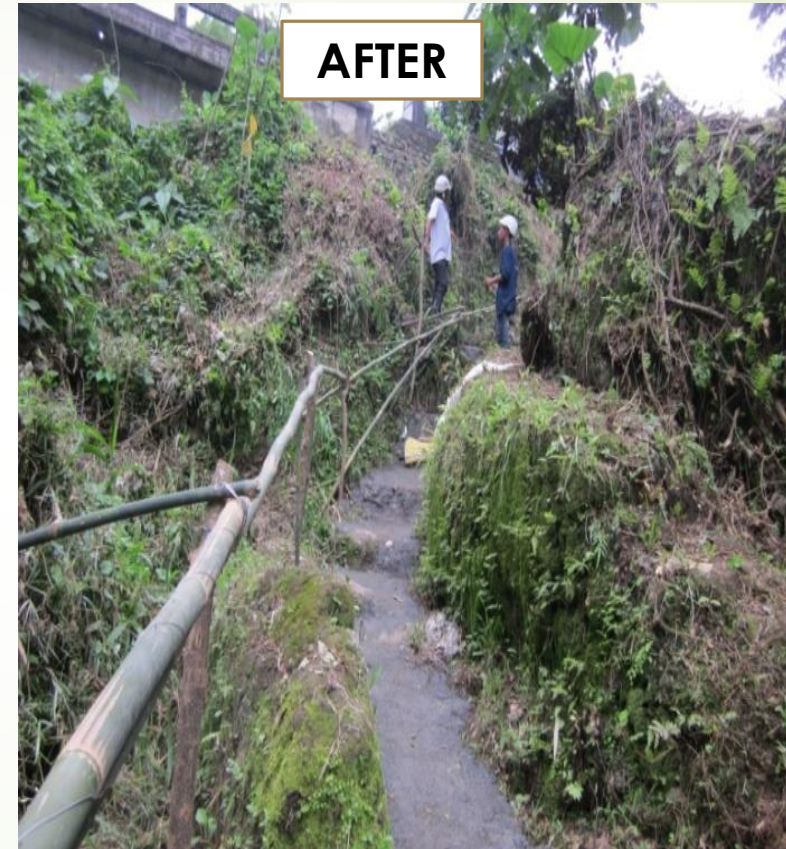
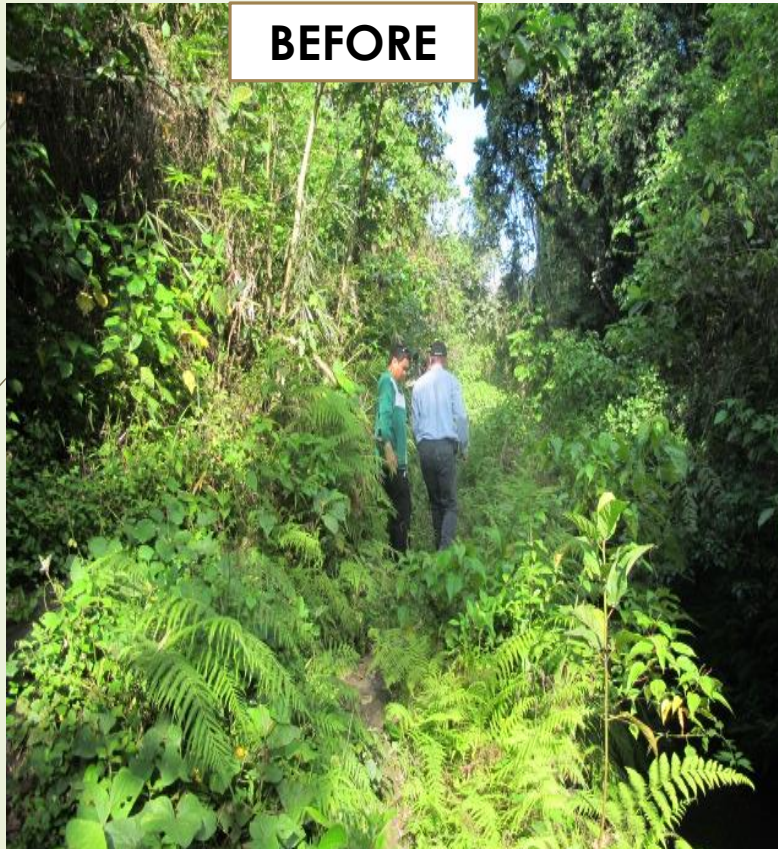
LOCATION: **BRGY. SAN ROQUE, BAUAN, BATANGAS**



