



O·S·E·A·N
Our Sea of East Asia Network



ISSN 2287-8971

Marine Litter News

Volume 7 • Issues 1 • June 2016

In this volume

1. 'Face to Fish' campaign successfully got 55 companies to agree not to use microplastics in cosmetics
2. Zero Plastic Resin Pellet Loss in Australia
3. "See – Share – Solve" – Community Engagement with the Global Alert Platform to Report Trash Hotspots in our Waters
4. Taiwan and Japan discuss cross-border marine debris strategies
5. Keeping Vietnam's Coasts Clean — Situation of marine debris' harmful effects and green initiatives!
6. How do Chinese NGOs Initiate Public Marine Litter Disposal Advocacy? Take Coastline Guardian Project as example
7. Hong Kong Cleanup Awards 2015 15th anniversary Hong Kong Cleanup Awards Ceremony and Ecozine Winter Cocktail
8. From the change of thinking and doing for reducing marine debris problem
9. New government project to mitigate EPS buoys debris from aquaculture grounds in Korea



Asia Pacific Civil Forum on Marine Litter

SAVE THE DATES

14th Marine Litter Summit 2016 Mie Conference, Japan

“Thinking about biodiversity and marine litter, and the North Pacific Ocean Regional Cooperation”

Marine Litter Summit in Japan has been held annually since 2003, in various locations with different theme to improve and prevent the problem of severe escalation of marine litter. Once a year, representatives from government officials of the country and municipality, NGOs and Non Profits, private businesses, researchers, and local citizens gather to share information of the problems of which the locals are facing in the area the conference is held, and suggest what specific measures they can take against their current condition.

The 14th summit will be held in Mie Prefecture. This is our 2nd time having the conference in Mie, since the Tottori Conference held in 2008. Influenced by the conference in Tottori, the local citizen from 3 prefectures (Aichi, Gifu, and Mie) has been organizing a beach cleanup in Toshi Island since then. The 10th Conference of the Parties to the Convention on Biological Diversity was also held in 2010 in Nagoya, and 20 individual goals were set aiming for completion by 2020. National Biodiversity Strategy was set aside for Japan, but marine litter was not known as a major task.

In 2015 at the G7 summit held in Ellmau, Germany, Marine Debris and Plastic Waste was recognized as an important problem for the first time and was added on to the annex as an “action plan to deal with problem of marine litter.” At the G7 summit held in Ise Shima, Japan this May, the leaders’ declaration stated to “reaffirm our commitment to address marine litter, recognizing that our efforts on resource efficiency and the 3Rs (reduce, reuse, and recycle) also contribute to the prevention and reduction of marine litter, particularly plastic, from land-based sources.”

So, with that in mind we will discuss 3 themes at the 14th Marine Litter Summit 2016 Mie Conference.

Theme 1. Biodiversity and marine litter
2. Preventing and reduction of plastic litter into the ocean
3. Cooperation of North Pacific Ocean Region

Date 28 - 30 October 2016

Location Conference: Ise City of Mie Prefecture
Fieldwork: Toshi Island of Toba City

Host Japan Environmental Action Network (JEAN), Mie Prefecture
For further information, contact cleanup@jean.jp

Recommended Citation for the whole volume:

Hong, Sunwook. (2016). Marine Litter News from Asia Pacific Civil Forum on Marine Litter, Our Sea of East Asia Network, Vol. 7(1): 32pp, Tongyeong, South Korea.

ISSN 2287-8971

Marine Litter News Vol. 7(1): 32pp. June 2016.

© Asia Pacific Civil Forum on Marine Litter (APML)

The newsletter is biannually published by APML.

Preface

Marine Litter News

Vol. 7(1): 3, June 2016

Asia Pacific Civil Forum on Marine Litter

Dear readers,

This year, concerns on marine anthropogenic litter have been increasing alarmingly. The second resolution on marine litter was adopted at the second United Nations Environmental Assembly held in Nairobi, Kenya in May, 2016. G7 Summit in Ise Shima, Japan in May recognized marine litter problem to be prevented and reduced at the first place. Hundreds of research scientists gathered in Lanzarote, Spain in the same month to share updated information and research results and to identify gaps and needs for further study. Engagement of high-level societies will allow marine litter issue to receive more attention and also lead the researchers to contribute to lessening knowledge gaps.

In this issue of the journal, you can see NGOs’ brisk actions to combat marine litter in the hot spot areas. It contains nine reports from Korea, Australia, Hong Kong, Taiwan, mainland of China, and Vietnam. NGOs’ actions have embraced not only coastal cleanup but also scientific data gathering and policy improvement. Most of our actions have been on the basis of active citizen participation. Using smart phone apps, citizens are able to produce meaningful data to show hot spots and filter out undesirable consumer products. They also can be a part of large scale monitoring. Their participation and monitoring cover diverse scales from macro plastic litter to microplastics. I am really happy to share these exiting stories with you.

Moreover, I am very honored to introduce two new members of OSEAN: Ocean Conservancy and Tangaroa Blue Foundation.

Ocean Conservancy is one of the most globally well-known and influential NGO. For more than 40 years, Ocean Conservancy has been championing science-based policy solutions to protect the healthy and diverse ocean ecosystems that support our planet. Through its programs, Ocean Conservancy provides leadership on the protection of special places, restoration of sustainable fisheries, the reduction of human impacts on ocean ecosystems, and the need for comprehensive manage-

ment of nation’s ocean resources and ecosystems. Informed by science, Ocean Conservancy’s work guides policy and engages people in protecting the ocean and its wildlife for future generations. Ocean Conservancy has organized International Coastal Cleanup (ICC) for 30 years. I personally appreciate the works of Ocean Conservancy because ICC has inspired me to work for addressing marine litter issue for 15 years. Also, most of the civil forum members have been serving as country coordinators of ICC.

Tangaroa Blue Foundation is an Australian-wide non-profit organization dedicated to the removal and prevention of marine litter. The founder, Ms. Heidi Taylor says “In Maori and Polynesian mythology, Tangaroa is the god of the ocean. Tangaroa made laws to protect the ocean and its sea creatures. Tiaki mai i ahau, maku ano koe e tiaki (If you look after me, then I will look after you). If all we do is clean-up, that is all we will ever do.”

I would like to sincerely thank all of our members’ unflagging and indefatigable efforts to find solutions for marine litter.

Finally, we would like to inform you that the East Asia Civil Forum on Marine Litter is expanded to Asia Pacific Civil Forum on Marine Litter from July 2016.

With love,
July 2016,

Editor, Sunwook Hong (Ph.D., President of OSEAN)



'Face to Fish' campaign successfully got 55 companies to agree not to use microplastics in cosmetics

Sunwook Hong,
President of OSEAN,
oceanook@gmail.com

Cosmetics are used to wash body, to incense, to conceal blemish, and to color. How often do people use cosmetics that include microplastics in them? Do you know which brands and products contain plastics? Have you checked if the product you use has plastics?

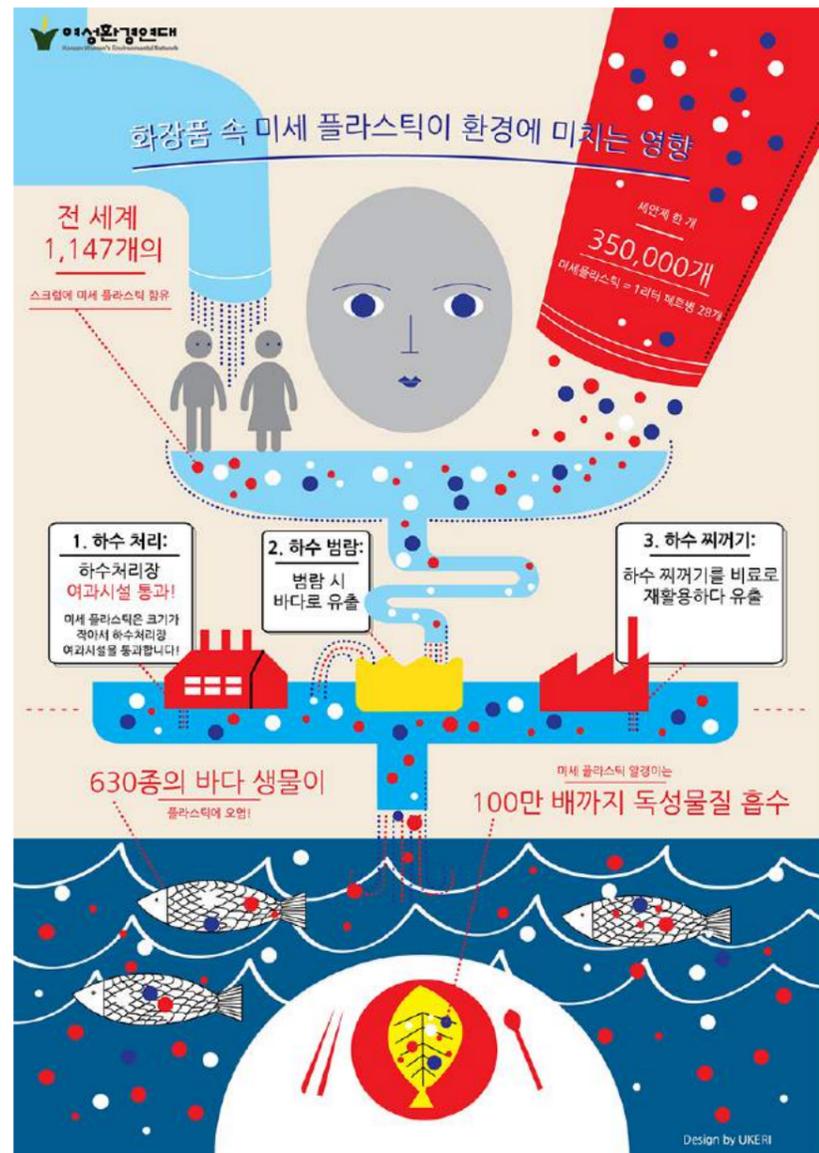
Four women in early and middle 20s participated in an investigation regarding microplastic ingredients in cosmetics. They randomly selected 10 products from 5 popular brands and checked the ingredient label to see whether each product contained plastic in it. The participants also checked the products that they use at home. The findings of the investigation revealed that, 26 of the 40 products contained plastics. Eleven products didn't contain plastics while the rest were not possible to identify.

