

# Measures in U.S. and Canada (Tsunami Driftage)

## Oregon, U.S.

SOLVE (Stop Oregon Litter and Vandalism), which leads the “Beach & Riverside Cleanup” as a coordinator of ICC in Oregon, has established a partnership with local governments.

The governors’ task force joined by the Japanese–American organization and NGOs has one of the most well-organized response systems in the United States. The task force conducts training on emergency clean-up operations to prepare for the driftage caused by tsunamis.

## British Columbia, Canada

The Vancouver Aquarium presides over the “Great Canadian Shoreline Cleanup” and is seeking public volunteers to collect debris to prepare for tsunami driftage. Currently, about 2,000 volunteers have registered. The “British Columbia Tsunami Debris Coordinating Committee,” which consists of federal government, local government, NGOs and researchers centering on BC state government, has a response plan for tsunami driftage.

This Committee is also in charge of planning how to use grants from the government of Japan.



Hawaiian Monk Seal trapped with plastic ring



Massive marine debris (Tsuruoka, Yamagata pref.)



Marine debris (Ohkushi Coast, Nagasaki pref.)

## Closing remarks

The driftage being washed ashore by marine currents and wind, continues to flow to the ocean, partly dispersing, sinking, breaking up into small pieces, and partly drifting down the coast. A lot of driftage has also been carried to the coast of Japan from Asian nations.

One example of the global efforts to tackle the worsening marine debris problem is the “International Coastal Clean-up (ICC)” beginning in 1986 by the Ocean Conservancy, an NGO for protecting the ocean environment. JEAN has served as a coordinator and developed the activities nationwide since 1990 in Japan.

The efforts to tackle tsunami driftage, as described in this pamphlet, functioned effectively thanks to ICC networks.

Again, we deeply appreciate the earnest activities of the people of the NGOs and NPOs in Japan including JEAN. The MOE would like to continuously address these tsunami driftage issues in cooperation with them, while maintaining a strong interest in the issues..

Please visit the following for further information on marine debris

○Marine Debris, MOE HP [http://www.env.go.jp/water/marine\\_litter/](http://www.env.go.jp/water/marine_litter/)

○Platform of marine debris ■JAPAN HP <http://www.malipjapan.jp/>

Office of Marine Environment, Water Environment Division, Environmental Management Bureau, MOE Issue of Oct 2013

TEL:03-5521-9025 FAX:03-3593-1438 <http://www.env.go.jp/>

# Measures to tackle tsunami driftage

## ~Measures to tackle tsunami driftage in U.S. and Canada and cooperation of NGO~

The tsunami that followed the earthquake devastated the northeast region of Japan on March 2011, washing away colossal amounts of driftage made up of houses and construction materials into the Pacific Ocean. Some of the driftage washed into the ocean has been carried by winds and ocean currents and scattered across the North Pacific Ocean. Although collection and disposal of the tsunami driftage is a very difficult task, some of the driftage has been collected so far owing to persistent efforts by the residents of the North American west coast and local governments. The following is a report of field surveys conducted in the U.S. and Canada by JEAN, a non-profit environmental NGO supported by MOE, Environmental Restoration and Conservation Agency, and so on.

Field survey by NGO in Montague Island in Alaska



The predicted results of forecasts of Tsunami Driftage location published by the MOE shows that surface driftage\*<sup>1</sup> and subsurface driftage \*<sup>2</sup> will start reaching the West Coast of North America by February 2014, and the amount will start to increase substantially from April to fall.

