

# Japan Tsunami Marine Debris Projects Portfolio



April 18, 2013



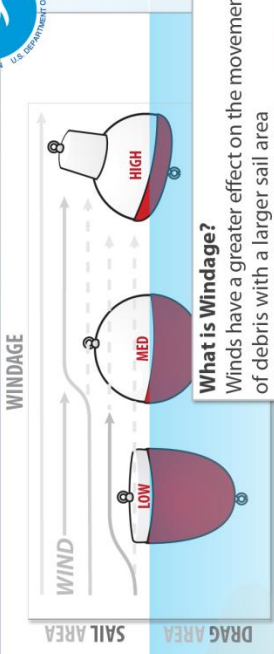
*This dock from the fishing port of Misawa in Japan broke loose during the March 2011 Japanese tsunami. More than a year later it floated ashore near Agate Beach, Oregon. Illustrating the challenges facing the tsunami debris-affected states, the dock cost the State of Oregon approximately \$85,000 to remove. Even more foreboding is the threat that any of the dozens of non-native marine species that hitchhiked across the ocean on the dock may become introduced in the coastal waters. With more than 1.5 million tons of debris washed to sea by the tsunami, it is likely that the West Coast states, Alaska, and Hawai'i will continue to face threats from this debris for many years. And this is in addition to the existing threat posed by the estimated 100 million tons of debris that was already in the Pacific Ocean.*

Photo credit: Associated Press

## TABLE OF CONTENTS

- Introduction
- NOAA tsunami debris model
- State of Hawai'i Projects
- State of Alaska Projects
- States of CA, OR, and WA Projects

# Modeled Movement of the Marine Debris Generated by the March 2011 Japan Tsunami

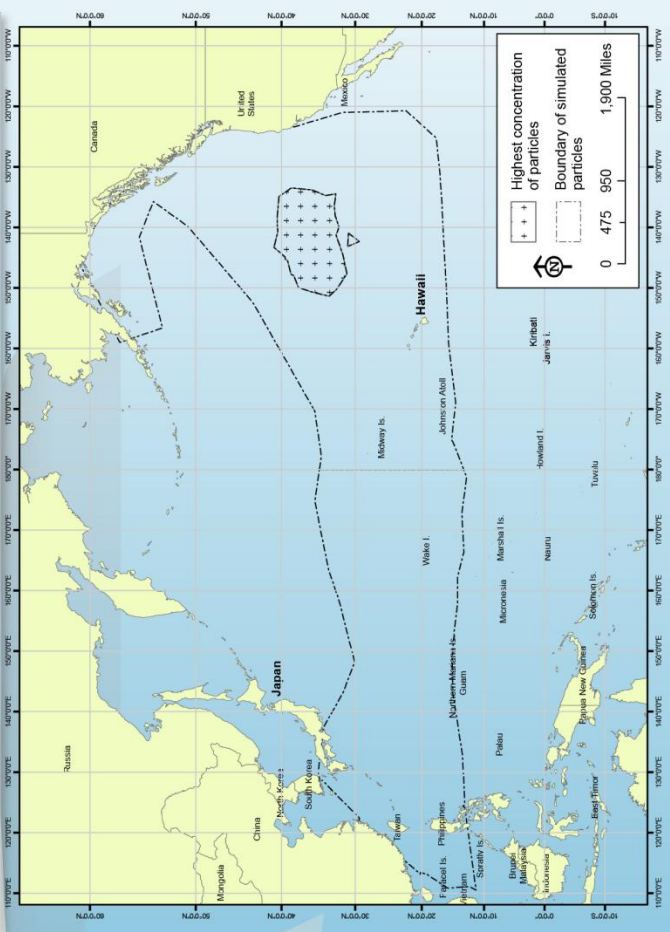


On March 11, 2011, an estimated 5 million tons of debris washed out by the tsunami

Estimated 30% floated away and dispersed

Estimated 70% sank near Japan

Expected Distribution of Computer Simulated Particles Through Wednesday, 04/03/13 0700



- **Japan Ministry of the Environment estimates that 5 million tons of debris washed into the ocean.**
- **They further estimated that 70% of that debris sank near the coast of Japan soon after the event.**
- **Model Results: High windage items may have reached the Pacific Northwest coast as early as winter 2011-2012.**
- **Majority of modeled particles are still dispersed north and east of the Hawaiian Archipelago.**
- **NOAA expects widely scattered debris may show up intermittently along shorelines for a long period of time, over the next year, or longer.**

NOAA used a computer model to simulate the movement of tsunami debris from March 11, 2011, to the present day. This GNOME model (General NOAA Operational Modeling Environment) simulation is based on ocean surface currents from the US Navy (the Hybrid Coordinate Ocean Model) and winds from NOAA (the NOAA blended wind product). The computer model simultaneously released 1,000 simulated particles from each of 8 locations on the Japan coastline where tsunami wave heights were 3.5 meters or greater. Particles were randomly assigned windage values from 1-5%, meaning that they were moved not only by ocean currents, but were also moved by 1-5% of wind speed in the downwind direction. The dotted black line contains 95% of all simulated particles. The cross-hatched area indicates the region of the highest concentration of simulated debris with 1% windage at the end of the simulation. For more details on this model, please visit [marinedebris.noaa.gov](http://marinedebris.noaa.gov). Have you seen tsunami debris? Report it to: [DisasterDebris@noaa.gov](mailto:DisasterDebris@noaa.gov)

## INTRODUCTION

The earthquake and tsunami that struck Japan on March 11, 2011 was a horrible human tragedy that claimed nearly 16,000 lives and destroyed countless homes and buildings. As a result of the disaster, the Japanese government estimates that 5 million tons of debris was washed into the ocean, and approximately 1.5 million tons could still be floating in the currents of the North Pacific Ocean. NOAA, USCG, and other partners have been leading efforts to determine when and where this debris may impact U.S. shorelines and shipping traffic. They are predicting that West Coast States, Alaska, and Hawai'i will likely see significant increases in marine debris over the next several years. Some debris could be quite large, may contain hazardous materials, or may harbor non-native species. Many areas have already observed tsunami-related debris including the large floating dock that washed ashore in Oregon in June. Troublingly, scientists identified approximately ninety non-native aquatic species living on the dock.

Federal agencies are working closely with States, Tribes, local communities, academia, and non-profit groups to plan for response efforts. Volunteer cleanups have been the primary means for cleaning marine debris. With the expected increase in debris and the additional threats from hazardous materials and potentially invasive species, there is a significant need for support. With that in mind, Coastal America has been working with the Corporate Wetlands Restoration Partnership and the Interagency Marine Debris Coordinating Committee to promote public-private partnerships to help respond to marine debris along the West Coast, Hawai'i, and Alaska.

This portfolio includes a number of potential projects from the affected states that are in need of partners in order to start or complete important response efforts. Primary contact information for the projects is included in each pitch piece. Please contact Bret Wolfe ([bret\\_wolfe@fws.gov](mailto:bret_wolfe@fws.gov), 703-358-2158) with questions or additional ideas for projects that could be included in this portfolio.

### **Potential Project Categories/ Primary Needs:**

- 1. Large Debris Removal Support (\$100,000-\$500,000 a clean-up)*
- 2. Small Debris Removal Support (\$5,000-\$50,000 a clean-up)*
- 3. Volunteer Coordination*
- 4. Detection/Monitoring*
- 5. Habitat restoration*



# Potential Projects in Hawai'i



Photo credits: (top) University of Hawaii; (middle right) b-e-a-c-h.org; (middle left and bottom) NOAA







# Hawai'i Wildlife Fund

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[www.wildhawaii.org](http://www.wildhawaii.org)

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## 1. Project Name: "Corporate meets Community" Marine Debris Partnership

2. **Location:** Maui & Hawai'i Islands (State of Hawai'i)

3. **Project Purpose:** To supplement our ongoing community-based marine debris removal and monitoring efforts *and* to provide additional funds for the immediate removal of large and potentially dangerous Japanese Tsunami Marine Debris ("JTMD") items as they arrive.

4. **Project Description:** Hawai'i Wildlife Fund (HWF) has significant experience in marine debris recovery including restoration work in the Northwestern Hawaiian Islands (1998-2000) and in the Main Hawaiian Islands (1998-2013). In total, Hawai'i Wildlife Fund (HWF) and volunteers have removed over 174 tons (348,000 lbs.; more than 183 Volkswagen Beetles!) of marine debris from along the coastline and nearshore coral reefs of the Hawaiian Archipelago. Since 2005, HWF has received funds from NOAA's Marine Debris Program to continue debris removal efforts along the southeast coastline of Hawai'i Island (a region known for its heavy marine debris accumulation, especially at Kamilo Pt., aka "the world's dirtiest beach" <http://video.msnbc.msn.com/nightly-news/50002124#50002124>). These efforts on Hawai'i Island are one of the most cost effective marine debris removal projects in the world.