Participant A said, "I usually use a body scrubber having grains and have been curious as to why the grains are not dissolved in the water," and couldn't contain her surprise when she realized that "I guessed so since I didn't rub enough at the time. But the grains must have been plastics." Participant B said that, "I don't use scrubbers because they cause my skin irritation. So I thought at heart it was a relief that I haven't used them since the scrubbers were a shock to other participants. However, it is shocking to hear that toothpaste contains plastics. I am too scared to brush teeth with the toothpaste having polyethylene tonight." Participant C who majors in environment at a university said that, "I have made an effort to abstain from using disposables and to reduce waste in my own way because I study about the environment. Such cosmetics can be the main contributor of hundreds of thousands of plastics to that enter the sea! I wonder just how many students in my department know of this fact." She, criticized the fact that cosmetics contain plastics that are not known well to the public. Yes, it is sadly true that we do not know much enough about the real status on plastic ingredients of cosmetics and toothpastes sold in Korea.



Microplastic grains in toothpaste used by Participant C (© KWEN)

Microplastic particles known as microbeads, microspheres, or nanospheres are included as ingredients in a variety of products. UNEP report (2015) says "Plastic ingredients are applied to deodorant, shampoo, conditioner, shower gel, lipstick, hair colouring, shaving cream, sunscreen, insect repellent, anti-wrinkle creams, moisturizers, hair spay, facial masks, baby care products, eye shadow, mascara etc." Usage of microplastics is beyond our imagination. They are made of polyethylene, polypropylene, polystyrene, polyacrylate, polyurethane, etc. Those tiny plastic beads can physically rub the surface of skin or tooth, probably causing scar on the skin by excessive rubbing or periodontal disease due to the residue in crevasses in the gums. The particles are poured down the drain after use, cannot be filtered in wastewater treatment system, and do not decompose in the natural marine environment. They have toxic additives on the process of manufacturing and tend to absorb toxic chemicals from the environment, causing harmful effect on marine biota and potentially on seafood contamination and human health. Biodegradable plastics such as polylactic acid are not advisable as alternatives because they are subjected to be degraded in ideal settings. Most of people don't notice that they pour microplastics down to the environment everyday. According to Cosmetics Europe, over 4,000 tons of microbeads were used in 2012 in Europe.



Microplastics in the cosmetics can affect marine environment by passing wastewater treatment plant (© UKERI)

'Face to Fish' is a campaign to beat microbeads in cosmetics and personal care products by Korea Women's Environmental Network (KWEN) in collaboration with Plastic Soup Foundation. Since 2015 the activists of KWEN have investigated the whole ingredients of about 9,000 products of body wash, foam cleansing, scrubs, cleaners in Korean markets. They used the smart phone app, 'Hwa He' which provides whole composition information of each cosmetic as well as environmental safety level, harmful additives, potential allergens, and suitable skin types, to help consumers' wise purchase. They researched about 9,000 products and found 446 ones (ca. 5%) most likely having microplastics. They sent formal letters to each brand to ask if the company has plans to stop manufacturing microplastics-including products or to use alternative materials. They also had a meeting with Korea Cosmetic Association of manufacturers in 2016.



'Face to Fish' campaign of Korea Women's Environmental Network Designed by (© UKERI)

Fifty five companies including major Korean brands such as Amore Pacific, LG Household & Health Care, Able C&C, Nature Republic, The Face Shop, Skin Food, and multinational corporations, like L'Oreal Korea, ELCA Korea (Estee Lauder, Orbis, Clinique), Sisheido Professional Korea, Johnson & Johnson Korea responded they will stop using microplastics and find alternative materials. Forty three among them signed the agreement that KCA's self rule on using plastic microbeads, which is similar level to the act 'The Microbead-Free Waters Act of 2015' passed in the United States last year. Toothpaste manufacturers such as CJ Lion, Amore Pacific, Aekyung Industry, LG Household & Health, Amway Korea, P&G Korea, and so on, toothpaste manufacturers are included. The self rule will be applied from July 2017. The products KWEN listed at this time may include liquid synthetic polymers such as acrylates copolymer applied as binder, hair fixative, film formation, or suspending agent. UNEP (2015) excludes water-soluble materials and liquid synthetic polymers in the definition of 'microplastics'. Liquid type polymer could be a challenge regarding this issue.

'Face to Fish' campaign started online public petition to press government to make a law against using microplastics in cosmetics. Participants in the investigation above expressed support for a legal ban and also wondered what else they can do in the meantime. You can check all ingredients in cosmetics you have used or want to buy by the app 'Hwa He' or by clicking 'ecofem.or.kr/facetofish' to avoid to be polluters. You can also be a member to support KWEN to end this preventable and unnecessary source of marine plastic pollution.

* All information, photo and illustration were provided by KWEN.

Zero Plastic Resin Pellet Loss in Australia

Heidi Taylor, Tangaroa Blue Foundation, Managing Director, heidi@tangaroablue.org
Karen Ashton, Tangaroa Blue Foundation, Project Officer, karen@tangaroablue.org

Plastic resin pellets are the raw material from which all larger moulded plastic items are made (Wilber, 1987). They can be clear to translucent and have a variety of colours; the most common appearing to be opaque white to off-white; their size ranges from 2-6 mm (Gregory, 1977) (Figure 1)



Fig. 1. Plastic resin pellets (H Taylor, 2013)

Pellets are un-intentionally released to the environment during production and transportation (Derraik, 2002); this may be due to an overflow or insufficient packaging. When they are spilt on the ground they easily travel through stormwater drains to our rivers and oceans as they are very buoyant (Redford et al., 1997). As seen in Figure 2 they are found on beaches all around the world, even in remote locations.



Fig. 2. Pellets on a beach in Australia (H Taylor, 2013)

Pellets pose a significant risk to wildlife as they are often mistaken for food and ingested. Research has found that they can cause intestinal obstruction and ulcerations in foraging birds (Bourne, 1976; Bourne & Imber, 1982; Colabuono et al., 2009). They have also been found to alter the ability of the organism to secrete gastric enzymes (Azzarello & Van Vleet, 1987; Colabuono et al., 2009).

The Tangaroa Blue Foundation are a not-for-profit marine debris mitigation organisation who coordinate the Australian Marine Debris Initiative. They run beach cleans all around Australia and collect data on the items that are found. There are currently 5.5 million items of marine debris recorded in the Australian Marine Debris Database. Analysis of the data showed that the Port Phillip Bay in Victoria was a pellet hot spot through clean-ups conducted at beaches, stormwater drains and rivers (Figures 3 and 4). The Port Phillip Bay is almost a closed system therefore it was deduced that the pellets were

coming from local sources rather than being washed onto beaches from the ocean. The Tangaroa Blue Foundation began visiting the perimeters of pellet manufacturing facilities around the Bay where they commonly found pellets on the ground leading directly to stormwater drains (Figure 5). They initiated a plan to reduce the release of pellets at the source.

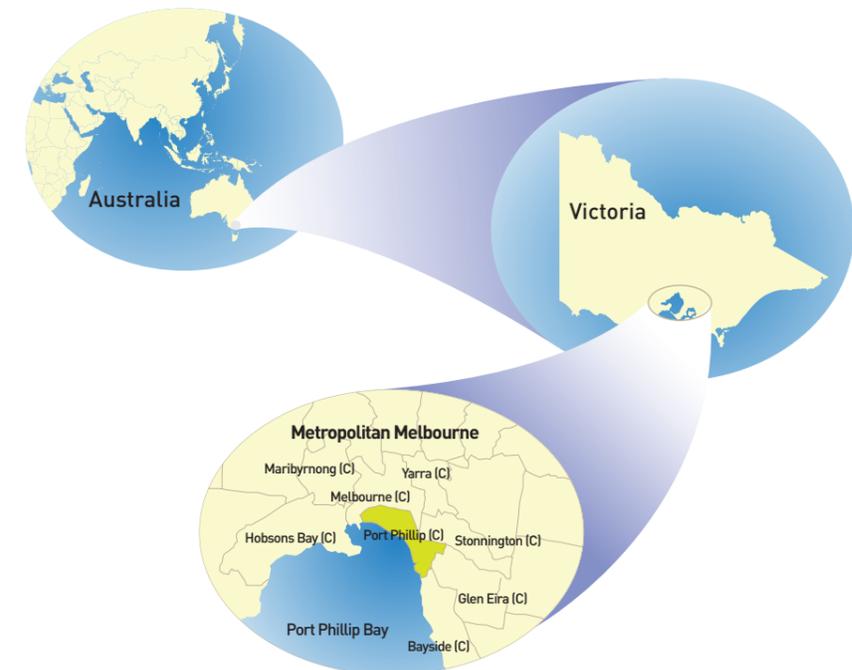


Fig. 3. Map of the Port Phillip Bay, Victoria, Australia (City of Port Phillip, 2016)

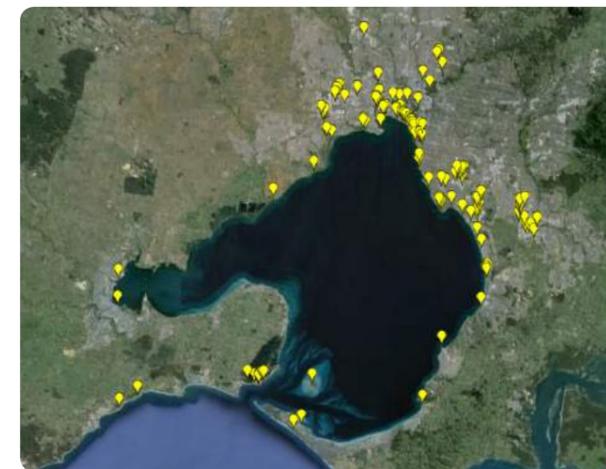


Fig. 4. The locations where plastic resin pellets have been found in the environment in the Port Phillip Bay



Fig. 5. A plastic resin pellet spill at a factory in the Port Phillip Bay (H Taylor, 2013)

In the USA a program called Operation Clean Sweep® was introduced by the Society of the Plastics Industry (SPI) in 1992. The program offers simple, cost effective solutions for the plastic industry to implement to minimise the release of pellets to the environment. For example using catch trays and tarpaulins underneath unloading valves (Figure 6) and providing pellet disposal bins. Companies who have started using Operation Clean Sweep® describe it as easy and inexpensive to put into place, useful to help comply with legislation and avoid government penalties and a good way to raise awareness amongst employees.