TIGSA CREEK - LAGUNA

DONOR PARTNER: **AP RENEWABLES INC.**

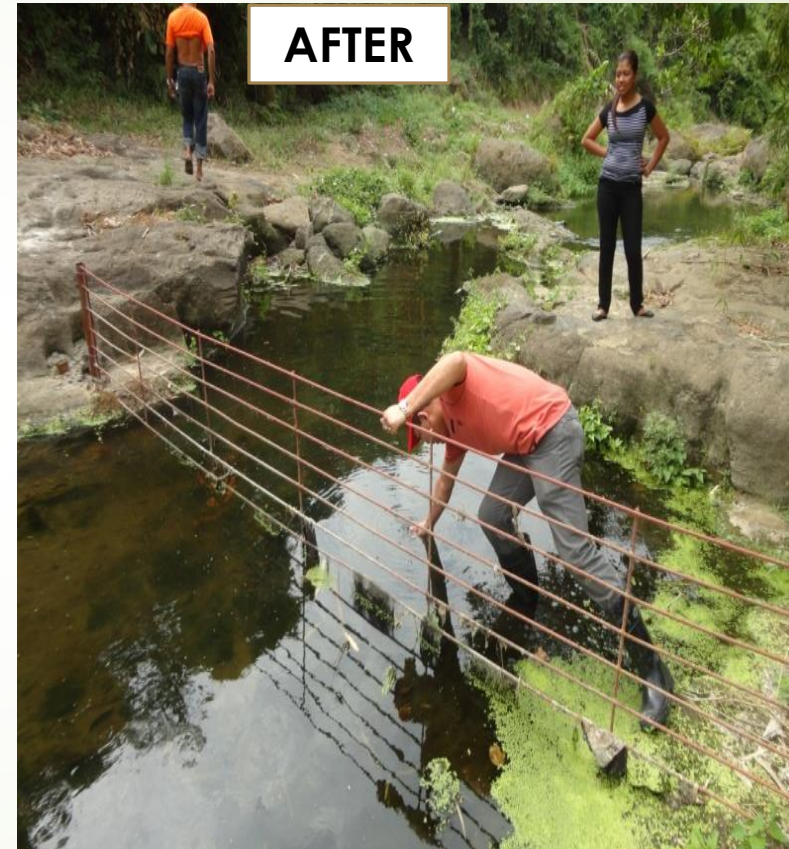
LOCATION: **BRGY. LIMAO, CALAUAN, LAGUNA**



SAHING RIVER

DONOR PARTNER: **INTEGRATED WASTE MANAGEMENT , INC**

LOCATION: **BRGY. SAN ROQUE, BAUAN, BATANGAS**



Rio Grande

DONOR PARTNER: ANTEL HOLDINGS INC.

LOCATION: BRGY. BACAO I & II, GENERAL TRIAS, CAVITE

BEFORE



AFTER



RENILISAN ROAD CREEK – LEGAZPI CITY

DONOR PARTNER: **Petron Legazpi Terminal**

LOCATION: **Legazpi City**

BEFORE



During



AFTER



CALAJUNAN CREEK

DONOR PARTNER: PEPSI COLA PRODUCTS CORP., VIZAYAS COCO DEVELOPMENT INC.