Since 1998, HWF has also been hosting shoreline and underwater cleanup events on Maui to remove marine debris. HWF hopes to expand our underwater and shoreline cleanup efforts to recover debris items and prevent additional coral reef damage.

HWF relies heavily on support from the community as well as other NGO's and industry, engaging in multiple State, County and Federal partnerships to achieve our goal of protecting native wildlife in Hawai'i (through marine debris removal and outreach/education efforts). HWF welcomes further support from corporate partners to continue and expand our efforts into the future and to address increasing problems due to JTMD with our specialized equipment for removing large debris items.

## 5. Deliverables:

#1 – HWF will continue our monitoring/detection and small marine debris removal efforts on Maui and Hawai'i Islands (and will provide detailed reports of numbers of volunteer participants and amount of marine debris removed by island).

#2 - HWF will work with federal and state partners to immediately remove and dispose any large or dangerous JTMD items that may wash ashore on Maui or Hawai'i Islands.

#3 - HWF will work with corporate sponsors to host “mini-cleanups” with their employees *and* promote these events on our website and to our numerous local and national media contacts.

#4 - HWF will use marine debris recovery events as an opportunity to distribute press releases to recruit volunteers, highlight the problem, and acknowledge corporate, local and government support.

**6. Cost & Budget:**

<b>“Corporate meets Community” Marine Debris Partnership - Activities for Maui and Hawai’i Islands</b>	<b>HWF Deliverables Achieved</b>	<b>COST per cleanup event (or incident)</b>	<b>UNMET NEEDS (Supplies, Labor, Transportation, Coordination)</b>
A. 12 Underwater Cleanup Events	#1, #3, #4	\$6,800	\$81,600
B. 18 Shoreline community-based and “mini-cleanup” events hosted	#1, #3, #4	\$3,850	\$69,300
C. Rapid Removal & Disposal of potential JTMD items	#2, #3, #4	\$10,000 - \$100,000	\$100,000 +

**7. Schedule of Operations:** All necessary permits have already been obtained for cleanup events so these activities are “shovel-ready” and waiting for funding opportunities. In addition, HWF retains a specialized hazard insurance policy for all volunteer and contractor labor.

**8. Conservation Partners:** Federal - NOAA Marine Debris Program, US Fish & Wildlife Service; State - Division of Forestry and Wildlife, University of Hawai’i; County - Dept. of Environmental Management, Parks & Recreation (Aquatics Division); Partnerships - Nets-to-Energy program (over 12 partners), Pacific Coast Joint Venture, Hawai’i Wetland Joint Venture; Local - Nature Conservancy, ‘Imi Pono No Ka ‘Āina, Big Island Substance Abuse Council , Ka’ū Calendar, Matson Navigation, Jeff Anderson Sawmill Services.

**9. Unmet Need:** Funding for continued marine debris monitoring/detection and small marine debris removal, large JTMD removal and disposal, and “mini-cleanup” events catered to small groups and corporate partners for media blitz to Kamilo aka “Trash Beach,” and other island sites (*see Item #6*).

**10. Projected Start Date:** Ongoing and ASAP for all projects from Feb 1st, 2013

**11. Local Project Contact Info:**

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## Removing Japanese Tsunami Debris affecting the Island of Kaho'olawe, Hawaii

**1. Project Name:** "Removing Japanese Tsunami Debris affecting the Island of Kaho'olawe, Hawaii"

**2. Location:** Island of Kaho'olawe, Hawai'i, located 11 kilometers (six miles) southwest of the island of Maui (N20 32.213 W156 32.953). The proposed project will target Kanapou Beach and the eastern shores of the island.

**3. Project Purpose:** The project will restore, conserve and enhance coastal and marine habitats and ecosystems vital to self-sustaining populations of living marine resources. Kaho'olawe is the smallest of the eight Main Hawaiian Islands. It is comprised of approximately 28,800 acres and is located approximately 11 kilometers (six miles) southwest of the island of Maui. Kaho'olawe Island and its waters, extending two nautical miles seaward, comprise the Kaho'olawe Island Reserve. The Reserve is the largest marine managed area in the Main Hawaiian Islands. In addition, the island is sacred to Native Hawaiians and an iconic cultural site. Waters surrounding Kaho'olawe support **one of the most valued marine ecosystems in the state**. The sea cliffs and offshore islets, Ale'ale and Puu Koa'e, are home to rare plants and are significant nesting areas for seabirds such as the endangered Hawaiian dark-rumped petrel and the endangered Newell's shearwater, while the beaches and nearshore waters support the threatened green sea turtle, the endangered hawksbill sea turtle, the endangered Hawaiian monk seal, the Hawaiian spinner dolphin and some of the healthiest fish populations in the Main Hawaiian Islands (e.g., sharks, jacks). Kaho'olawe also borders the Hawaiian Island Humpback Whale National Marine Sanctuary, south of Molokini Crater.

**4. Project Description:** The project will stage debris clean-up operations on the eastern and southern facing shores of the island of Kaho'olawe, with focus around Kanapou Bay and the Puhianeneue area, where a combination of wind and currents contribute to substantial accumulation of marine debris on an annual basis. The impact of the Japanese tsunami debris on this coastline is likely to be severe. Staging operations on the remote island of Kaho'olawe involve considerable personnel and operational costs as the island is uninhabited, the shoreline is difficult to access and large inland areas are still off-limits because of the presence of unexploded ordnance. Despite these difficulties, Kaho'olawe Island Reserve Commission (KIRC) personnel have unique expertise in staging operations on island and has successfully completed several past clean-up operations and removed over 30 tons of debris. The Island of Kaho'olawe has the potential to attract considerable media interest both nationally and internationally given its unique status as a symbol of Hawaiian cultural resurgence, the importance of its marine resources and the unparalleled community support for its restoration. The restoration of Kaho'olawe has generated an extensive following by community groups, non-profit organizations, university and high school students and faculty, agencies (local, state and federal) and individuals interested in volunteering. Currently, there is a two-year waiting list for prospective volunteers wanting to participate to programs on island. This project would provide an unparalleled opportunity to engage a wider variety of stakeholders including large corporations and international communities.

**5. Project Deliverables:** The project will include several clean-up events (depending on budget). Each event will result in the following deliverables:

- a. Detection and monitoring of large marine debris accumulation around Kaho'olawe with periodic helicopter based surveys (with media participation);
- b. Large and small debris removal from eastern and southern facing beaches of the remote island of Kaho'olawe to minimize the effects of the Japanese tsunami on the significant marine resources of this important marine reserve and cultural heritage site;
- c. Evaluation of the quantity and type of marine debris removed from the shoreline and identification of large debris such as derelict vessels or hazardous waste material;
- d. Salvaging, disposal and recycling of collected debris, diverting as much as possible from the local landfill;
- e. Engagement of local, national and international volunteers, leveraging corporate-responsibility programs and participation of high level officials from corporations;
- f. Re-use of appropriate marine debris in erosion control projects on Kaho'olawe's uplands;

- g. Hosting of outreach events;

**6. Cost/Budget:** This is the estimated cost of ONE clean-up event. Each clean-up event will cost approximately \$46,300. This amount is inclusive of the in-kind contributions of volunteer time and resources.

Task	Estimated Cost	Status
Personnel (KIRC)	\$17,600	Unmet need
Volunteer Time and Training	\$13,700	In Kind Donation
<b>Clean up Expenses</b>	<b>\$15,000</b>	<b>Unmet Need</b>
<b>Total</b>	<b>\$46,300</b>	

**7. Schedule of Operations:** We would like to host more than one clean-up event and the suitable beach for this event will be determined during aerial and reconnaissance surveys. Each event will have a separate cost and will only be possible if funding is available.

Task	Start Date (approximate)	Completion Date (approximate)
Kanapou clean-up	July 9, 2013	July 12, 2013
TBD Beach	Aug 13, 2013	Aug 16, 2013
TBD Beach	Sep 17, 2013	Sep 20, 2013

**NOTE: All dates are estimates and depend on funding. Project will not be completed if funding is not available.**

Each clean-up will involve transporting volunteers to the island of Kaho`olawe via boat, staging operations in remote areas and using 4WD vehicles, boats and helicopters for debris removal. All operations can generally be conducted in a four-day period.

**8. Conservation Partners (including federal and state agencies and NGOs):** We partner with NOAA, Marine Debris Program and the State of Hawaii, Department of Land and Natural Resources (DLNR) in all aspects of our debris clean-up operations and follow standard NOAA protocols for data collection and analysis. We partner with the Protect Kaho`olawe Ohana (a local non-profit) and our commission is represented by members belonging to Maui County and the Office of Hawaiian Affairs. Members of over 50 different non-profits, schools and community based organizations have participated to clean-up efforts in the past.

**9. Unmet need (the portion of the project to be covered by the CWRP partner):** Funding in the amount of \$25,000 to \$30,000 per clean-up event could be covered by a CWRP partner; costs may vary depending on the nature of debris to be removed with the cost of large debris being higher and requiring the use of specialized equipment and personnel.

