International Coastal Cleanup 2013

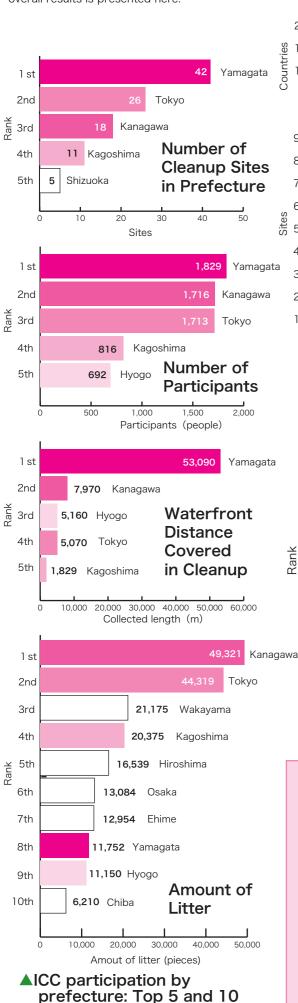
In the Autumn 2013 International Coastal Cleanup (ICC), 9,337 people participated. A total of 243,423 pieces of litter was picked up meticulously one-by-one from 84 km of waterfront (coasts, riverbanks and lakeshores), underwater and inland areas. A summary of the overall results is presented here.

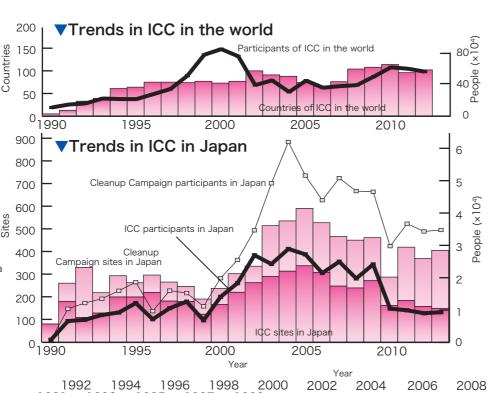
12

18

19

Summary





1999

2001

2003

▲Changes in top 10 items since 1991

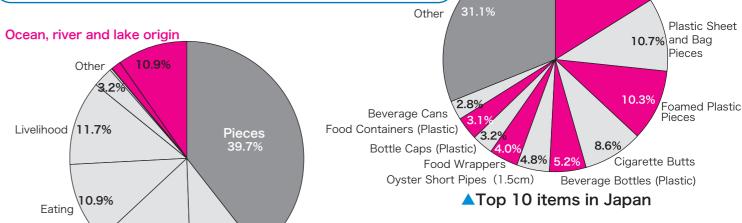
2005

2007

2009

The overall results show the total from waterfront (ocean coasts, river banks and lakeshores), underwater, and inland sites during the period when ICC was implemented (September and October)

- Of the "piece" type, three of the four items were in the top 10. • Of the "inland origin" type, six of the 32 items were in the top 10. Of the "inland origin" type, the top 10 accounted for 26.9% of the overall. The top 20 accounted for 41.3%. • "Ocean, river and lake origin" items accounted for 10.9% of the overall. Piping for oyster farming (rank 6th) entered the top 10. • The top 10 (up to rank 15 overall) of the manufactured items were "inland origin"
- and "ocean, river and lake origin", accounted for 72.7% of all manufactured items, and 35.9% of the overall.