The Tangaroa Blue Foundation has introduced Operation Clean Sweep® to Australia through a project funded by the Victorian Government's Litter Hotspots Program. A concise manual has been created which explains the program and helps companies to implement it at their facility; it can be downloaded for free from: <http://www.opcleansweep.org.au/manual>. The Australian Plastics and Chemicals Industries Association (PACIA) have reviewed the manual to ensure that it is relevant for the Australian industry. The program is in the process of being trailed in the Port Phillip Bay after which it will be introduced as a national program in Australia. It is hoped that this will significantly reduce the amount of pellets being released to the environment in Australia.



Fig. 6. Using a tarpaulin and catch tray underneath an unloading valve can help to contain any potential pellet spills (TRANSFLO, 2015)

If you are interested in finding out more about Operation Clean Sweep® Australia you can visit our website at: <http://www.opcleansweep.org.au/> or email us at: info@opcleansweep.org.au.

References

- Azzarello, M.Y., Van Vleet, E.S., 1987. Marine birds and plastic pollution. *Marine Ecology Progress Series* 37, 295-303
- Bourne, W.R.P., 1976. Seabirds and pollution, in: Johnson, R., (Ed.), *Marine Pollution*. Academic Press, London
- Bourne, W.R.P., Imber, M.J., 1982. Plastic pellets collected by a prion on Gough Island, Central South Atlantic Ocean. *Marine Pollution Bulletin* 13, 20-21
- City of Port Phillip., 2016. Who lives in our City? Retrieved from: http://www.portphillip.vic.gov.au/about_copp.htm
- Colabuono, F.I., Barquete, V., Domingues, B.S., Montone, R.C., 2009. Plastic ingestion by Procellariiformes in Southern Brazil. *Marine Pollution Bulletin* 58, 93-96
- Derraik J.G.B., 2002. The pollution of the marine environment by plastic debris: a review. *Marine Pollution Bulletin* 44, 842-852
- Gregory M.R., 1977. Plastic pellets on New Zealand beaches. *Marine Pollution Bulletin* 8, 82-84
- Redford, D.P., Trulli, H., Trulli, W., 1997. Sources of plastic pellets in the aquatic environment. In: Coe J.M., Rogers D.B. (Eds.), *Marine Debris: Sources, Impacts, and Solutions*. Springer-Verlag, New York, NY, pp 335-343
- Transflo., 2015. Plastics. Retrieved from: <http://www.transflo.net/index.cfm/products/plastics/>
- Wilber R.J., 1987. Plastic in the North Atlantic. *Oceanus* 30, 61-68

ACTIVITIES

GLOBAL ALERT
SEE · SHARE · SOLVE

“See – Share – Solve” – Community Engagement with the *Global Alert* Platform to Report Trash Hotspots in our Waters

Doug Woodring
Founder of Ocean Recovery Alliance/Global Alert
doug@oceanrecov.org

Critical Need



Healthy marine and coastal ecosystems support all life on earth and provide necessary services, including food security, resources for economic growth, recreation and tourism, all of which can hinder or benefit the welfare of the coastline itself. The United Nations Environment Program (UNEP) has estimated that over 70% of marine debris starts out on land. From there it makes its way into the lakes, rivers and streams that form an extensive network—a circulatory system—that can carry trash across continents and straight into the heart of the world's ocean. Floating trash has no geographic or political boundaries, so solutions must involve scalable international collaboration, yet be local in scope and reach.



Land-based marine debris flowing to our ocean with no geographic or political boundaries

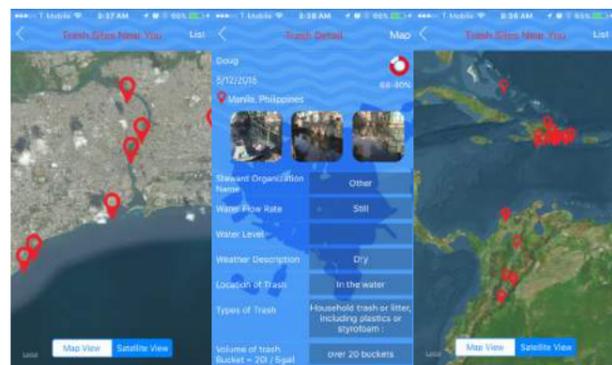
Solution: GLOBAL ALERT | Floating Trash

To address the problem of increasing marine debris flowing to our ocean, Ocean Recovery Alliance announced the Global Alert platform at the Clinton Global Initiative, as an innovative, online tool and mobile app which allows users to report, rate and map plastic pollution levels in their rivers, along ocean coastlines, and even underwater on reefs. The platform was partly funded by the World Bank's Global Partnership for Oceans, and it is now one of the most powerful tools to broaden awareness, aggregate information for decision-making, and spur solutions to reduce plastic debris outflows via the

world's rivers or accumulation on coastlines. Global Alert helps to address issues of plastic pollution in our waters by:

- Enabling community participation for reporting and problem solving
- Catalyzing active watershed stewardship focusing on rivers
- Providing global awareness and monitoring

By visualizing trash hot-spots on a map, along with being able to learn about best practices for cleanup and prevention programs, community groups can develop better recycling programs and plastic management strategies, ultimately leading to less floating trash making its way to the ocean. Using Global Alert, citizens and school groups will easily “See, Share and Solve” their floating trash problems. Users will be able to upload photos or videos of trash in their water systems or coastlines, provide information on the location and coverage area based on the volume of trash they see. Monitoring agencies and community groups will be able to add, review, visualize and analyze their own data, as well as Global Alert data provided by the community, empowering them to make positive steps for improvements. Together we can leave a legacy of healthy oceans, rivers and engaged communities. Cleaner water, both fresh and salt, will be the result.



Global Alert App. Using the app, citizens and school groups will easily “See, Share and Solve” their floating trash problems

The [Global Alert App/Platform](#) was recently launched in Times Square in the month of April on the big digital screens of the Morgan Stanley building. This helped draw international attention to the issue of plastic in our ocean and waters, and was highlighted in one of the busiest locations in the world – Times Square.



Global Alert App/platform launched in Time Square, New York, USA (April 2016)

CASE STUDY – Bali, Indonesia

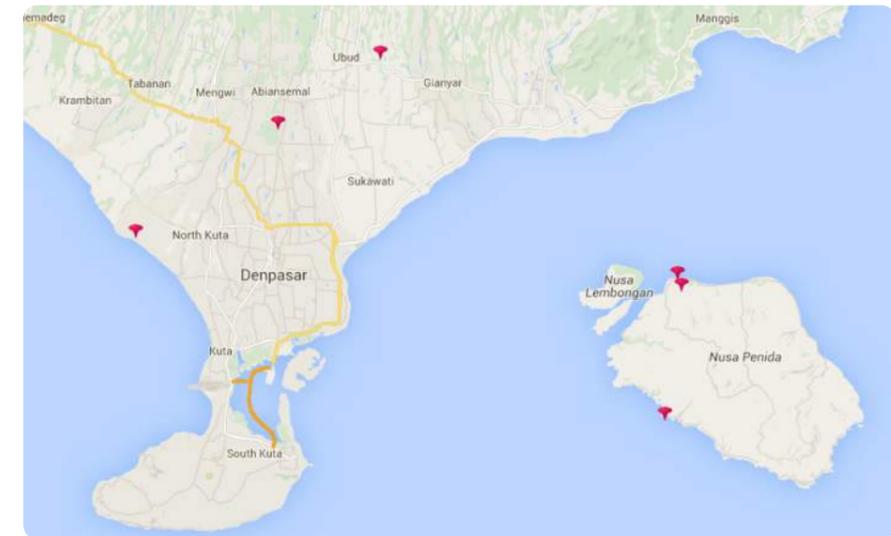
The two photos below illustrate the volume and type of trash found in the landfill which adjacent to the riverbed. The last picture is of the riverbed itself, which when full, acts as a transport mechanism for the waste to flow directly into the ocean.



Landfill near riverbed, Indonesia



Trash in Toyapakeh, Sampalan, and Nusa Penida, Indonesia



Location of survey sites in Indonesia

Testimonial: “As a result of using the Global Alert Platform, I have been able to host some important meetings with local businesses, The Nusa Penida Conservation Department, The Coral Triangle Centre [NGO], The Nusa Penida “Eco-Club” at the local high school, The Nusa Penida Youth Forum, local business owners and marine tourism operators, and the “Camat” of Nusa Penida, or the district head i.e. the highest governing official on the island. Through consultation with all of these groups, using data compiled at the trash hot spots, and with discussions about reasons for the trash source, we are now working on the following initiatives:

1. The 9km shoreline on the north of the island is the number 1 trash “hot-spot”: or area most at risk of allowing trash to enter the ocean. Local communities discard their waste on the beach where it is swept away. When asked why, they insist there is no alternative. Data from this “hot-spot” has been uploaded to community-managed online platform “Global Alert” and socialisation techniques are being discussed, such as plays.