**10. Project Schedule or projected start date:** Projects can be scheduled as soon as Summer 2013

**11. Local Contacts:** Kaho`olawe Island Reserve Commission, 811 Kolu Street, Suite 201, Wailuku, HI 96793

**Michael K. Naho`opi'i**  
Executive Director  
808-243-5020

**Dean Tokishi**  
Marine Program Manager  
808-243-5889

## Surfrider Kauai's Beach Clean-up Program to Protect All Ocean Users

**1. Project Name:** Surfrider Kauai's Beach Clean-up Program to Protect All Ocean Users

**2. Project Location:** Island of Kauai, State of Hawaii

**3. Project Purpose:** The Surfrider Foundation is a non-profit environmental organization dedicated to the protection and enjoyment of the world's oceans, waves and beaches for all people (and animals). SURFRIDER is committed to preserving natural living and non-living diversity and ecological integrity of the coastal environment. To this end the Kauai Chapter of The Surfrider Foundation is dedicated to keeping the waters and beaches of the most natural of the Hawaiian Islands free of marine debris that will impact people of the islands and the endangered whales, Hawaiian monk seals, sea turtles, birds and reefs in the ocean. Whales give birth in nearshore waters; seals, turtles, and birds on our beaches. Already the recipient of derelict nets, ropes, and plastic of all kinds, Kauai is now receiving Japanese tsunami debris (JTD) (e.g. floats, instrument buoys, foam and pieces of refrigerators). To protect ourselves and marine life we must increase monitoring of the shoreline for debris and quickly remove all material that may be hazardous to marine life (nets and ropes that entangle; plastic that is ingested) and humans (sharp, or heavy debris; hazardous chemicals). We also need to engage the younger generation in these environmental efforts, through Kauai Community College's Marine Option Program.

**4. Project Description:** Goals are to 1. Increase the frequency and scope of the Surfrider JTD monitoring program to include weekly clean-up of three selected remote beaches around the island; 2. Build greater community support for reporting of harmful marine debris. 3. Develop fast response to reports of large or hazardous debris and safe removal. 4. Engage local college students to become environmental stewards.

With a Kauai Community College student and local volunteers we collected debris daily from two remote beaches and quantified the collections weekly. This study showed how much debris gets washed back to sea with the tides; gave us a fine-grain picture of the make-up of the debris; and announced the arrival of JTD. We want to monitor an additional beach on another side of the island.

Kauai Surfrider is known for their monthly efforts at beach clean-ups and "Net Patrol's" removal of large nets and ropes. We need to promote these efforts more so that the community will immediately tell us of the location of such debris and so we can quickly respond with a crew to remove it from the beach before it washes back to sea or entangles marine life. We purchased a Geiger Counter, were certified by Hawaii Dept. of Health in its use and monitor marine debris for radioactivity because of the concern of the public about JTD.

Kauai Surfrider has been removing large derelict nets from the beaches of Kauai for over 5 years and shipping them, with the support of Matson shipping, to Oahu where they are processed by Schnitzer Steel and burned in the Honolulu H-Power plant. Over the past 2 years we collected and shipped 9.2 tons, but through greater community buy-in, we have collected nearly that amount in the past 6 months. Yet we have not been able to remove all of the nets reported. We need to promote the project more, have a dedicated coordinator, volunteers standing by, and have a truck available for transport of materials to the recycle/ storage area.

**5. Project Deliverables:** 1. Yearly reports to NOAA quantifying the marine debris collected at each of three beaches and the contribution of JTD to each. 2. An enlarged Public Service Announcement program to increase participation. 3. Monthly beach clean-ups all around the

island. 4. Faster response to community reports to “Net Patrol” of derelict nets and large marine debris and their removal.

**6. Cost/Budget:**

Task	1st Year	2nd Year	Status
<b>Weekly JTD Monitoring</b>			
Student Internship at Kauai CC	\$3,600	\$3,800	Unmet
Misc. Supplies	\$400	\$500	Corporate sponsor
Travel mileage reimbursement	\$2,000	\$2,000	Unmet
Project Oversight , management	\$2,500	\$2,500	Kauai Surfrider
<b>Community Outreach</b>			
Radio Public Service Announcements	\$6,000	\$3,000	Unmet
Posters, newspaper announcements	\$400	\$400	Kauai Surfrider
<b>Debris Removal/Recycling</b>			
Student Internship at Kauai CC	\$3,600	\$3,800	Unmet
Misc. Supplies	\$800	\$800	Corporate sponsor
Truck Rental for Debris Removal	\$5,000	\$5,500	Unmet
Gasoline for truck	\$500	\$550	Unmet
Shipping of materials to H-Power	\$2,000	\$2,500	Matson & Schnitzer
Project Oversight, Management	\$2,500	\$2,500	Kauai Surfrider
	\$29,300	\$27,850	<b>Total</b>
	\$8,600	\$9,200	<b>In-kind</b>
	\$20,700	\$18,650	<b>Total Unmet Need</b>

**7. Schedule of Operations:**

Task	Start	Completion
Student Intern conducts weekly JTM monitoring	June 1, 2013	May 31, 2015
Community Outreach -weekly PSAs	June 1, 2013	May 31, 2014
Community Outreach -monthly PSAs	June 1, 2014	May 31, 2015
Student Intern conducts beach cleanups and net patrols	June 1, 2013	May 31, 2015

**8. Partners:** NOAA Marine Debris Program, County of Kauai, Kauai Community College Marine Options Program, Corporate (in past local Home Depot and Ace hardware have given supplies; Starbucks provided refreshments and volunteers, numerous restaurants supplied refreshments; Matson has provided shipping of nets; Schnitzer Steel has shredded nets and delivered to H-Power), NGOs include Sierra Club, Malama Mahaulepu, Malama Na `Apapa.

**9. Un-met Needs:** Student Stipends, on-island travel reimbursement, truck rentals & gas, PSA.

**10. Project Schedule:** Program will start immediately upon funding. Student stipends will coincide with academic year and include summer sessions. Project to continue for two years but longer-term funding would be greatly appreciated. The JTD is not going away soon.

**11. Local Contact:** Carl J. Berg, Ph.D., Chair of Kauai Chapter of The Surfrider Foundation, 2637 Apapane St., Lihue, HI 96766. Phone: (808) 639-2968 E-Mail: cberg@pixi.com

**Kauai In-water and Coastal Marine Debris Removal & Education**  
**Mālama Na `Apapa (Translation - Take care of the Coral Reefs)**

1. **Project Title:** Kauai In-water and Coastal Marine Debris Removal & Education
2. **Location:** The Island of Kauai is known for its natural beauty as the “Garden Isle”, but marine debris is littering several of its beaches and is harming its beautiful coral reefs. Site locations were selected with results from NOAA aerial surveys showing high debris accumulation areas. Locations of high priority along Kauai’s east-facing coast include Ahukini Landing: A historic site as Kauai’s main harbor from 1900 to 1930. A favorite spot for shoreline fisherman and for SCUBA divers on the outside of the jetty; Nukoli’i Beach and Reefs: Starting from the mouth of the Wailua River, this stunning beach stretches four miles along the eastern coast. As this area has many sacred Hawaiian cultural sites it was designated as a National Historic Landmark in 1962. The area near the river mouth is where the Ancient Hawaiian Chiefs of Kauai lived. Anapalau Point and Anahola Beach and Reefs: This area is an important marine resource for many native Hawaiian’s as it is adjacent to the Hawaiian homelands. This project also involves remote coastline and off shore monitoring for Japan Tsunami Marine Debris (JTMD) and other marine debris by boat with the assistance of the Kauai Sea Scouts and U.S. Coast Guard.
3. **Project Purpose:** The purpose of this project is to: 1) reduce the negative impact of marine debris on Kauai’s fragile reef ecosystem; 2) engage the youth of Kauai in environmental stewardship and educate them about the importance of maintaining a sustainable marine ecosystem; and 3) collaborate with the community, other organizations, businesses and schools to create a synergetic effect to improve the environment, community involvement and education.
4. **Project Description:** The Project consists of three main components which include: collaborative clean up and recycling efforts, marine science educational curriculum and reef monitoring and assessment.

Collaborative clean up and recycling efforts: Working with schools and other partners, we will coordinate clean-ups, combine resources, and advance together toward a debris-free, sustainable marine ecosystem. Marine debris will be removed mostly by manual labor and with the assistance of machinery where possible. Scuba divers will be trained and will conduct in-water marine debris removal from shore access and boat dives. In collaboration with Hawaii’s Nets to Energy program (partners include NOAA, City and County of Honolulu, Schnitzer Steel, and Covanta Energy Corporation), burnable marine debris will be shipped from to Oahu to be used as an alternate energy source for creating electricity, reducing oil dependency, and decreasing landfill.