Overall results in 2013

Plastic Pieces

16.2%

V Overall results in 20	13		
Items	Pieces	%	Rank
▼Pieces			
Plastic Pieces	37,422	16.2%	1
Plastic Sheet and Bag Pieces	24,625	10.7%	2
Foam Pieces	23,801	10.3%	3
Glass Pieces	5,818	2.5%	12
▼Inland Origin			
Cigarette Butts	19,967	8.6%	4
Tobacco Packaging/Wrap	1,030	0.4%	29
Cigarette Lighters	2,049	0.9%	24
Beverage Bottles (Plastic)	11,900	5.2%	5
Beverage Bottles (Glass)	4,542	2.0%	16
Beverage Cans	6,425	2.8%	10
Bottle Caps (Plastic)	7,476	3.2%	8
Bottle Caps (Metal)	964	0.4%	30
6-Pack Holders	51	0.0%	45
Forks, Knives, Spoons	327	0.1%	39
Cups & Plates (Paper)	414	0.2%	38
Cups & Plates (Plastic)	888	0.4%	31
Cups & Plates (Foam)	763	0.3%	35
Straws/Stirrers	1,911	0.8%	25
Food Wrappers	9,208	4.0%	7
Take Out/Away Containers (Plast	tic) 7,141	3.1%	9
Take Out/Away Containers (Foan		2.0%	15
Grocery Bags (Plastic)	4,859	2.1%	14
Paper Bags	746	0.3%	36
Other Plastic Bags	6,316	2.7%	11
Lids (Plastic)	4,989	2.2%	13
Other Plastic Bottles	1,496	0.6%	28
Livingware	3,260	1.4%	21
Toys	1,559	0.7%	27
Balloons	188	0.1%	42
Fireworks	3,694	1.6%	19
Appliances	122	0.1%	44
Tires	161	0.1%	43
Strapping Bands	1,639	0.7%	26
Other Plastic/Foam Packaging	4,260	1.8%	17
Construction Materials	848	0.4%	33
Syringes	231	0.1%	41
▼Ocean, River and Lake Origin			
Fishing Line	803	0.3%	34
Lure	2,053	0.9%	23
Rope	4,166	1.8%	18
Fishing Net and Pieces	264	0.1%	40
Fishing Floats (Foam)	852	0.4%	32
Fishing Buoys/Floats (Plastic)	2,197	1.0%	22
Crab/Lobster/Fish Traps	441	0.2%	37
Oyster Pipes(10-20cm)	3,289	1.4%	20
Oyster Pipes (1.5cm)	11,140	4.8%	6
Total	230,923	100.0%	

▲Proportion of outflow by origin

Smokino

13.6%

Drinking

Plastic Sheet and Bag Pieces

Food Wrappers & Containers

■ Plastic Pieces

Foam Pieces

□ Oyster Pipes

Caps, Lids

Cigarette Butts

Beverage Bottles

Grocery Bags(Plastic)

Beverage Cans

Glass Pieces

Fireworks

Inland origin 49.4%

2010 2012

- "Pieces" was decreased from 52.1% (2012) to 39.7%. "Pieces" accounted for 45% of the items on the ocean coasts, but less than 30% of the items in rivers, underwater and less than 1% of the items inland.
- The number of articles collected per item of type "Pieces" on the ocean coasts was about 10 times that for type "inland origin"
- Of the "inland origin" type items, over 90% were attributable to Fisheries and maritime industry
- origin accounted for 27.7%. The cause is oyster pipes. The ratio was 3:1 for "inland"
- origin" type: "ocean, river and lake origin" type.
- Top 3 items in terms of frequency of appearance: (1) Plastic pieces (21 years), (2) Cigarette butts (18 years), (3) Foam pieces (L) (15 years).
- Incidence of the top 10 items: No major changes over 23 years. Top item: Shifted from cigarette butts (1990s) to plastic pieces (2000s). • Items that rose in rank over 23 years: Plastic sheet and bag pieces and
- beverage bottles (plastic). Items that dropped in rank over 23 years: Fireworks.
- Food wrappers/containers have increased again since 2000, and beverage cans have increased again since 2010.
- (1) Large quantity as well as variety. (2) Pieces account for about 40%.
- (3) Over the past several years, no major changes in the top ranking items. (4) 3:1 ratio of inland origin items: ocean, river and lake origin items.

1997

- (5) Plastic products that we use in daily life (especially items related to beverages, food, smoking and livelihood) account for over 90% of the inland origin items.
- (6) The top 10 manufactured items account for only 30% of the overall, and the marine litter problem cannot be solved by only reducing generation of manufactured-items

Once this litter that flows out to the ocean sinks to the ocean floor, retrieval becomes very difficult. Further, litter that flows out to the ocean scatters over a wide area with the ocean currents. Litter related to industry and medicine that flows out to the ocean is a major issue, but we must become aware that litter from our daily life activities related to "beverages", "food", "smoking" and "livelihood" is a major portion of marine litter. The daily life activities of people who live inland, away from the ocean, are creating a great burden on the ocean. An effective measure that is apparent from the results of the present work, is to focus on the top 10 items that account for 70 percent of the whole. For this, an important key is to reduce generation of pieces/fragments that account for about 40% of the overall amount. It is considered that most of the pieces are items that washed ashore on the coast, and fragmented from the impact of waves or deteriorated from ultraviolet rays while drifting in the ocean over a long period of time. Therefore, it is a matter of great urgency to collect the objects from the ocean before they become fragmented. The coast is a filter for the ocean, and with each wave, the ocean carries to the shore, litter that was scattered over a wide area. Since we are the only beings on earth that create things that will become litter, and use and discard them, we have an obligation at least to always keep the coasts, which are the ocean filter, clean as compensation.

To recover and maintain the beautiful ocean, we need to continue cleanup efforts by everyone.