2. The waste collection service currently services only 2km of this shoreline, but should service all 9km. The trucks have the time to extend their route but not the budget. We are determining the budget and also payment mechanisms. Once we are aware of the cost and discover a means of sustainably sourcing funds for the trash collection service expansion, we will provide trash bins to all north shore households and educate them in how to prepare their waste for collection.

3. On Wednesday March 23rd, a trash cleanup was arranged with members from the Nusa Penida Youth Forum and the Eco-Club. Identifying the types of trash collected and where they are located will help the student groups come up with socialisation techniques such as plays to perform for the local communities, explaining why dumping trash is so bad for the environment and economy. Footage of these and similar efforts will be shared with the local and international media to highlight the cause.

ACTIVITIES

Taiwan and Japan discuss cross-border marine debris strategies

Taiwan Environmental Information Center,
Kate Chen, <katechen@e-info.org.tw>
Jude Lin, <linlittlep@e-info.org.tw>

Since the inception of the Okinawa-Taiwan Marine Debris Workshop in 2014, Taiwan and Okinawa government officials and non-governmental organizations (NGOs) have met to discuss strategies and policies to address the cross-border marine debris problem. From 30 Jan to 1 Feb 2016, both parties resumed their dialogue with a focus on the issues of research, controlling land-based debris, marine education, and sustaining and expanding beach clean-up activities. At the opening ceremony, Mr Hidefumi Toma, Director General of the Okinawa Prefectural Government's Department of Environmental Affairs, emphasized that while marine debris is an international problem, it has the potential to also affect local tourism. As such, he hopes to rectify the problem through international dialogue and collaboration.

Japanese officials: Viewing marine debris as a resource, incorporating marine environmental education

This year's workshop consisted of 20 participants from Okinawa Prefectural Government's Department of Environmental Affairs and various local Okinawan NGOs, and 13 participants from Taiwan's New Taipei City and Hualien Environmental Protection Departments, as well as Taiwanese NGOs, Kuroshio Ocean Education Foundation, Tainan Community University, The Society of Wilderness, National Museum of Marine Science and Technology (NMMST), Foundation of Pescadores Citizens and Taiwan Environmental Information Association (TEIA).

According to Head of Environmental Waste Management Division Okinawa Prefectural Government's Department

of Environmental Affairs, Mr Tanahara, Okinawa prefecture has been regularly monitoring marine debris along its shorelines since 2010 and intends to use this data for environmental education purposes, as well as to develop recycling strategies and material retrieval from marine debris. Since the last workshop in 2015, New Taipei City Environmental Protection Department has also started marine debris monitoring, with the intention of expanding clean-up efforts as well as applying the collected data on marine environmental education initiatives.

Injecting fun into beach clean-ups, Taiwan's themed clean-ups target various audiences

While discussing how to attract the general public to participate in beach clean-ups, project executive of TEIA, Kate Chen, introduced the idea of a Valentine's Day-themed beach clean-up, piquing the interest of many workshop participants. Mr Kenji Ohori of ISHIGAKI safety-conference leisure on the coast (石垣島沿岸レジャー安全協議会) agreed that themed clean-ups appeal to participants from different walks of life and intends to explore the incorporation of snorkelling, traditional fishing and kite-flying into future activities. He added that the novelty of such events could potentially bring about more media coverage, hopefully with the effect of prompting local governments to clear large cumbersome items which volunteers cannot manage alone.

that we can form a visual database to track ideas and progress." Key points: The Global Alert Platform provides a way to visualize and support advocacy of litter reduction and waterway/coastal health. Reporting on the platform allows users to share successes, while also alerting local authorities or other community stakeholders to the importance of cleanup, and long-term prevention with education and improved landfill management and recycling capacities.

To join the Global Alert Platform, simply sign up at www.globalalert.org, or download the mobile application to use on your iPhone or Android. If you represent an organization, please get in touch with us about becoming an early adopter. Info@globalalert.org Introduction Videos: <http://bit.ly/GlobalAlert> and <http://bit.ly/GlobalAlertIntro1>



Beach clean up process involving Ecoclub and Penida along the beach shoreline.

4. The teacher in charge of the Eco-Club is in conversation with a former Head of Customary Performance and Arts (Kepala Adat), to develop entertainment to be performed in the temples at various ceremonies, island-wide. The performances will explain the social, economic and environmental effects of trash dumping.



Pak Wayne Oka – Ecoclub Teacher on the clean up

5. A social media campaign under the banner #PenidaTanpaSampah ("Penida Without Litter") will collate photos and information about waste management so

About: Ocean Recovery Alliance is a 501c3 registered non-profit in California, and is a registered charitable organization in Hong Kong. The group focuses on initiating innovative and creative programs with collaborators who often are not directly related to the ocean, in order to bring solutions and improvements to the health of the ocean. The group is one of the first NGOs to be working with both UNEP and the World Bank, as a result of its two projects at the Clinton Global Initiative, the other being the Plastic Disclosure Project (www.plasticdisclosure.org). In June, 2014, it launched a world-first report on the natural capital cost of plastic with Trucost and UNEP at the UN Environmental Assembly in Nairobi. It also runs the unique Plasticity Forum, which is now in its 5th year, focusing on plastic innovation, design, materials, recycling and solutions, for a world without the plastic footprint.



Dr Liao Yun-Chih of Taiwan's NMMST reports beach clean-up festival in Taiwan

Long-term beach clean-up efforts in Japan led to marine debris bill

The Japan Environment Action Network (JEAN) has been involved in long-term marine debris monitoring using the International Coastal Clean-up (ICC) protocol since 1996. With the objective of solving the marine debris problem in mind, JEAN has actively encouraged dialogue, shared data as well as proposed policies to address the problem. Ms Kojima, Secretary General of JEAN, shared that JEAN's greatest achievement so far was the 2009 Marine Debris Management Promotion bill, which stipulates an annual budget towards efforts to resolve Japan's marine debris issue.

Based on monitoring data dating back to 2005, team scientist, Chao Jui-Kuang of the Tainan Community University suggests the need to prioritise the issue of polystyrene and plastic packaging. He stressed the urgent need to reconsider the use of these materials and advocated the use of Internet media to exert pressure on official authorities and communicate alternative solutions. Through long-term efforts, Tainan passed an autonomous regulation banning polystyrene food containers. However, floating oyster farms remains the largest source of polystyrene. While on-going efforts are focused on reducing environmental pollution through improved management of oyster farm debris, it is hoped that with continual monitoring and research, the problem could be eradicated from the source.

Director of Iriomote Island Ecotourism Association (西表島エコツアーリズム協会), Ms Tokuoka, pointed out that while Iriomote is situated in the Kuroshio current and is the second largest island in the Okinawa prefecture archipelago, the local population is minimal. Hence most of marine debris found in Iriomote originated from foreign sources, and consists of a wide variety. Local Iriomote residents are baffled as to where the foreign marine debris are from and the incompetency of these foreign countries in managing their waste. This prompted a study by the Iriomote Island Ecotourism Association to identify the sources of marine debris by analysing barcodes on plastic bottles to identify the countries of origin.

It is evident from the experiences of the three above organisations that long-term monitoring data is crucial to resolving the international marine debris problem. Both Taiwan and Okinawa agree that having corresponding debris classifications across countries and regions are essential, and have concurred to focus on plastic debris under five classifications, namely expanded foam plastics, ropes and fishing nets, buoys, PET bottles and other plastic items. In order to better understand the sources of the debris, PET bottles are specially chosen to provide information on countries of origin. All data shall be published online and findings communicated to respective governments so as help each country design informed policies to mitigate the problem.



Ms Kojima, Secretary General of JEAN demonstrating an environmental education lesson plan

Environmental Education Both on the Beach and in the Classroom

With regards to education, both Taiwan and Okinawa representatives shared lesson plans developed by various organizations. Most lesson plans included a "hands-on" approach, with facilitators encouraging mindful reflection of the issue. Lesson plans were also designed to be easily carried out in various settings, both indoors and outdoors. Most lesson plans were designed to cater to pre-school or elementary school children, embodying the shared ideal across organizations that environmental awareness should be nurtured from young.

Participants suggested improvements to presented lesson plans and many suggested a compilation of the lesson plans be made available online to facilitate wider use.

Both parties: sustained dialogue and inclusion of other "Kuroshio region" countries needed

Both Taiwan and Okinawa representatives agree unanimously that participation by Taiwan and Japan alone is insufficient and intend to widen the dialogue to include countries in the Kuroshio current region and eventually those in South-east Asia. Efforts will be made in the near future to contact organizations in the Chinese provinces of Shanghai and Fujian, establishing a hub of collabora-

tion between the three regions, encouraging networking between respective countries, local governments, and NGOs.

At the closing ceremony, Mr Toma said that through the three-day event, both parties have benefitted much from the exchange of ideas and lesson plans, and expressed his hope that upon return, participants will be able to apply what they have learnt to good use and in turn influence others to do the same. He added that there is no better way to encourage and inspire others to action than with their zeal and enthusiasm. Lastly, in his capacity as an official, he expressed his desire to continue networking with his overseas counterparts in the future, and work on tackling the marine debris problem in the region.

Keeping Vietnam's Coasts Clean — Situation of marine debris' harmful effects and green initiatives!

Nguyen Thi Thu Trang,
Centre for Supporting Green Development (GreenHub),
trang.nguyen@greenhub.org.vn

Coastal and marine waters collect and transfer large amounts of solid waste (sometimes called litter, refuse, garbage, debris). It is believed that in many countries the amount of solid waste on coastlines and beaches is increasing significantly. Globally, plastics are documented to be about 60-80 per cent of solid waste found in the coastal and marine environment because of their increased production, use, and resistance to degradation. Examples of other common waste collected and transported are polystyrene (cups, bottles, packaging), rubber (tyres), wood (construction materials), metals (cans, drums, wire, containers), personal sanitary items, glass (bottles), cloth (clothing) and paper. Most coastal waste is believed to originate from hu-

man actions on land, including transportation through waterways, with significant amounts also coming from industry, tourism, fishing and sewage. Waste, especially plastics, may remain a long time (in some cases years) in the marine environment, travel long distances, and some degrade into chemicals that may be toxic. Vietnam is among the top 5 countries that dump plastic into the world, ranked by mass of mismanaged plastic waste (in units of millions of metric tons per year). Roughly 8 million tons of plastic is dumped into the world's oceans every year, and according to Jenna R. Jambeck 2015¹, the majority of this waste comes from just five countries: China, Indonesia, the Philippines, Thailand and Vietnam.