In collaboration with the U.S. Coast Guard and the Kauai Sea Scouts, we will also monitor remote coastlines and near shore waters from vessels for JTMD and any other debris. Volunteers will document the debris with video, photos, time and GPS data. If the debris is free floating, the boat captains will assess the safety of intercepting the debris at sea and removing it prior to impacting the reefs and coastline. If it is determined safe to remove, a Sea Scout Vessel will tow the debris back to the harbor to be removed from the water and recycled or properly disposed of. If the item is not safe for removal it will be marked with a locating buoy for relocation and notification will be given to DLNR and NOAA for conducting further inspection and removal. All notable marine debris or potential JTMD will also be reported to NOAA for verification by the Government of Japan.

Marine Science educational curriculum: The objective of this component is to teach a Marine Science educational curriculum to students ages 8 – 12 and bring awareness to the public. In collaboration with Chiefess Kamakahelei Middle School (CKMS) 8th grade teachers, we will

teach NOAA's curriculum about the impacts of marine debris. This curriculum will further standardized training and education and meet the Department of Education's (DOE) standards of education for science and improved learning skills. Students will develop knowledge through classroom lectures and scientific inquiry, then reinforce their knowledge and broaden their comprehension of science principles by using them in a hands-on science experiment in the marine ecosystem. For one of the hands-on science experiments, 300+ students will go to one of our site locations to remove shoreline marine debris. The students will survey beaches for marine debris, record and analyze data, and present their findings to their family and community. This hands-on experiment will bring science to life for the students and help them understand the connection between their environment and effective stewardship.

Reef monitoring & assessment: In order to verify that our marine debris removal efforts are making a positive impact, we will conduct surveys to measure changes in coral health and abundance of marine species. Some of the monitoring techniques that will be used include, benthic mapping, University of Hawaii Quantitative Underwater Ecological Survey Techniques (QUEST), photos, beach surveys, and underwater videography.

- 5. Deliverables:** There will be 12 shoreline as well as 12 in-water clean-ups. Overall an estimated 600 volunteers will participate in the marine debris removal project. Each will actively clean up marine debris for an average of two hours. This will provide 1200 hours of shoreline clean-ups as well as debris monitoring from ocean vessels. There is currently an estimated 20 - 40 metric tons of marine debris within the selected reefs and coastline sites. It is our goal to remove 20 metric tons of marine debris during this project. This is enough debris to fill two 40 foot ocean shipping containers which we will send through the Hawaii Nets to Energy program. Certification of 30 Scuba divers, whom will conduct 384 hours of in-water clean-ups and monitoring.

In the event a large JTMD item is found (e.g. derelict boat, dock, large shipping container, etc.) debris tonnage results will be increased in addition to the 20 metric tons of debris planned to be removed from our other marine debris removal efforts. This debris will be handled by the appropriate government agencies.

Students will present their projects in school and at public events bringing marine debris awareness to hundreds of students and community members. These projects will all be submitted to the media for exposure and have great potential for multiple positive news stories.

- 6. Cost/Budget:** Total project budget is \$130,000. Matching funds and in-kind contributions will be \$83,000. Some of the in-kind matching funds and contributions include bushiness donations, student tuitions, discounted certifications, reduced personnel wages as in-kind donations, volunteer hours, and use of personal equipment.
- 7. Schedule of Operations:** Summer Marine Ecology Course for students will begin in June 2013. All the components of this project described above will continue on through June 2014.
- 8. Conservation Partners:** NOAA, U.S. Coast Guard, Covanta Energy, Matson Navigation, Kauai Sea Scouts, DLNR, DOE, CKMS, Island School, Schnitzer Steel, Kauai Community College and Surfrider Foundation.
- 10. Unmet need:** CWRP funds requested and to be used throughout the year for marine debris removal, marine science education and reef monitoring are \$47,000.
- 11. Local project contact information:** Scott Bacon – Director of Malama Na `Apapa. Cell: 808-482-0683 Email: [scottbacon@kauaicoral.com](mailto:scottbacon@kauaicoral.com) Website: [www.kauaicoral.com](http://www.kauaicoral.com)



## Sustainable Coastlines Hawaii (SCH) Marine Debris Response Plan

1. **Project Name:** Sustainable Coastlines Hawaii (SCH) Marine Debris Response Plan
2. **Project Location:** Oahu for cleanup events, volunteer training, and education, plus surveying and readiness scenarios for Oahu, Molokai, Lanai, & Maui. Integration with Google Earth-Ocean in Mountain View, CA.
3. **Project Purpose:** Physical removal of marine debris with an emphasis on locations impacted by Japan Tsunami Debris and expanding public awareness through integrating heavy concentration discoveries into Google Earth-Ocean.
4. **Project Description:**

**Small Debris Removal:** Our team plans to continue our ongoing efforts of large-scale cleanups with approx. 1000 participants per cleanup removing small to medium size debris. In addition we hope to add the ability to survey sites expected to experience Japan Tsunami Debris impact via helicopter (separate grant), and also engage the fishing community, surfing community, sailing community, and local residents as watchdog teams for debris reporting. Upon reports of high concentrations we will use grant funds to remove debris and conclude with integration with Google Earth-Oceans on areas the grant was not able to service.

### **Planned Events:**

- 3/2/13 – Kahuku Beach Cleanup during the North Shore Wanderlust Festival
- 4/20/13 – Earth Day Cleanup of select East Side beaches with Sea Life Park
- 5/1/13 – Scouting Begins
- 7/6/13 – South Side Cleanup covering Waikiki to Ala Moana and Ala Wai
- 8/13 – Neighbor Island Cleaning of Remote Area
- 9/21/13 – Intl Coastal Cleanup Day on West Side Beaches
- 11/16/13 – North Shore Coastal Cleanup

To garner volunteers and support, our team will reach out to media channels (tv and radio), social media, our volunteer database, and invite the general public and eco-centric organizations. We will target local and national corporations and companies for sponsorship of each cleanup, bringing awareness of partner missions and goals.

**Detection/Monitoring:** Our survey teams will focus on the northeast and east-facing shores of islands mentioned above, via helicopter (our expense, not part of grant), as these are the areas projected to collect significant debris. We will work with contacts at the United States Fish & Wildlife Service (USFWS) to complete regular monitoring/surveying of protected and private coastal areas such as James Campbell Wildlife Refuge. (We plan to engage students at Kahuku High School to compile a volunteer schedule).

Based on our survey findings, we will work with Google, NOAA (Nancy Wallace and Carey Morishige) and the U.S. Coast Guard (Dr. Philip McGillivray) to enhance Google Earth-Ocean to highlight heavy marine debris concentrations. Our photography volunteers will be providing images for use in the Google Earth-Ocean application from our helicopter and on-beach images, with updates on marine debris engaged as a marine debris filter. This will serve as an opportunity to raise awareness of the areas most impacted by marine debris.

**Community Engagement/Education:** The SCH outreach team will incorporate Japan Tsunami Debris education into our curriculum for school presentations and community talks (occurring prior to each cleanup, at every beach cleanup, and after-events). As we move forward with recruiting, organizing, and training volunteers, we will work to acquire accurate, up-to-date information and materials from trusted sources like NOAA to provide volunteers with a realistic picture of the debris problem and removal protocol.

5. **DELIVERABLES:**

- Data identifying where high levels of marine debris are accumulating to assist in disseminating timely and relevant information.
- Press release highlighting governmental and NGO partnership (proactive and responsive) for the removal of Japan Tsunami Marine Debris.
- Cleaner coastlines on Oahu and other remote areas identified to be cleaned.
- Reduction of plastic use by cleanup participants and students through education.
- IMDCC, CWRP, NOAA and Google Partnership
- Community/school education on debris/JTMD effects and cleanup protocol.

6. **COST/BUDGET: NOAA Marine Debris Response Plan Budget**

Task	Estimated Cost	Status
Large Scale Cleanups	\$29,250	Funded through in-kind service and grants
Scouting Efforts	\$7,500	Funded through in-kind service and grants
Remote Debris Removal	\$35,000	Unmet need funded by corporate partner
Google Partnership	\$5,000	Funded by grant
<b>Totals</b>	<b>\$76,750</b>	

7. **SCHEDULE OF OPERATIONS:**

- Ongoing Beach Cleanups – scheduled throughout 2013
- Neighbor Island Survey and Cleanup – Summer 2013
- Google Partnership – Fall 2013

8. **CONSERVATION PARTNERS**

**Federal** — NOAA, U.S. Coast Guard, US Marines, USFWS, US Navy

**State** — City & County, DLNR, DOH, Lifeguards, Fire Dept., Police

**Local Nonprofit** — Kokua Hawaii Foundation, Surfrider Foundation, Ocean Devotion, Johnson Ohana Charitable Foundation, Na Kama Kai, and others.