LOCATION: Brgy. Ibaon, Pavia, Iloilo TR

BEFORE



AFTER



Conducted clean-up activity last May 12, 2017

TIPOLO CREEK

DONOR PARTNER: **SAN MIGUEL YAMAMURA PACKAGING CORPORATION**
LOCATION: **BRGY. TIPOLO, MANDAUE CITY, CEBU**

BEFORE



AFTER



Conducted clean-up activity last June 24, 2017

SINUNUC RIVER

DONOR PARTNER: **AYALA SEAFOOD CORPORATION**
LOCATION: **ZAMBOANGA CITY**



Conducted clean-up activity last June 24, 2017

LUYONG BONBON CREEK

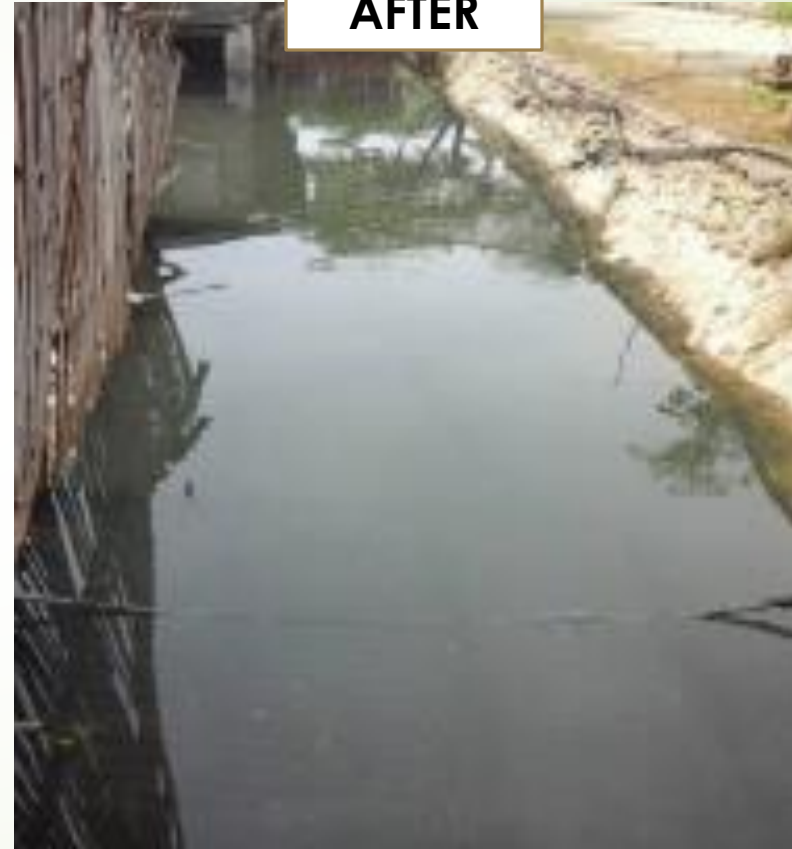
DONOR PARTNER:

LOCATION: **Opol, Misamis Oriental**

BEFORE



AFTER



KAUSWAGAN NATIONAL HIGHWAY ESTERO

DONOR PARTNER:
LOCATION:

PICE, KIWANIS CLUB AND YSEALI VOLUNTEERS
KAUSWAGAN NATIONAL HIGHWAY ESTERO

BEFORE



AFTER



BRGY. ROAD CANALS OF BRGY. TIMAMANA

DONOR PARTNER: **SILANGAN MINDANAO MINING COMPANY**
LOCATION: **TUBOD, SURIGAO DEL NORTE**



Conducted clean-up activity last June 27, 2015

Bulok Creek, Koronadal City



Maasin River, Zamboanga City



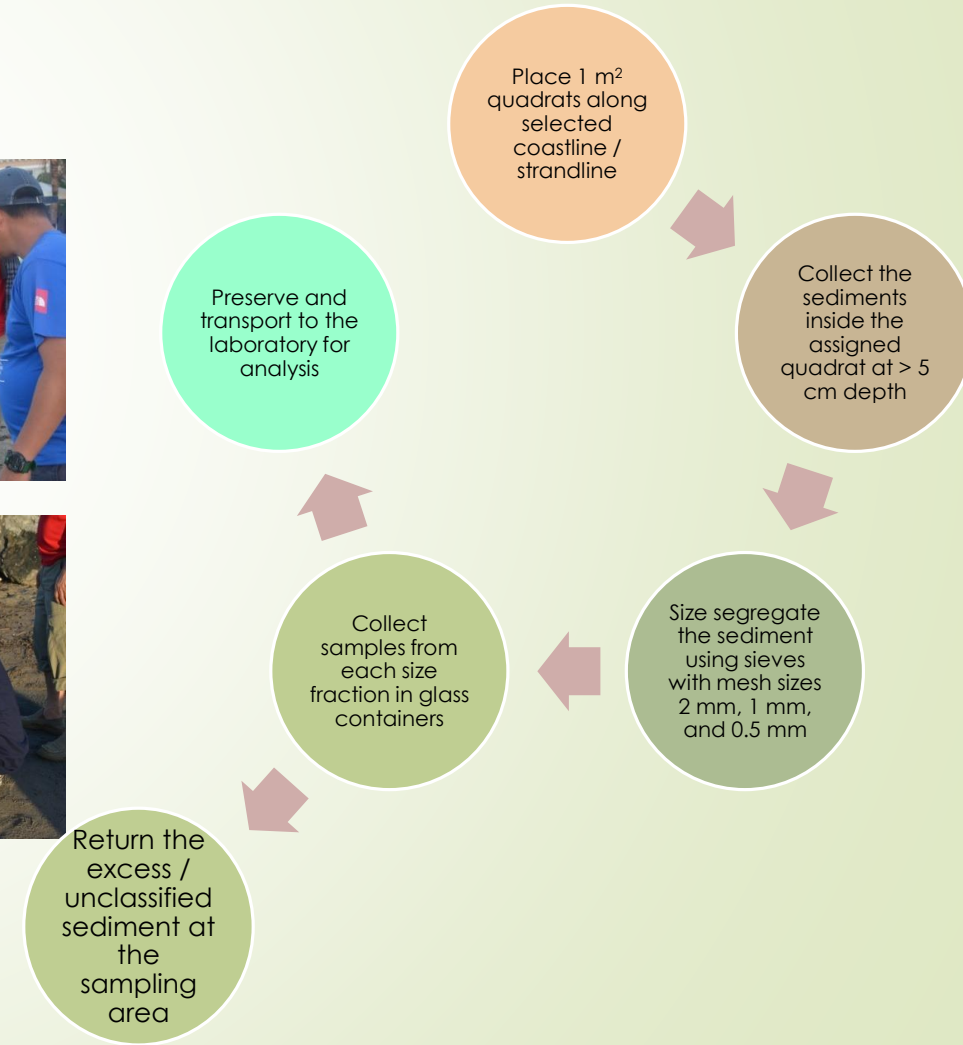
Conducted National Orchestrated Clean-up for the Adopt-an-Estero/Waterbody Program last September 16, 2017 in support for the International Coastal Cleanup



Initiatives and Programmes

Monitoring and Research

Workshop on Collection and Identification of Microplastics along a strandline (April 2015)





Initiatives and Programmes

Local Government Initiatives to address plastic pollution



Local Government Initiatives to address plastic pollution

- City or local ordinances banning the use of specific plastic products such as single use plastics bags, containers and straws
- Recycling plastic wastes into useful products such as recycling/transforming waste plastics into school chairs
- Incentivizing plastic segregation in schools by using points for surrendered recyclables and exchanging these with school supplies during school season and recreational materials during summer vacation
- “Decentivizing” by reprimanding households that does not practice waste segregation