Rank	Country	Econ. classif.	Coastal pop. [millions]	Waste gen. rate [kg/ppd]	% Plastic waste	% mismanaged waste	Mismanaged plastic waste [MMT/year]	% of total Mismanaged plastic waste
1	China	UMI	262.9	1.10	11	76	8.82	27.7
2	Indonesia	LMI	187.2	0.52	11	83	3.22	10.1
3	Philippines	LMI	83.4	0.5	15	83	1.88	5.9
4	Vietnam	LMI	55.9	0.79	13	88	1.83	5.8
5	Sri Lanka	LMI	14.6	5.1	7	84	1.59	5.0

(Source: Jambeck et al. (2015). "Plastic waste inputs from land into the ocean", Science, Vol. 347, Issue 6223, pp. 768-771)

¹ www.sciencemag.org/content/347/6223/768/suppl/DC1Materials and Methods

The coastal population of Vietnam has increased by over 25 percent in the last 25 years due to internal migration and population growth. In addition, more and more people are using coastal areas for leisure and recreation, with a significant growth of the coastal tourism industry. More than 70 percent of leisure and tourist destinations in Vietnam are located in coastal areas, attracting annually 80 per cent of total tourist numbers. Associated with increased coastal zone development is the increased generation and spread of waste



Marine debris in NinhThuan province province, Vietnam



Dead fish are drifted into a dam near Lach Giang Seaport in Thua Thien-Hue Province, April 2016 (Photo: Thanh Quang/Thanh Nien newspaper)

Remarkably, It is clearly seen the impact of marine debris and its pollution with figure of more than 100 tonnes of fish have perished in central Vietnam, state media reported April 2016, as public outrage mounts over a possible toxic leak into the sea near an industrial zone.

Making Vietnam's coasts clean — green initiatives and practices!

Collecting and managing solid waste: daily routine activities garbage collection and sanitation activities in the coastal province local government have been coordinat-

ed and delivered by urban environmental companies operating in the province. Currently in urban cities, the system is operating effectively, but in the rural coastal areas there remain communities where there are no garbage collection systems, especially with the coastal islands.



Community cleanup in Khanh Hoa province in 2006 (Photo: MCD)

International coastal cleanup (ICC) has been implemented in Vietnam since 2000, under the coordination of Centre for Marinelif e Conservation and Community Centre for Marinelif e Conservation and Community Development (MCD). They perform these activities as part of communication activities in the project s in the coastal area. The results shows that having more than 10,000 volunteers in 16 years coordinated joined ICC, but has not done so in their lack of resources and prioritize activities resource management of coastal areas.

"Let's do it, the world in Vietnam" and "Clean-up Vietnam" also are global initiatives and recently coordinated in Vietnam and carried out by the volunteers for three recent years. They have carried out cleaning activities in many provinces including coastal areas and landfill cleanup activities at Da Nang and "Thua" and "Thien" Hue provinces. These initiatives have attracted young people to participate and now have thousands of participants.



Cleanup in Son Tra island, Da Nang city in 2014 (Photo: Letdoit Vietnam)



Cleanup in Vung Tau province in 2011 (Photo: Amcham, Intel)

As part of corporate responsibility social (CRS) of global companies such as Cocacola, Amcham, Adidas or tourism companies, implementing coastal clean-ups has been done in Vung Tau province, Ha Long city. However, the companies do not maintain and implement this activity periodically, regularly, and do not collect information on waste and lack of methods.

Other initiatives of communication activities for mitigating marine debris have also conducted with in conservations project/programme in Vietnam such as International Union for Conservation of Nature and Natural Resources (IUCN) with turtle conservations program.

Further Directions for action of green practices

The four objectives of regional plan for marine debris of East Asian Seas within the framework Coordinating Body on the Seas of East Asia (COBSEA) has been identified and orientation for Vietnam in limiting marine litter and its effects.

Regional directions for actions:

A regional action plan for marine litter had been agreed among COBSEA's 10 member states, to improve the quality of marine and coastal environments of the East Asian Seas and which addresses the issue of marine litter through regional cooperation and partnerships. Its objectives are:

1. to prevent and reduce litter in marine and coastal environments of EASs.
2. to mitigate the environmental and socio-economic impacts of litter in marine and coastal environments of the EASs.
3. to raise awareness about marine litter and its impacts, amongst all relevant stakeholders in the EAS region, including but not limited to government decision

makers, the private sector such as fisheries, shipping, ports and the plastics and packaging industries, and the general public.

4. to monitor and assess the types, sources, distribution, quantities and trends of litter in marine and coastal environments of the EASs, in order to provide science-based information for policy-making and management planning.

(Source: <http://www.greenfacts.org/en/marine-litter/I-3/6-initiatives-about-marine-litter.htm>)

Besides need more specific actions for Viet Nam as follows:

- Most waste result from established patterns of human behaviour, waste disposal options, and a general lack of awareness of the harmful impacts of public's unregulated waste. Improvements require understanding the sources and practices of waste disposal, identifying practical alternatives to waste generation and transport, and implementing solutions, especially market-based solutions. Studies show, for example, that persons tend to litter more in an already littered environment.

- Changing habits and practices requires a long-term, coordinated education-based program that provides alternatives for waste reception and collection, and also develops and enforces legislation.

• Currently, Vietnam has achieved recovery rates of solid waste is high in urban areas (from over 80% to nearly 100%). However, in the suburbs and rural areas, where more than two thirds of Vietnam's population are living, then this figure is still very modest (from 40 to 60%). The collection network development in these areas, as well as effective management of the landfill, will certainly contribute significantly reduce the amount of waste discharged into rivers and channels and from there went to the sea. In addition, according to a study "Stemming the Tide: Land-based strategies for a plastic-free ocean" by the Ocean Conservancy and McKinsey Center for Business and Environment in 2015, the incineration of plastics to produce energy as a reasonable solution to the Vietnam economy. Vietnam can consider use of advanced technology ensures incineration is the target emission safety standards in management of the landfill and towards for Vietnam plastic-free coastal and sea.

- Coordination with organisations in adjacent areas and countries is also part of the solution, as aquatic-borne waste may be carried long distances. In each area, community ownership of activities to combat waste is the key, rather than occasional activities by external agencies. And it also need agents of changes by youth as catalysts. Specific local issues should also be considered. For example, the comparatively high percentage of female waste collectors, and diseases and illnesses associated with collecting waste.

- Collection and analysis of data gathered in coastal clean-ups on waste types and volume can help inform and develop effective programs to combat pollution: specific community threats and damages can be identified and linked to the collected waste, and focused intervention programs can be developed. Should use technology of IT for data collection such as mobile apps to collect informa-

tion and it also user friendly for Vietnamese local people and use.

• Data collection analysis/monitoring also gives communities and local authorities information on changing trends and ideas for specific customized solutions for waste avoidance, such as re-cycling and re-using materials. Information can also be provided as to whether the programs and activities are being effective. To coordinate this work, we might need call for group of volunteer to do this as part of regular activities.

• Partnerships with business are also useful. For example, using "piggy back" messages on items that later become waste, and on company invoices, bills; as well as co-sponsorship of events linked to addressing waste such as coastal clean-ups, and media and educational programs associated with local businesses. A good example of this is "Ha Long Alliance: Business engagement" program with coastal clean-ups initiatives in in Ha Long Bay by IUCN and tourism companies from 2015 until now.

How do Chinese NGOs Initiate Public Marine Litter Disposal Advocacy? Take Coastline Guardian Project as example

Shi An, Research Director,
Shanghai Rendu Ocean NPO Development Centre,
dappledog@163.com

In December 2014, Shenzhen Mangrove Wetlands Conservation Foundation (MCF) and Rendu Ocean launched the Coastline Guardian project and established a project team to cope with marine litter issue. In 2014, we have accomplished 168 public coastal cleanup activities in the project, which has been reported 134 times. In particular, we have initiated 9.20 National Coastal Cleanup Action as well.

Project Profile

Coastline Guardian—Coastal Cleanup and Monitoring Project was jointly initiated by MCF and Rendu Ocean and officially launched in December 2014. The project is dedicated to the cohesion of social forces, encouraging public participation in coastal cleanup and monitoring; coordinate social groups and research colleges to have coastline litter monitoring research; provide support for coastal litter disposal policy of governmental departments at all levels.

Major Content of the Project:

1. Public Coastal Cleanup Section

By providing a low barrier solution for public to join in protecting the environment, it can make the participants more aware of the relationship between human and ocean or nature through firsthand experience of the whole cleanup activity. In the activity, a unified data card has been adopted to record the sorts and amounts of coastal rubbish, which is collected into the database afterwards.

Meanwhile, the project would support any coastal social

groups, like enterprises, social organizations, volunteer teams, campus associations, outdoor clubs, proprietors' forum and so forth, in launching coastal cleanup activities. In 2015, a total number of 168 public coastal cleanup activities have been held.

Online training support is available to provide volunteers a better understanding of the hazard of marine litter and guidance of how to organize a coastal cleanup activity. Materials are supported to provide coastal litter cleanup kit, including promotional literature, cleanup tools, data collection cards, banners and so on. Data sharing is to provide a data analysis report concerning the marine garbage data submitted online.

Coastal cleanup partners' obligations are that partners should follow the guidance to recruit and train volunteer teams, complete a coastal cleanup activity and timely upload basic data, which is ensured to be correct.