**Corporate** — Google, Roll Offs Hawaii, Matson, Kailua Sailboards and Kayaks, Sea Life Park, Method, Kahuna Hosting, and others.

9. **UNMET NEEDS:** If the amount of marine debris is excessive and requires funding beyond the budgeted amount, we will seek additional financial support from current and potential partners and sponsors at an estimated cap of \$35,000. Special handling of hazardous materials above the budgeted amount may also require additional funding or partnership with organization awarded large removal grant.

10. **PROJECT START DATE:** Immediately. Currently we are in planning stages for our five proposed beach cleanups. We can begin monitoring/surveying and training of Japan Tsunami Marine Debris Removal teams as soon as funding is approved.

11. **LOCAL CONTACT:**

**Kahi Pacarro**

**Executive Director - Sustainable Coastlines Hawaii**

**(808) 221-7678 / [kahi@sustainablecoastlineshawaii.org](mailto:kahi@sustainablecoastlineshawaii.org)**

**[www.sustainablecoastlineshawaii.org](http://www.sustainablecoastlineshawaii.org)**

# Sudden Onset Marine Debris Response Project, Hawaii

- 1. Project Name:** Response Project for Unusually Large Marine Debris
- 2. Project Location:** Hawaiian Islands
- 3. Project Purpose:** The Department of Land and Natural Resources (DLNR) is the State’s lead agency to address “Japan Tsunami Marine Debris” (JTMD) originating from the catastrophic March 11, 2011 event. Its jurisdiction includes all coastal shores and waters out to 3 nautical miles. Today, in cooperation with a network of county, state, and federal agency partners, DLNR continues to handle a wide range of debris items including JTMD that can be removed using existing assets and man-power. However, based on available knowledge of JTMD sightings and ocean circulation patterns, estimates from the Government of Japan of assets lost to the tsunami, and specific JTMD incidents in other states, DLNR will likely be faced with one or multiple sudden onsets of large marine debris that will challenge all existing resources. DLNR and its partner agencies will not be able to address this problem alone. The only solution will be found through agency and community partnerships to pull together available resources to protect the marine environment so cherished by all.
- 4. Project Description:** DLNR seeks corporate partnerships which could provide resources to support the timely removal (salvage or disposal) of unusually large marine debris, while local, state and federal agency partners would mitigate invasive species risks, cordon off areas for safety, undertake monitoring and conduct overall project management.
- 5. Project Deliverables:**
  - A comprehensive, seamless response to events of large, sudden onset marine debris in the Hawaiian Islands that mitigates a range of risks relating to human safety and Hawaii’s environment and economy. This would include removal and successful disposal or salvage.
- 6. Cost/Budget:**

Since future incidents are as yet unknown, the following estimates are for scenarios in which a floating dock similar to those which landed at Agate Beach, Oregon, and on the Olympic Peninsula of Washington State (estimated weight 188 tons) is sighted in Hawaiian waters or landed on a remote shoreline, presenting disposal as well as invasive species challenges.

Scenario A. Floating recovery at sea; dock is towed to appropriate site for treatment / disposal

Task	Description	Estimated Cost	Status
Towing	<50miles offshore	\$60-\$200K	n/a
	>50miles offshore	\$100-\$500K	n/a
Haul out and alien species decontamination	Dry dock	\$25-37K	n/a
	Phoenician ship yard (32 ft. wide and 300 metric ton capacity)	\$1500	n/a
Dismantling	Cutting into pieces	\$100K	n/a
Disposal or salvage	Recycle	No cost	n/a
<b>TOTAL</b>		<b>\$386-838K</b>	

Scenario B. Dock is located on a beach and treatment

Task	Description	Estimated Cost	Status
Dismantling and removal	Cutting into pieces	\$628K	n/a
Alien species decontamination and post event monitoring	On site	DLNR, NOAA, Bishop staff time contribution	n/a
Disposal or salvage	Recycle	No cost	n/a
<b>TOTAL</b>		<b>\$628K</b>	

**7. Schedule of Operations:**

Task	Start Date	Completion Date
Determine location [if in ocean, secure tracking device]	As soon after incident is reported	n/a
Decide on 'at sea' or 'on land' response	Use pre-existing agency discussions to make a decision within 24-36 hours of report	n/a
Human health and safety mitigation	Ascertain before response initiated	n/a
Initiate response (towing and/or removal and disposal)	As soon as personnel and resources can be organized	n/a
AIS mitigation	As soon as site is deemed safe	n/a
Environmental monitoring	First to occur 3-6 months post event	

**8. Partners:**

City & County of Honolulu and Counties of Kauai, Maui, and Hawaii islands  
 County Fire Departments  
 National Oceanographic and Atmospheric Administration Marine Debris Program  
 Bishop Museum  
 Hawaii Department of Health  
 United States Coast Guard  
 Consulate of Japan, representing Government of Japan

**9. Unmet Need:**

Resources to permit the timely physical removal (salvage or disposal) of unusually large marine debris that arrives in the Hawaiian Islands.

**10. Project Schedule:**

This project is submitted as a 'what if' scenario. It would proceed in the event that unusually large or numerous marine debris arrives in the Hawaiian Islands, subject to approval by the Corporate Wetlands Restoration Partnership.

**11. Local Contact:**

Sonia Gorgula, Ballast Water and Hull Fouling Coordinator  
 Department of Land and Natural Resources  
 1151 Punchbowl St, Rm 330  
 Honolulu, HI 96813  
 Office: (808) 587 2275  
 Sonia.gorgula@hawaii.gov

# Island of Lanai Marine Debris Removal

**1. Project Name:** Island of Lanai Marine Debris Removal

**2. Project Location:** Kaiolohea Bay to Hulopo'e Beach Park on the Island of Lanai

**3. Project Purpose:**

1. Remove marine debris from a beach that has heavy non-local debris. We have chosen the Island of Lanai for this project.
2. Collect data of debris from a beach that contains primarily non-local debris and attempt to categorize all collected debris, determine where it came from, and report on the extensiveness of the debris.
3. Demonstrate and promote a second hand market for marine debris. Method confirmed interest in the hard plastics if they can be returned to Oahu. We want to publicize the large donation of hard plastics to a company that will reuse these items for durable goods and packaging. The use of these products will further educate the public about the prevalence of hard plastics in our marine environments.

**4. Project Description:**

Surfrider Foundation Oahu, along with partners and volunteers, propose to remove debris from Kaiolohea Bay to Hulopo'e Beach Park on the Island of Lanai. This stretch of coastline is on the receiving end of powerful currents and trade winds that pass through the Pailolo Channel. The debris has already been reviewed (see attached photo) and much of it appears to be from a foreign source. This remote area being on the least inhabited and visited public island in Hawaii, lacks the resources to remove debris. Although no Japan Tsunami debris has been positively identified on Lanai, it highly likely that this island will be impacted by this debris over the next several years. This project is likely to be the first line of defense to alert the proper agencies about the arrival of tsunami debris on Lanai.

The most efficient way to get enough volunteers will be to boat from Oahu or Maui. Food, garbage bags/containers, water and other supplies can be brought over from Oahu or Maui. The boats will be able to assist in bringing debris back to Maui where it can be placed in containers to return to Oahu for reuse/recycling. Debris in excess of what can fit on the boats will be delivered to a local collector for proper recycling or disposal.

**5. Project Deliverables:**

1. Volunteers will categorize trash and create spreadsheets to make the data available to agencies and the public using Ocean Conservancy's established template.
2. All recyclable hard plastics will be returned to Oahu, measured, and delivered to the appropriate recycling facility or to Method or other companies that can reuse materials. HI5 recyclables will be turned over to the Lanai City Recycle Center.
3. Photos and weights of all trash categories will be compiled in a report, published, and made available to the public.

**6. Cost/Budget:**

1. Two boats capable of taking 15 or more people and room for at least 500lbs or 7 cubic yards of collected materials. \$60 each for a total of \$1,500.
2. Gas for Boats: \$1,500 (if chartering instead of using the Ferry)

3. Food and water for volunteers: 30 people, 6 meals (2 full days), \$1,080
4. Lodging for one night: One home that sleeps 8 will be provided by a volunteer. Camping for remaining 22 people at Hulopoe Beach Park will be \$250.
5. Supplies: \$300
6. Coolers and some supplies to be provided by Surfrider Foundation Oahu
7. Local volunteers will be utilized as much as possible to minimize costs
8. Flights to Maui for 8 people requested. \$150 each = \$1,200
9. Insurance to be provided by Surfrider Foundation
10. Local volunteers with vehicles will be utilized to move people and debris to the boats or waste facilities. However, we request six (6) Jeeps and fuel for people who arrive one day early. \$1,982.60
11. Ship hard plastics to from Maui to Oahu via 20ft shipping container. \$349.87

**7. Schedule of Operations:**

Task	Start Date	Completion Date
Procure supplies, logistics planning/preparation	March 1, 2013	March 21, 2013
Cleanup	Approx. March 23, 2013	Approx. March 24, 2013
Prepare Deliverables	Following cleanup	One month after cleanup

**8. Conservation Partners:** Sustainable Coastlines Oahu chapter, Surfrider Foundation Maui Chapter, and several other Lanai and Maui organizational groups and corporate participants will be invited. We anticipate at least 75 Lanai residents to participate.