\*1 Surface-to-subsurface volume ratio is 1:1

\*2 Surface-to-subsurface volume ratio is 0:1

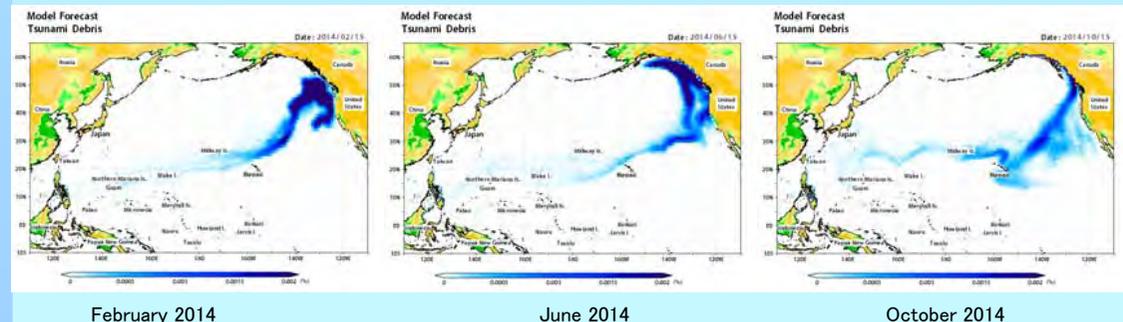


Fig.1. Predicted results of marine driftage from the earthquake

## NGOs' Meeting between U.S. and Japan held in Aug 2012.

In August 2012, the first meeting of NGOs in the U.S. and Japan was held to discuss tsunami driftage issues. The participants consists of 9 individuals from Japan including JEAN members, , 10 from the U.S., including the coordinators of the International Coastal Cleanup (ICC) of Alaska, Washington, Oregon, California and Hawaii, an NGO based in Washington D.C., the State Department, and NOAA.

At this meeting, the participants exchanged information on their efforts and researches over the years to tackle not only tsunami driftage but also marine debris in general. One experience shared at the meeting that captured participants' attention was that the collection of debris is difficult in Alaska from fall to spring because of the high waves during the period

Then they agreed to inform the participants at an annual ICC meeting in every September of the wide range of marine debris issues including tsunami driftage, as well as to try to identify Japan origin debris of what is believed to be from the tsunamis.

The relationship of mutual trust was further strengthened by continuous discussion and implementing information sharing on tsunami driftage through monitoring.

## Field Survey at the state of Alaska in the U.S. in Jun 2013

The U.S. and Japan held a dialogue in 2012 and found that in Alaska, it would be very difficult to collect tsunami driftage from fall to spring. JEAN then conducted a field survey in Alaska with support from local NGOs in June of 2013. It also held a workshop in Alaska with people familiar with the issue.

The workshop found that the Gulf of Alaska Keepers, a local NGO dedicated to collecting tsunami driftage also avoids the fall-spring season and mainly operates during summer when the climate is stable. According to the NGO, a large amount of driftage such as Styrofoam floats or plastic products began reaching the coast from March of 2012. In Montague Island alone, 12 shiploads (one ship amounts to around 42 cubic meters) of what is believed to be tsunami driftage was collected. At the workshop, an official of the State of Alaska said that the compensation money from the Japanese government would be allocated for future collection activities because of their time and cost consuming nature.



9 hours boarding to port



Collection with separation (Montague Island in Alaska)



Volley ball printed in "regular game for schoolchildren"



Meeting between U.S and Japan (Portland, Oregon)



Meeting between U.S and Japan (Portland, Oregon)

## Field Survey in the state of Oregon in Hawaii in Jan and Feb 2013

With support from the Japan Fund for Global Environment, Japan's NGOs and NPOs including JEAN engaged in assisting affected areas conducted surveys on tsunami driftage from January to February 2013 in Hawaii and Oregon of the U.S.

The participants of the activities conducted surveys at 3 beaches and 3 coasts in Hawaii. They also joined local clean-up activities and exchanged information with the locals involved. They were not able to identify much tsunami driftage in these surveys.

At a networking event, they shared their thoughts with the locals about response to massive driftage. They confirmed to promote an exchange of views on the issues while sharing information on tsunami driftage obtained by monitoring activities.

In March, forums were held in Sendai and Tokyo to report the results of the field survey to the Japanese people related to the topic. The representative from an NGO in Alaska said "I have been reminded after coming here that the marine debris we collected were parts of the lives of people in the stricken area. I would like to convey this experience to many people back in the U.S."

People in the stricken area appreciated this remark.

## Field Survey in the state of B.C., Canada and state of Washington, U.S, Sep 2013

In September 2013, JEAN and other NGOs of Japan conducted survey in B.C. of Canada and the State of Washington of the U.S. They also held a workshop to exchange views with the locals related to the issue. Thanks to these activities, detailed information regards to tsunami driftage were obtained.

The survey was mainly conducted in the District of Ucluelet, west of Vancouver Island, and local NGOs and NPOs also joined it. The locals said that the state government could not grasp the whole picture of the tsunami driftage because the state has such a long coastline that there are many inaccessible locations. JEAN and other NGOs of Japan also participated in "Great Canadian Shoreline Cleanup", a coastal cleanup program on the coast of Vancouver. According to the locals, driftage of what is believed to be from the tsunamis such as part of wooden houses (square timbers or beams) began to wash ashore from March 2013. About 40 construction materials have been collected thus far around Ucluelet alone.

The participants to these activities confirmed that they will strengthen cooperation and share further information on the issue.



Collection activity at remote Island



Meeting in Ucluelet Ucluelet in Vancouver Island, B.C.



Timber of houses collected for storage



Clean-up activity (Hawaii)



Reporting Forum (Sendai, Miyagi Prefecture)