2. Scientific Research Monitoring

With 12 professional environmental organizations' cooperation, the project has set up monitoring sites in 12 coastal cities around the country and conducted monthly coastline litter monitoring at the end of each month, involved in marine litter relevant subject research. To ensure the scientific value of the data, the monitoring adopted strict sampling with standard criteria towards the selection of monitoring site's location and monitoring section, as well as the collection, classification, record of litter. 6 times of monitoring of the first phase has been completed. Currently, based on the collected data in the activity, the project team is working with several marine protection associations to edit and publish Annual Ma-

rine Litter Data Report, so as to have further studies on the issue.

3. Resource Integration Platform

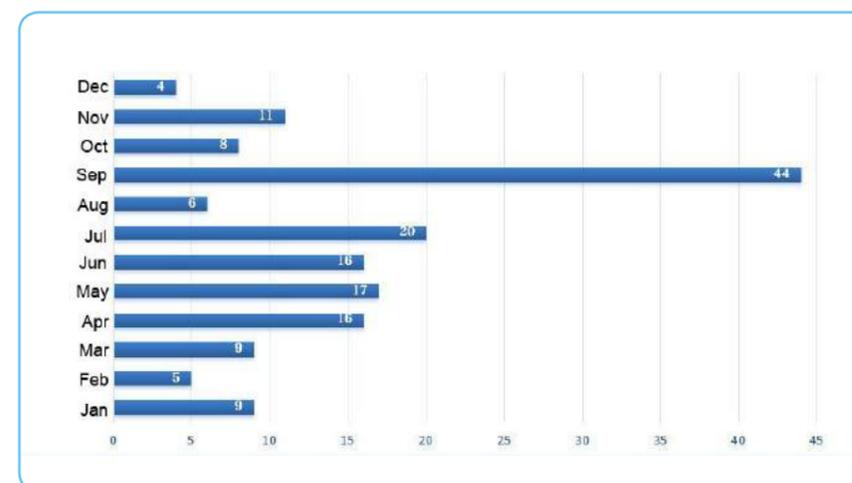
By integrating all coastline litter disposal related sources and social forces, we can have an open platform for corporations in coastal litter disposal area. Public financing platform would help fund coastal litter cleanup and monitoring activities. Information collection and sharing platform for coastal litter is to build a convenient subject websites for collecting and sharing relevant information obtained from cleanup activities from place to place. Learning platform on marine environmental knowledge is to disseminate marine environment information through all online and offline works.

In 2015, the main website of the project www.ccmc.org.cn has been online, realizing several functions including uploading coastal cleanup data online, download cleanup kit, release an activity information and so forth. In 2016, a brand new edition of the website will be launched, adding

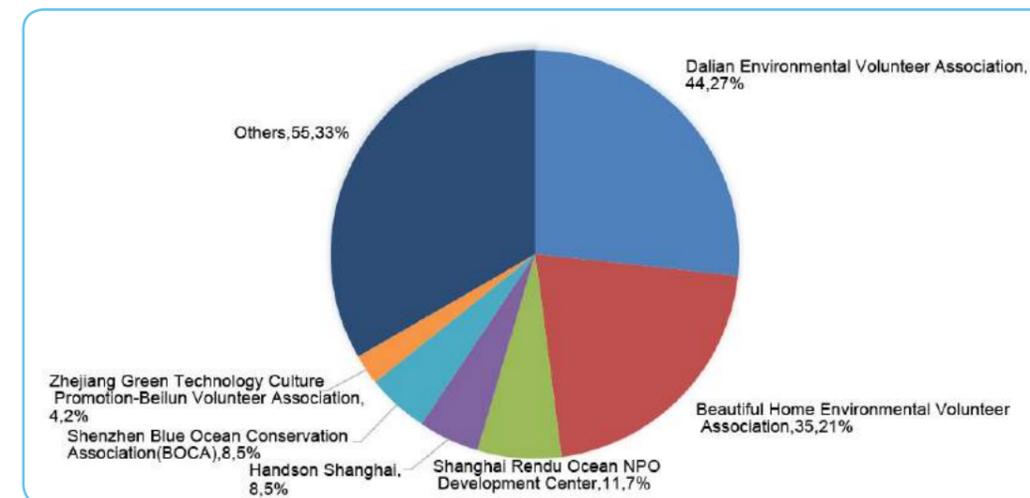
coastal cleanup connection platform function, which will relate enterprises, ocean related NGOs and unattended shores, encouraging enterprises to lead their staffs to clean up the coast and claim the shore under the assistant of experienced NGOs. The platform will be dedicated to connecting the supplies and demands by coordinating the social resources, raising enterprises' awareness of marine environment, supporting the development of NGOs, and finally achieving monitoring and disposal of coastal litter.

Public coastal cleanup statistics

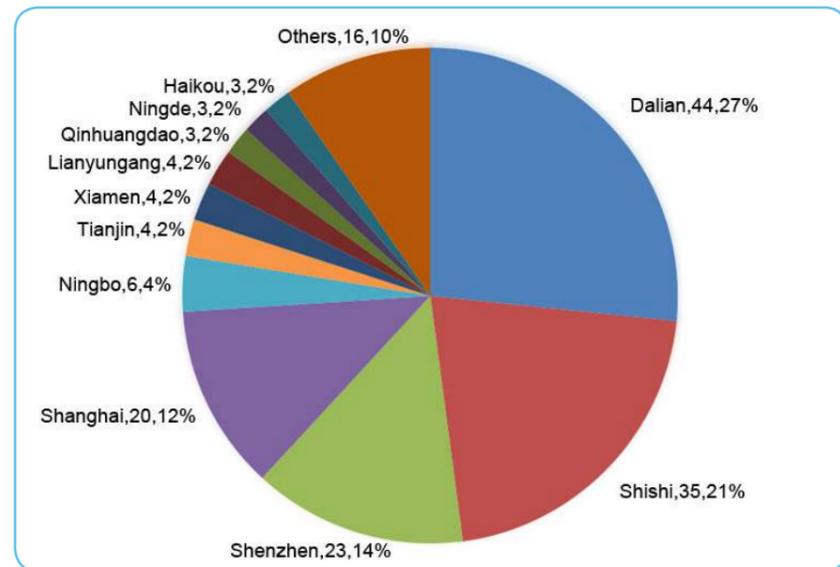
The public cleanup activities of Coastline Guardian project would support all willing coastal social groups (enterprises, social groups, volunteers teams, campus associations, outdoor clubs and proprietor forum and so on) in launching coastal cleanup activities. In 2015, 165 public coastal cleanup activities were been organized, reaching domestic and even overseas areas.



Coastal Cleanup Activities held in 2015 (number of activities in each month)



Coastal Cleanup Activities held in 2015 (number of activities in each month)



Regional Coastal Cleanup Activity Statistic Graph in 2015

Number of Coastal Cleanup Activities in the region

Place	Session	Place	Session
Dalian	44	Weifang	2
Shishi	35	Sanya	2
Shenzhen	23	Qingdao	2
Shanghai	20	Guangzhou	2
Ningbo	6	Zhuhai	1
Tianjin	4	Zhoushan	1
Xiamen	4	Yantai	1
Lianyungang	4	Wenling	1
Qinhuangdao	3	Taiwan	1
Ningde	3	Japan	1
Haikou	3	Fuzhou	1
Others	16	Beihai	1



Poster of 920 Coastal Cleanup Activity in China

9.20 National Coastal Cleanup Activity

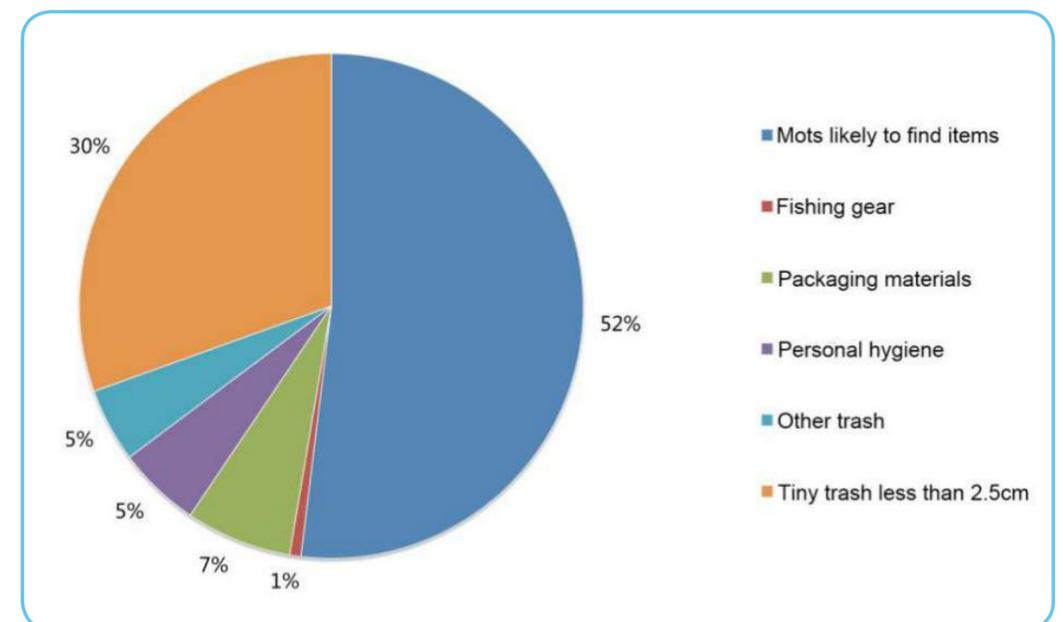
The national coastal cleanup day falls on the third Saturday in every September. On this day, thousands of volunteers around the globe walk onto the shore, picking up every piece of garbage, trying to raise awareness of marine litter by cleaning up the shore through personal endeavors.