**9. Unmet Need:** \$7,812.60

**10. Project Schedule:**

Our target dates to have the cleanup will be between late March to end of May depending on when funding will be available and ocean conditions are safe.

**11. Local project contact information:**

Steven Mazur  
 Surfrider Foundation Oahu Chair  
 Steven.mazur@gmail.com  
 C: 808.469.5022

## Hawai'i remote sequential coastline monitoring of marine debris using cameras

1. **Project Name:** Hawai'i remote sequential coastline monitoring of marine debris using web cameras
2. **Project Location:** State of Hawai'i
3. **Project Purpose:** Keep the Hawaiian Islands Beautiful (KHIB) is a 501 (c) (3) nonprofit volunteer-based organization whose mission is to engage individuals to take a greater responsibility for improving the community environment and preserving the beauty of the Hawaiian Islands. KHIB is committed to partnerships with government, community groups, non- governmental organizations locally, nationally and internationally. KHIB recognizes the importance of best practices based on the best available scientific research. Hawai'i has very remote and environmentally sensitive coastal and near shore areas that are impacted by ocean born marine debris. Monitoring of these areas has been problematic as volunteers and/or agency staff faces hazardous conditions and great financial costs to provide consistent monitoring and removal response. Researchers in Japan have been using remotely placed webcams to conduct sequential monitoring of beaches for marine litter. This coastal monitoring system provides important near-real time surveillance data helping scientists and resource managers to understand the variations in quantity of debris/litter on the beaches and coastal areas. These remote webcams will give resource managers an important tool to help with the needed response to the protection of sensitive areas and marine debris recovery.
4. **Project Description:** This project as proposed will provide the necessary funding to establish sequential coastal monitoring sites on Midway Atoll and demonstration site at the Hanauma Bay Nature Preserve. These sites will give scientists and resource managers' data to respond to ongoing marine debris impacts and the data to better plan response to the ongoing arrival of debris generated from the tsunami in Japan. In Hawai'i, according to the oceanographic models and historical experience we expect to be receiving tsunami-generated debris along with the "regular" marine debris for many years to come. Our long-term success in planning and responding to the additional challenges of this debris will be greatly assisted by the research and applied in-the-field technology that this funding will provide.
5. **Project Deliverables:**
  - a. Establish sequential marine debris coastal monitoring sites on Midway Atoll and at the Hanauma Bay Nature Preserve through collaboration with researchers in Japan and Hawai'i, NGOs, and governmental agencies in Hawai'i.
  - b. Establish the collection and public archiving of images & preliminary image analysis through the collaboration of the researchers from Japan and the researchers at the University of Hawai'i International Pacific Research Center.

6. **Cost/Budget:**

<b>Anticipated Income</b>	<b>Status</b>	<b>Amount</b>
NOAA	Pending	\$23,000
Corporate pledges	Unmet need	\$11,800
NGO pledges	Pending	\$7,000
<b>Total Income</b>		<b>\$41,800</b>

<b>Anticipated Expenses</b>	<b>NOAA</b>	<b>Corporate Pledges</b>	<b>NGO Pledges</b>	<b>Amount</b>
Webcam equipment	\$9,000			\$9,000
Freight		\$2,000		\$2,000
Travel	\$6,000		\$6,000	\$12,000
University of Hawai'i-IPRC	\$7,000	\$8,000		\$15,000
KHIB Manage grant, logistics, permit approvals	\$1,000	\$1,800	\$1,000	\$3,800
<b>Total Budget</b>	<b>\$23,000</b>	<b>\$11,800</b>	<b>\$7,000</b>	<b>\$41,800</b>

### 7. Schedule of Operations:

<b>Task</b>	<b>Start Date</b>	<b>Completion Date</b>
Coordinate researchers in Japan and Hawai'i, arrange travel and site logistics and required permits,	Once funding decision is received	2.5 months after receiving funding notice
Researchers from Japan investigate Hawai'i sites for webcam installation. Arrange webcam freight and arrival	2.5 months after receiving funding	4.5 months after receiving funding notice
Webcameras' Images archiving and preliminary analysis	4.5 months after receiving funding	One year after funding award

### 8. Conservation Partners:

- **Federal Partners:** NOAA; USFWS;
- **International NGO & Research Partners:** Japan Environmental Action Network & Oceanic Wildlife Society; Dr. Hirofumi Hinata & Dr. Atsuhiko Isobe
- **State Partners:** Hawaii's Department of Land & Natural Resources & Department of Health and University of Hawai'i International Pacific Research Center
- **Local Partners:** City & County of Honolulu-Parks; Friends of Hanauma Bay; Friends of Midway Atoll; KHIB local affiliates; Hawaii Ocean Safety Team (HOST)

9. **Unmet Need:** The implementation and one-year cost of the Hawai'i remote sequential coastline monitoring of marine debris using webcams will be a total of \$41,800.00. The NOAA contribution of \$23,000 is matched with \$18,800.00 from corporate and collaborating NGOs. The corporate and collaborating NGOs contribution will cover freight costs for the webcam equipment, travel for researchers from Japan and University of Hawaii researcher expertise and laboratory usage for image storage and analysis. There will be ongoing fundraising during this project to secure additional funds for additional webcam sites and long-term scientific analysis.

10. **Project Schedule:** This project will begin June 1, 2013, contingent on funding.

### 11. Local Contact:

Ms. Jan Dapitan, Executive Director  
 Keep the Hawaiian Islands Beautiful  
 P.O. Box 2610, Wailuku, Hi 96793

E-mail: [khib.kab@gmail.com](mailto:khib.kab@gmail.com)  
 Phone: (808) 579.9308



## Hawai'i Marine Debris 24 Hour Hotline

1. **Project Name:** Hawai'i Marine Debris 24 Hour Hotline
2. **Project Location:** State of Hawai'i
3. **Project Purpose:** Keep the Hawaiian Islands Beautiful (KHIB) is a 501 (c) (3) nonprofit volunteer-based organization whose mission is to engage individuals to take greater responsibility for improving the community environment and preserving the beauty of the Hawaiian Islands. KHIB has a long history in Hawaii working with local organizations, government and private sector partners to plan and implement programs that resolve identified needs from individual site locations to statewide efforts. Building on a long standing identified need for more effective communication between the volunteers in the field, the greater community and first responders, KHIB would like to propose establishment of a statewide marine debris "Hotline" phone and website. This "Hotline" will provide one point of contact for Hawai'i volunteers, the general community and visitors to report occurrences of marine debris on Hawaii's coastlines, in the near shore waters or within the Hawaii State waters. The website will be maintained and have updated incident information so that volunteers, the community and agencies can review and keep tract of the ongoing reporting and response efforts. This access to information will provide the crucial communication that is necessary to sustain long-term volunteer commitment and community empowerment. KHIB has operated a litter hotline in the past and has the overall experience and the community networks needed to implement the project.
4. **Project Description:** KHIB will establish a 24 hour 7 day-a-week "Hotline" with phone and website. This "Hotline" will be linked with specific enforcement agencies, local affiliates and partners and resources related to marine debris and cleanup. A trained project coordinator will take the "Hotline" reports and forward them to the appropriate KHIB local affiliates and volunteer coordinators. This KHIB network will then send an action request form to the designated response partner. Follow up information/actions will be then placed on the website for community review. To ensure the long-term success of the Hawaii Marine Debris 24 Hour Hotline's website and phone reporting, KHIB will launch an aggressive public outreach and educational campaign.
5. **Project Deliverables:**
  - a. Establishment of a Hawaii 24 Hour Marine Debris "Hotline" that includes both phone and web site access enabling Hawaii's citizens and visitors to participate in monitoring and response to impacts of general and tsunami generated marine debris.
  - b. Establishment of a long-term statewide reporting, response and recovery program to mitigate the impacts of marine debris especially the debris generated from the March 11, 2011 earthquake and tsunami in Japan as it continues to reach the State of Hawai'i.