Way Forward



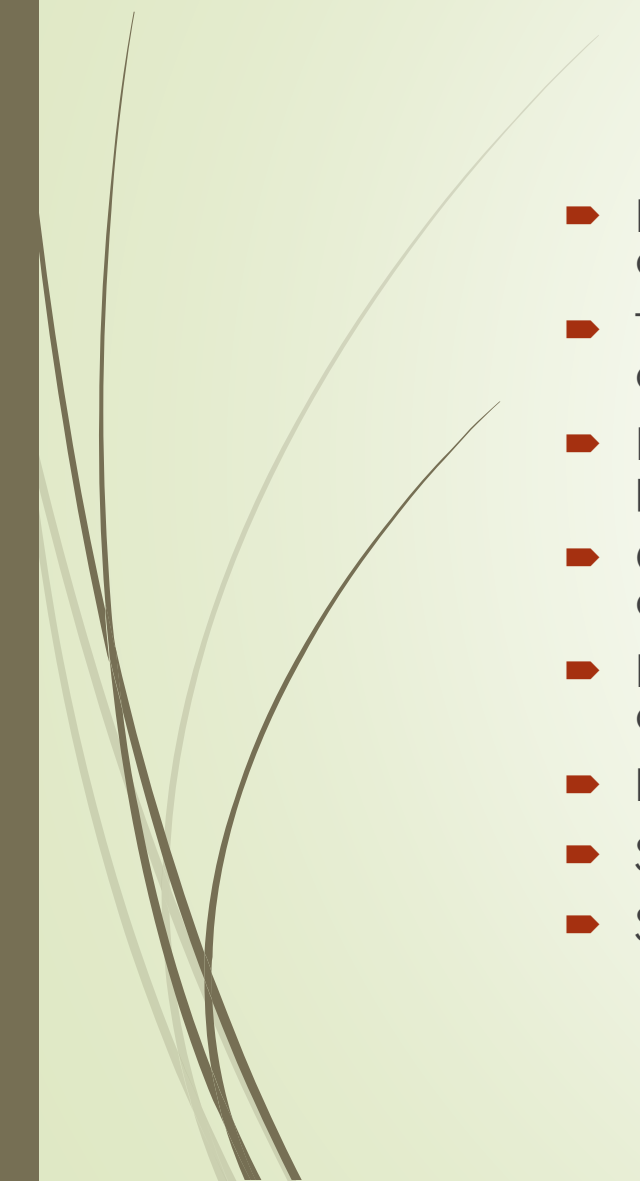
Research



- Identification of marine plastic litter and microplastics hotspots
- Assessment and characterization of baseline occurrence of microplastics
- Advance the understanding of the distribution, sources, transport and impacts of plastic marine debris in general and micro-plastics in marine debris in particular through monitoring and research
- Development of a harmonized protocol for the collection and monitoring of marine litter



National Needs and Action Plans

- 
- Development and implementation of a national action plan on marine litter and microplastics
 - Technical and funding assistance in the development of a National Action Plan on Marine Litter and Microplastics
 - Responsibility areas and coordination among stakeholders such as an extended producers responsibility
 - Guidelines, standards, rules and regulations on marine litter intended for the different stakeholders such as standards for packaging design
 - Establishment of physical infrastructure for the collection and treatment/disposal of marine litter
 - Information and education campaigns (IEC)
 - Sustained clean up activities
 - Support to research activities



Legislations (on-going)

- 15th Congress Senate Bill No. 2759, Total Plastic Bag Ban Act of 2011;
- 17th Congress Senate Bill. 430, Plastic Bags Regulation Act; and
- House Bill 8120, Prohibiting the manufacture, sale, distribution and use of rinse-off cosmetics and clothing containing microplastics



Maraming Salamat po!

<https://www.denr.gov.ph/>