The year of 2015 comes at the 30th international coastal cleanup day. 18 cities and 31 NGOs in the country initiated the first united movement - 920 national coastal cleanup activity. On September 19th and 20th, 7411 volunteers in the country took part in the activity, picking up 30 tons of garbage in total, cleaning up coastline of 40 miles.

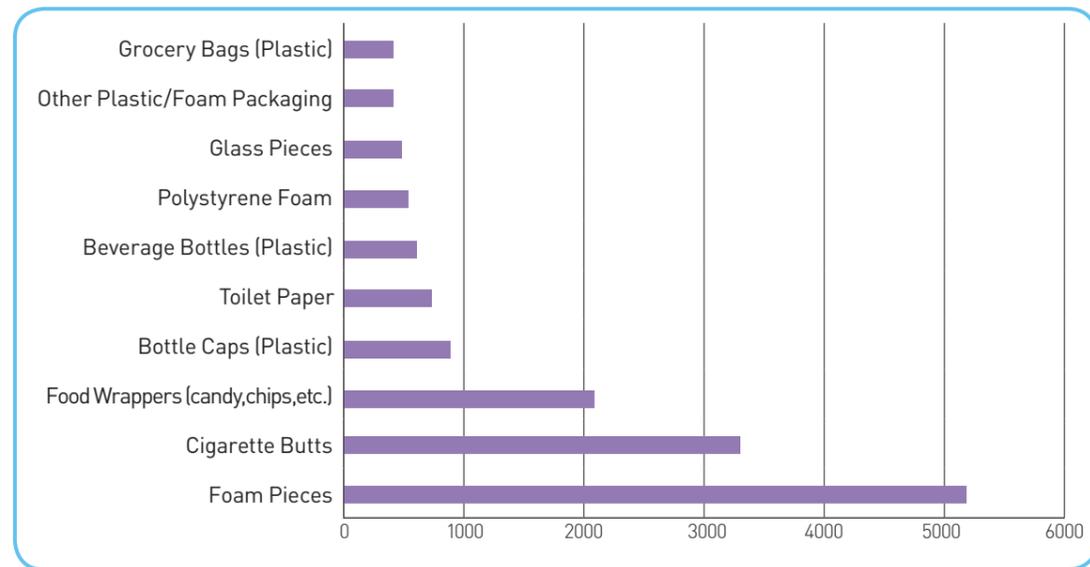


Photos of Coastal Cleanup Activities in China

While the activity went on, 8 organizations used data cards to record the classifications of the garbage, which will help us to analyze the component of coastal litter so as to find its source, therefore eliminate the marine litter for good.



Source classification and proportions of the litter according to Ocean Conservancy's data card



The worst Top 10 litter items

The power of the individual is limited but necessary to change the society in the first place. Every piece of garbage collected is one step closer to making the ocean clean again. If all the garbage were to remain where they are, it may take dozens or even hundreds of years for the garbage to degrade. The meaning of the activity does not dwell on that particular day. Instead it takes days of action to make our oceans truly clean by disposing of every piece of garbage properly, reducing the usage of plastic goods, taking part in relevant activities around the shores and rivers. We hold the wish that in the coming year, our connections can be made more intimate and communications more frequent. Lastly, we hope the whole public will once again be able to witness our united efforts!

Participant Organizations:

Mangrove Conservation Foundation(MCF)
Shenzhen Blue Ocean Conservation Association(BOCA)
Shanghai Rendu Ocean NPO Development Center
Tianjin Ecology City Friends Of Green China Promotion Coastal Cleanup Volunteer Group
Zhejiang Green Technology Culture Promotion
Wenling Youth Volunteer Association
Dalian Environmental Volunteer Association
QingHuangdao Entrepreneur Association
Weifang Binghai Volunteer Team
The Society of Canton Nature Conservation
Fujian Shishi Xiangzhi Beauty Coast Volunteer Association
Tsingtao Junhe NGO Promotion Center
Tsingtao Agriculture University Blue Pioneer Association

Zhuhai Bird Watching Association
Sanya Blue Ocean Protection Association
Beihai Citizen Volunteer Association
Green Fujian
Beilun Volunteer Association
Hainan Shellfish and Coral Conservation
Canton Watch and Caring Conservation
YingBlog NGO
Canton Shande Educational Promotion Association
Friends of Nature Guangzhou Team
Linyang Sports
Haishang Benevolence NGO Logistic Team
Sanya National Coral Reef Nature Reserve Management
XiaoXiaoOu Nature Popula Science Promotion Center
ShenZhen Spring Environmental Protection Volunteer Association
Panjin Covert Protection Association

* Great thanks and best wishes to the paper's volunteer translators: Jiao Yang, Yajing Wang!

Hong Kong Cleanup Awards 2015 15th anniversary Hong Kong Cleanup Awards Ceremony and Ecozine Winter Cocktail

Lisa Christensen, Founder of Ecovision,
lisa@ecovisionasia.com



15th anniversary Hong Kong Cleanup Awards Ceremony

Congratulations to all the winning teams and thanks to all the amazing, hardworking and caring citizens who have joined cleanups this year!

We were very honoured to have HKSAR Permanent Secretary for the Environment Ms. Anissa Wong, Executive Director of the HK Program for The Nature Conservancy Ms. Louisa Ho, Chris Antonelli from Nomura Group, and Celebrity Ambassadors Jocelyn & Tony Sandstrom, and Ankie Beilke who joined us at the Press Conference to show their support!

The 2015 Hong Kong Cleanup concluded this month, marking the most successful initiative in its 15-year history! Thanks to all the guests, sponsors and partners who supported our [15th anniversary Hong Kong Cleanup Awards Ceremony and Ecozine Winter Cocktail](#) held December 17th, at KEE Club in Central. It was an absolutely splendid night!

In celebration of our 15th anniversary and the outstanding success of the 2015 Hong Kong Cleanup Challenge, this party was our chance to thank all our partners, sponsors, supporters and volunteers for their amazing efforts, as well as awarding the winning teams and announcing this year's results!

For this year's Cleanup Challenge, we would also like to say a big THANK YOU to the [75,623 participants](#) who cleaned up [5,683,891 pieces of trash](#) weighing [4,616,067 kg](#) from [2,447km](#) of Hong Kong's coastlines, country parks and urban environments! Hong Kong Cleanup would not be such a success without all your support!

Attending guests got to enjoy delicious canapés sponsored by Grassroots Pantry, wine by La Cabane, fabulous music by DJ Nat King Soul, and a photobooth from Fotopop to take fun images. Everyone had a chance to WIN lucky draw prizes by submitting their business cards. It was a great opportunity for everyone to meet other members of the Hong Kong Cleanup and Ecozine communities.

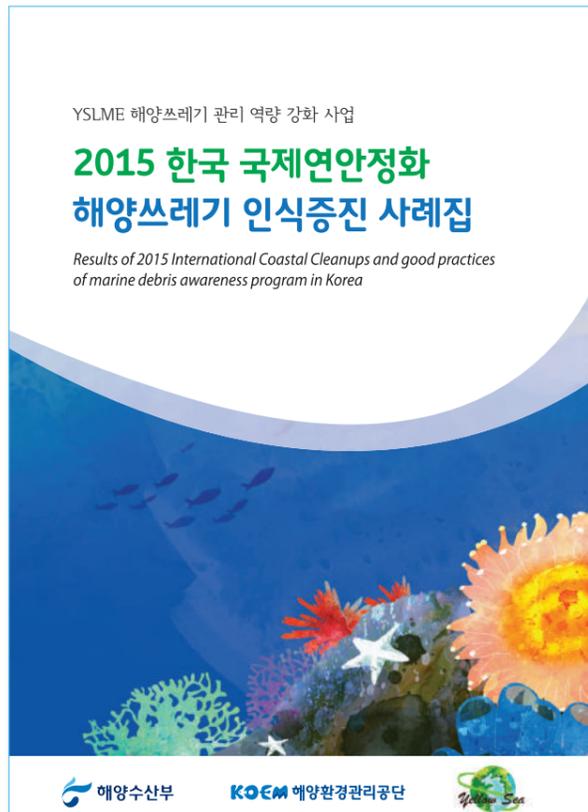
This Winter Cocktail also marked the release of Ecozine's latest issue, featuring actress, model Maggie Q on the front cover. Thus all guests ended the night with a FREE copy of Ecozine's brand-new winter issue, accompanied by a Nature Amazes 2016 Calendar from The Nature Conservancy.

If you would like to keep tabs on the latest news and event updates, then we welcome you to 'Like' us on Facebook or subscribe to our weekly newsletter to stay in the loop! You can also get your hands on a copy of our latest quarterly magazine at our retailers or via Ecozine.com.

From the change of thinking and doing for reducing marine debris problem

- Results of 2015 International Coastal Cleanups and best practices of marine debris awareness program in Korea -

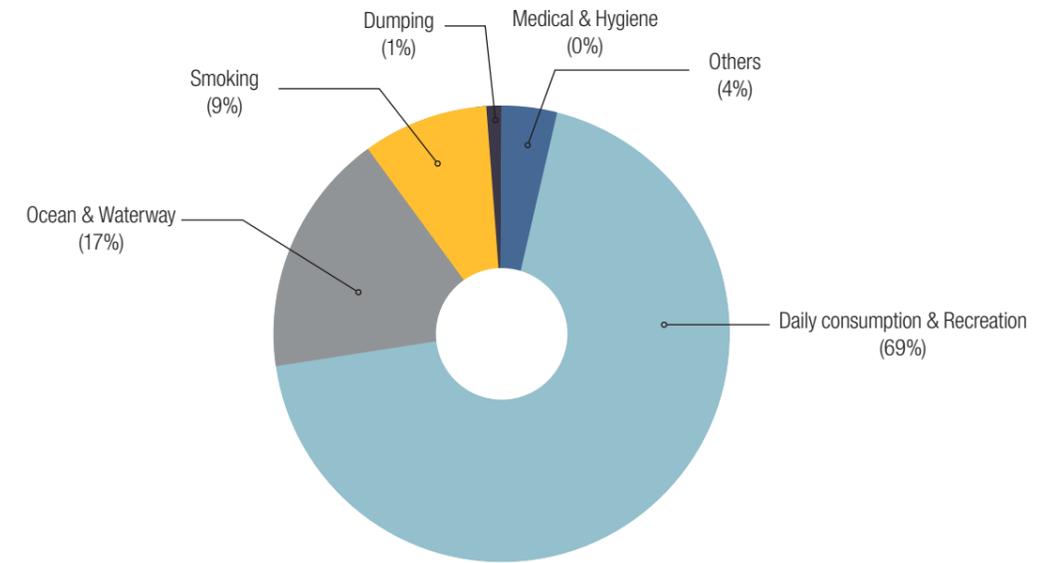
Jongmyoung Lee
ICC country coordinator in Korea,
Chief Scientist of Korea Marine Litter Institute, OSEAN
sachfem@nate.com



A report on the results of the 2015 International Coastal Cleanups (ICC) and on the best practices of marine debris awareness program in Korea has been published. In 2015, over 5,000 people participated in ICC at seventy-one sites, picking up and recording on the data sheet over 200,000 debris items. It was the 15th of such event in the country. Seventy thousand volunteers at 761 sites have recorded over one million marine debris for 15 years.