### 6. Cost/Budget:

Anticipated Income	Status	Amount
NOAA	Pending	\$15,000.00
Corporate pledges	Pending	\$12,500.00
Private donations	Pending	\$12,500.00
<b>Total Income</b>		<b>\$40,000.00</b>

<b>Anticipated Expenses</b>	<b>NOAA</b>	<b>Corporate Pledges</b>	<b>Private Pledges</b>	<b>Amount</b>
TV Advertisements	\$3,000.00	\$2,500.00	\$2,500.00	\$8,000.00
Radio/Social Media Advertisements	\$2,000.00	\$5,000.00	\$5,000.00	\$12,000.00
Staff, call processor, operations	\$10,000.00	\$5,000.00	\$5,000.00	\$20,000.00
<b>Total Project Budget</b>	<b>\$15,000.00</b>	<b>\$12,500.00</b>	<b>\$12,500.00</b>	<b>\$40,000.00</b>

### 7. Schedule of Operations:

<b>Task</b>	<b>Start Date</b>	<b>Completion Date</b>
Setup of hotline phone, website , facebook, secure initial corporate and private pledges	Upon funding notice start immediately	4 weeks after receiving funding notice
Generation of MOU with affiliates, federal, state, county responders, plan and develop the outreach and public information; continue corporate and private fundraising	3 weeks after receiving funding notice	8 weeks after receiving initial funding
Launch of marine debris hotline and media	8 weeks after receiving funding	One year after Start date

### 8. Conservation Partners:

- a. **Federal Partners**-NOAA; USFWS; Army Corps of Engineers; EPA; US Coast Guard District 14
- b. **State Partners**-Hawaii's Department of Land & Natural Resources; Department of Health; Department of Transportation Harbors Division;
- c. **Local Partners**-County Mayors, police and fire departments, County water/ocean safety divisions; KHIB local affiliates located in each county; Hawaii Ocean Safety Team (HOST); Keep Honolulu Beautiful; Hawaii International Coastal Cleanup Network;

**9. Unmet Need:** The implementation and one-year cost of the Hawaii State Marine Debris Hotline will be a total of \$40,000. The NOAA contribution of \$15,000.00 will be matched with \$25,000 from corporate and private contributions covering program outreach and implementation. There will be ongoing fundraising during this initial year to secure the long-term program maintenance costs.

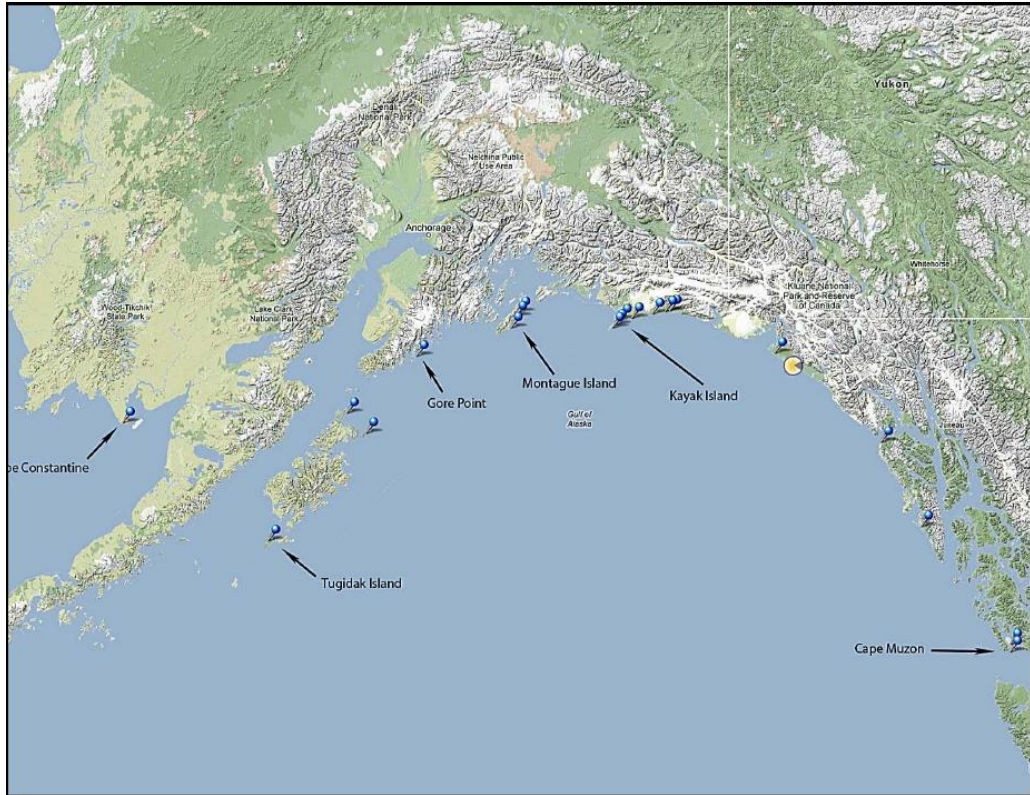
**10. Project Schedule:** The project will begin immediately upon funding.

### 11. Local Contact:

Ms. Jan Dapitan, Executive Director  
 Keep the Hawaiian Islands Beautiful  
 P.O. Box 2610, Wailuku, HI 96793

E-mail: [khib.kab@gmail.com](mailto:khib.kab@gmail.com)  
 Phone: (808) 579.9308

# Potential Alaska Projects





## **Barren Islands Japanese Tsunami Marine Debris Coastal Restoration Project**

- 1. Project Name:** Barren Islands Japanese Tsunami Marine Debris Coastal Restoration Project
- 2. Location:** Barren Islands, Alaska Maritime National Wildlife Refuge (AMNWR), Northern Gulf of Alaska.
- 3. Project Purpose:** Remove approximately up to 150-tons or 2500-cubic yards of Japanese tsunami marine debris (JTMD) and plastic legacy marine debris (MD) that endangers wildlife such as Steller sea lions, harbor seals, sea otters, shore birds and seabirds from the Barren Islands AMNWR shoreline. An immense volume of Styrofoam, urethane foam insulation and other lightweight JTMD has impacted the refuge shoreline since the winter of 2011/2012. This plastic material will break into uncountable small bits that will threaten fish and wildlife for generations unless quickly removed.
- 4. Project Description:** A rich maritime wildlife refuge, the Barren Islands refuge has collected a disproportionate amount of Asiatic-origin MD the past 50 years. Unfortunately, the 2011 Japanese tsunami more than doubled the amount of existing MD on the refuge's beaches and the influx of JTMD continues. A cleanup project planned for the Barren Islands in the summer of 2013 has been delayed until 2014 in order for cleanup crews to address the overwhelming amount of JTMD in Prince William Sound (PWS) first. GoAK's cleanup crew and volunteers will spend the entire summer of 2013 cleaning PWS beaches and then the summer of 2014 cleaning the Barren Islands. Because the amount of MD in the Barrens has at least doubled because of the JTMD, the cost of removing it will nearly double also.

The Barren Islands are a remote, but important, group of 6 islands and numerous islets in the Alaska Maritime National Wildlife Refuge. They are situated about half-way between the southwest end of the Kenai Peninsula and Shuyak Island at the northern end of the Kodiak Island archipelago. Exposed waters and the islands' remoteness make them very challenging and expensive to work upon. Cleanup crews will be housed in vessels and transported to shore each day. Debris will be removed by hand, consolidated into Super Sacks and then slung by helicopter to a transport vessel when the initial cleanup work is completed. This will be a very challenging project which will generate a great deal of public interest. National and international press will follow this cleanup project closely because of the wildlife, remote beauty, and difficult conditions.

In addition to the Barren Island cleanup, this project will also use volunteers to re-clean three MD monitoring sites in the Gore Point region and another beach on Elizabeth

Island, the site of an ongoing plastic MD toxicity study. The Gore Point MD monitoring project is part of an extensive 8-year ongoing Gulf of Alaska MD monitoring project.

- 5. Deliverables:** 20-25 miles of coastline, 2.6 to 4.4 million-square yards or up to 909 acres of coastal habitat cleaned and rehabilitated. 100 to 150 tons, or up to 2500-cubic yards, of JTMD and legacy plastic MD and hazardous material removed.

**6. Cost/Budget:**

Task	Estimated Cost	Status
MD cleanup (Cash)	\$417,000	By Partners
MD cleanup (In-Kind)	\$130,000	By Partners
MD cleanup	\$400,000	Unmet Need
<b>Total</b>	<b>\$947,000</b>	

**7. Schedule of Operation:**

Task	Start Date	Completion Date
Update JTMD aerial survey	May-June 2013	August 2013
Permitting	March 2013	April 2104
MD cleanup	May 2014	September 2014
MD transport/disposal	August 2014	September 2014
Elizabeth Isl. MD research	July 2014	ongoing
Gore Point MD monitoring	July 2014	ongoing
Barren Isl. MD monitoring	July 2015	ongoing

**8. Conservation Partners:**

1. NGO Partner: Island Trail Network, Kodiak Alaska; Center for Alaskan Coastal Studies, Homer, Alaska.
2. Private/Corporate: Airborne Technology, Inc.
3. Universities: University of Alaska Anchorage; The College of William and Mary
4. Federal/State Agencies: Exxon Valdez Oil Spill Trustee Council; National Fish and Wildlife Service; NOAA; Alaska Department of Environmental Conservation.