Year	Site (number)	People (number)	Debris (number)	Cleaned beach (km)
2001	23	1,750	11,187	23.1
2002	22	1,600	8,589	17.0
2003	26	1,200	14,677	14.7
2004	28	1,916	22,004	21.6
2005	40	3,224	78,270	44.3
2006	43	3,108	63,912	34.1
2007	32	4,520	51,382	27.4
2008	53	6,095	75,899	41.8
2009	61	5,007	74,671	37.0
2010	74	7,875	69,208	41.4
2011	64	6,237	75,599	40.6
2012	105	9,158	88,796	31.5
2013	58	8,760	107,444	45.9
2014	63	3,939	99,034	47.4
2015	71	5,271	204,013	43.8
합계	763	69,660	1,044,685	511.6

Single use plastic wrap was the most abundant item, accounting for 9.7%. Plastic lid and plastic beverage bottle followed, making up 8.3% and 7.9% respectively. The most abundant 10 items occupied 65% of total numbers, implying that if we can successfully reduce these 10 items, we could reduce two third of marine debris at Korean beaches.



The data we analyzed shows that daily consumption and beach recreation activities were responsible for 69% of the beach debris numbers. Ocean and waterway-related items were 17%, which is a little bit lower than the case in past years but still much higher than the 5% of international results.



This report includes the best practices implemented in 2015. For example, the main event where about 1,000 people, including the minister of Ministry of Ocean and Fisheries (MOF), participated was held in Song Do beach, Pusan, SE Korea. Eight students and teachers of an alternative school joined the ICC during one-month trekking. Why don't you plan own ICC this year, referring to the good examples?

* This report was published with the support of MOF, Korea Marine Environment Corporation, and Yellow Sea Large Marine Ecosystem.

New government project to mitigate EPS buoys debris from aquaculture grounds in Korea

Sunwook Hong, President of OSEAN,
oceanook@gmail.com

Good news for people who have concerns about fragmentation and its impact of Expanded Polystyrene (EPS) buoy debris on aquaculture in Korean seas. A Korean government project, 'Building integrated management system of used EPS buoys for fisheries' has been launched in May and its kick-off meeting was held in the Ministry of Oceans and Fisheries (MOF) on May 10th. The objective has been to establish policy foundation to introduce 'Integrated Lifecycle Management System of EPS buoys'. Strategies to achieve the objective are to design information management system of EPS buoy usages, to develop resources and implement fishermen education, to develop efficient recovery system of used buoys from fishing and aquaculture grounds and conduct its pilot program, and to support equipments to transform recyclable ingots from used buoys. MOF will continue the project until 2019 to reach up to 80% of recycling rate from 28% of the present, investing USD 3.7 million in total. Korea Maritime Institute, Our Sea of East Asia Network, and Woowon Soft, Inc. have been delivering the project this year.

EPS buoy debris has been regarded as one of the major polluting items at the coastal beaches. National marine debris monitoring program since 2008 has shown EPS

buoy debris to be the most abundant item for macro debris (25mm <). The researches by Korea Institute of Ocean Technology and Science provide that density of microplastic debris (1mm ~ 5mm) reached the highest level in comparison with the previous researches in the world and the reason is due to fragmentation of EPS buoys.

This project is for prevention of EPS buoy's discard, abandoning, and unintentional loss. We believe prevention at source is the best solution.



Related news:

- Initiation of research project on environmental risk assessment of microplastics in Korean waters (Marine Litter News 6(2), Dec. 2015)
- The Second Basic Plan to Manage Marine Debris of Korea (2014-2018) launched (Marine Litter News 5(1), May 2014)
- Styrofoam debris issues broadcasted on Korean Television (Marine Litter News 4(2), Dec. 2013)
- Workshop on debris from EPS floats held (Marine Litter News 3(2), Dec. 2012)



What is Asia Pacific Civil Forum on Marine Litter?

Asia Pacific Civil Forum on Marine Litter is a network established in 2009, made of NGO groups dedicated to protection of marine environment from marine litter in Asia Pacific countries.

Network member groups are:

- Japan Environmental Action Network (JEAN)
- Our Sea of East Asia Network (OSEAN)
- Taiwan Ocean Cleanup Alliance (TOCA)
- Shanghai Rendu Ocean NPO Development Center
- Kewkradong Bangladesh
- ICC Philippines
- Tangaroa Blue Foundation
- Ocean Conservancy

To the readers,

East Asian countries are connected to each other environmentally, geographically, historically, or culturally through shared regional seas. The East Asian region is one of the most dynamic economic centers with some of the busiest shipping lanes in the world. With the spread of mass production and consumption over the last decades came the huge increase in solid waste generation. There are, however, not enough waste treatment facilities and management measures, which makes the region vulnerable to marine debris pollution.

Entering the seas in large amounts, floating debris has become a source of concerns and conflicts among some neighboring countries. This transboundary environmental problem requires concerted efforts of all the relevant stakeholders beyond sectoral and political boundaries. In this regard, OSEAN (Our Sea of East Asia Network) and JEAN (Japan Environmental Action Network), the marine debris NGOs in Korea and Japan, have shared a vision in which people in the East Asia could act together as one community in protecting our precious marine ecosystems. We believe that NGOs in the East Asian countries have an important role in sharing experiences and acting together to address the marine debris issue in the region from the bottom up.

mit - Shimonoseki•Nagato Meeting' on October 16-18, 2009, in Shimonoseki, Japan. OSEAN suggested in the meeting to start an 'East Asian Civil Forum on Marine Litter' through which relevant NGOs and organizations in the East Asia could share experiences and information and work together on the marine debris problems. OSEAN and JEAN have reached a consensus to launch the forum and publish biannual newsletters. So we have launched the East Asian Civil Forum on Marine Litter and we are delivering marine debris news from member countries via e-mail to people who are concerned with this problem on local, national, and regional levels. In late 2012 now, we have four members above. We hope that the forum could provide a venue for all of us to share our vision, experiences, and creative actions.

This is the first effort to link the East Asian people beyond geographical and language barriers to a common goal of protecting our seas from marine debris pollution. NGOs and organizations that have interests and passion to make our seas clean and healthy are more than welcome to join us. For more information, you can contact us at loveseakorea@empas.com. Please let us know if you have any problem in receiving the newsletter. These articles are also available online at <http://cafe.naver.com/osean>.

Secretariat,

The city governments of Shimonoseki and Nagato, and JEAN co-organized '2009 Marine Litter Sum-

Sunwook Hong (OSEAN) and Kojima Azusa (JEAN)

Asia Pacific Civil Forum on Marine Litter



Japan Environmental Action Network (JEAN)

202, Mansion SOPHIA,
3-4-12, Minami-Cho, Kokubunji-Shi, Tokyo, Japan
URL <http://www.jean.jp> E-mail Cleanup@jean.jp
TEL +81-42-322-0712 FAX +81-42-324-8252



Our Sea of East Asia Network (OSEAN)

717, Leadersvill, 23-96, Jukrim 4ro, Tongyeong, Gyeongnam, 650-826, South Korea
URL <http://cafe.naver.com/osean> E-mail loveseakorea@empas.com
TEL +82-55-649-5224 FAX +82-303-0001-4478



Taiwan Ocean Cleanup Alliance (TOCA)

97057, No.87, Fuyang Rd., Hualien City, Hualien County, Taiwan
URL <http://www.icctaiwan.org.tw> E-mail kuroshio@seed.net.tw
TEL +886-3-857-8148 FAX +886-3-857-8948



Shanghai Rendu Ocean NPO Development Center

Room 222, Building C, No.633, Eshan Rd, Shanghai, China, Zip Code 200127
URL <http://www.jintan.org> E-mail liyonglun@163.com
TEL +86-21-61762119



Kewkradong Bangladesh

C4 Arambag Eastern Housing, Mirpur-7, Dhaka 1216, Bangladesh
Muntasir@gmail.com
TEL +88 01911 310 275



ICC Philippines

Units 8 & 9, CCP Bay Terminal, CCP Complex, Roxas Blvd., Pasay City, Philippines,
URL <http://sites.google.com/site/iccphilippines/home>
Blog: coastalcleanupphilippines@blogspot.com
Email: iccphilippines@gmail.com
Mobile No. : +63917.372.87.02



Tangaroa Blue Foundation

PO Box 757, Port Douglas, QLD 4877, Australia
Web: www.tangaroablue.org Email: info@tangaroablue.org
TEL+61.410166684



Ocean Conservancy

1300 19th Street, NW, 8th Floor, Washington, DC 20036, USA
Web: www.oceanconservancy.org Email: cleanup@oceanconservancy.org
TEL +1-202-429-5609

※ We truly thank Young Jun Andrew Kim for English proofreading of this issue.