**9. Unmet Need:** \$400,000

**10. Projected Start Date:** May 1, 2014.

**11. Local Contact Information:** Chris Pallister, [chris@goak.org](mailto:chris@goak.org), Gulf of Alaska Keeper, 5933 E. 12<sup>th</sup>. Avenue, Anchorage, AK 99504, Off: 907-345-0166, Cell: 907-632-1952

## Kenai Fjords National Park and Vicinity Marine Debris Cleanup

**Project Name:** Kenai Fjords National Park and Vicinity Marine Debris Cleanup

**Project Location:** Kenai Peninsula Borough, Kenai Fjords National Park

**Project Purpose:** The beaches in and around Kenai Fjords National Park collect large amounts of marine debris due to the prevailing winds and currents in the Gulf of Alaska: a 2009 cleanup of approximately 8 miles of beach in the park removed more than 9 tons of debris. The aftermath of the 2011 Japanese tsunami is predicted to bring many more tons of debris to this remote Alaskan coastline. This debris poses direct threats to marine organisms and their habitat, and also seriously degrades the visitor experience for those seeking a pristine coastal experience. The purpose of this project is to improve this coastal area by removing as much debris from as many of these beaches as possible and to raise awareness of the marine debris issue both locally and globally.

**Project Description:** This project will combine the efforts and expertise of public and private partners to achieve clean-up of several of the most highly impacted beaches in a region stretching from western Prince William Sound to Nuka Island. A number of the beaches have been cleaned annually for the past four years through a partnership between the Resurrection Bay Conservation Alliance and National Park Service, providing an excellent baseline to measure increased influx of tsunami debris and inform the Pacific Coast. Other beaches contain a historical load of debris from decades of accumulation. For all beaches, there is an anticipated arrival of an increased debris load associated with the Japanese tsunami of 2011. The partners include Safe Ocean Services, who has made their vessels available for hauling debris at reduced cost; the Resurrection Bay Conservation Alliance, who has agreed to coordinate volunteer labor with years of marine debris experience; the National Park Service, who will provide logistical support, conduct environmental compliance, and photo and video document the cleanup efforts; and Port Graham Corporation, a major landowner in the affected areas, who will provide use of cabins for housing cleanup crews if necessary. Alaska State Parks and U.S. Fish and Wildlife Service, two other land management agencies in the affected area, are anticipated future partners. It is projected that at least 10 and perhaps as many as 25 miles of beach will be cleaned, with many tons of debris removed.

**Project Deliverables:**

- Several tons of marine debris that has been removed, weighed, and catalogued
- Marine debris data contributing to national databases
- Video and photo documentation of cleanup efforts

**Cost/Budget: (Based on 13 days of operations—most costs scalable by day)**

ITEM	ESTIMATED COST	PROVIDED IN KIND	UNMET NEED
Vessel Operations	\$156,690	\$48,630	\$108,060
Labor	\$73,110	\$73,110	
Cultural Resource Specialist	\$4,700	\$4,700	
Archeologist	\$5,205	\$5,205	
Videographer/Photographer	\$4,930	\$4,930	
Director	\$11,350	\$11,350	
Supplies and Equipment	\$700		\$700
Event Insurance and other administrative costs	\$3,150		\$3,150
Housing	\$845	\$845	
<b>TOTAL</b>	<b>\$260,680</b>	<b>\$148,770</b>	<b>\$111,910</b>

**Schedule of Operations:**

Task	Start Date	Completion Date
Identify target beaches	March 2013	April 2013
Mobilize cleanup crews	May 2013	September 2014

**Conservation Partners:**

Local Partner -Resurrection Bay Conservation Alliance Local Partner -Safe Ocean Services, LLC  
 Federal Partner -Kenai Fjords National Park Native Corporation Partner -Port Graham Corporation

**Unmet Need: \$111,910**

**Project Schedule:** Project can proceed promptly if unmet need is satisfied

**Local Contact:**

Sharon Kim, Chief of Resource Management Kenai Fjords National Park  
 PO Box 1727 Seward, AK 99664  
 Office: (907) 422-0502  
[Sharon\\_Kim@nps.gov](mailto:Sharon_Kim@nps.gov)



## SW-SE Alaska Marine Debris Cleanup Project

### 1) Project Name:

Southwestern Southeast Alaska Marine Debris Cleanup Project

### 2) Location:

We will clean marine debris from the southwestern corner of Southeast Alaska within a rectangle approximately 90 miles long by 55 miles wide, running north and west from the SE corner at Cape Chacon, the southern tip of Prince of Wales Island, on Dixon Entrance.

This coastline is extremely remote, containing just 3 small communities. Access is mostly by water, with beaches requiring up to 40 miles of boat travel often in exposed, open, ocean.

### 3) Project Purpose:

To protect traditional areas of marine harvest for residents, and to reduce the impacts of marine debris on important breeding and feeding areas for marine mammals and sea birds by inventorying, collecting, removing and disposing of concentrations of marine debris. .

### 4) Project Description:

Large amounts of plastic and fishing gear have washed up on our coastline for decades. Recently an influx of debris from the tsunami in Japan is also ending up on the beaches.

The region includes the Forrester Island complex, part of the Alaska Maritime National Wildlife Refuge. It contains huge colonies of nesting marine birds as well as harbor seals, sea otters, California sea lions, northern fur seals, humpback and killer whales, and the largest breeding population of Steller sea lions in the world.

Coastlines throughout the region are used for fishing and collection of plants and invertebrates important for traditional diet and subsistence harvest, as well as being important for populations of marine mammals and sea birds.

The three organizations listed here are currently working to remove marine debris from the shorelines west of the communities of Hydaburg and Craig, Alaska.

- The Hydaburg Cooperative Association is developing a monitoring and cleanup plan for their hereditary homeland. They have begun regional inventory and cleaned beaches at the harbor. They will begin monitoring and cleaning remote beaches this summer.
- Island Charters has been cleaning marine debris from shorelines around Craig, AK for many years, working under grants from the Alaska Marine Stewardship Foundation. They cleaned 20,000 pounds of debris off remote beaches last year.
- The Alaska Department of Fish and Game, studies threatened Steller sea lions on Lowrie Island every summer. During the past 4 seasons, crew members have inventoried and collected marine debris throughout the Forrester Island complex. We've concentrated on collecting and removing debris from the rookery on Lowrie Island but, in 2013, we intend to remove more debris from Forrester and Petrel Islands.

The local landfill is being overwhelmed by the volume of marine debris collected. In order to dispose of the material collected,, we are being forced to ship much of the collected material to the lower 48 for disposal.

### 5) Deliverables:

Coastal cleanup events will be scheduled for areas of concentration of marine debris throughout the region. Staff will coordinate vessels, volunteers, and contractors, in collecting, inventorying, removing, and disposing of the marine debris collected.

Island Charters has been averaging 20,000 pounds per year, filling four 40 foot containers. We estimate similar volumes from the other groups in the summer of 2013 for a total 12 containers with approximately 50% of the volume being Styrofoam.

**6) Cost/Budget (including estimates of in-kind contributions):**

<b>Task</b>	<b>Estimated Cost</b>	<b>Status</b>
Inventory of marine debris	ADF&G \$6900	Continuing process by Project partner groups
	Island Charters \$5000	
	Hydaburg Coop. Assoc. \$15,000	
Collection of debris and transport to collection centers	ADF&G \$13,650	Summer 2013 by Project partner groups
	Island Charters \$25,000	
	Hydaburg Coop. Assoc. \$20,000	
Sorting, inventory, and storage of debris	Island Charters \$30,250	Summer and fall 2013 by Project partner groups
	Hydaburg CA \$24,000	
Shipping and disposal of collected material	Shipping and disposal fees for a dozen 40' containers \$60,000	Unmet Need
	Styrofoam densifier \$40,000	
	300 Super Sacks \$ 4,000	

**7) Schedule of Operations:**

Cleanup events are being scheduled throughout the summer of 2013 and we hope to continue this into the future. The major limiting factor is currently disposal of the debris collected.

**8) Conservation Partners (including federal and state agencies and NGOs):**

- **Government entities:** Hydaburg Cooperative Association, Alaska Department of Fish and Game, NOAA, U.S. Fish and Wildlife Service, cities of Craig and Hydaburg, AK
- **NGO's:** The Nature Conservancy, People in Places, Alaskans for Litter Prevention and Recycling, Marine Conservation Alliance Foundation, Island Charters

**9) Unmet need (the portion of the project to be covered by the CWRP partner);**

- Shipping and disposal of marine debris at an estimated cost of \$5000 per 40 ft container plus Super Sacks to allow easy separation of debris types while sorting and shipping.
- Another option may be to purchase a Styrofoam densifier to reduce volume by 90%, while creating a recyclable product. If 50% of our volume continues to be Styrofoam, and we can purchase a densifier for \$35,000 plus shipping, it might pay off in a few years. More research needs to be done to see if these machines can process Styrofoam containing, the moisture, marine growth, and grit we find in our marine debris.

**10) Project Schedule or projected start date;**

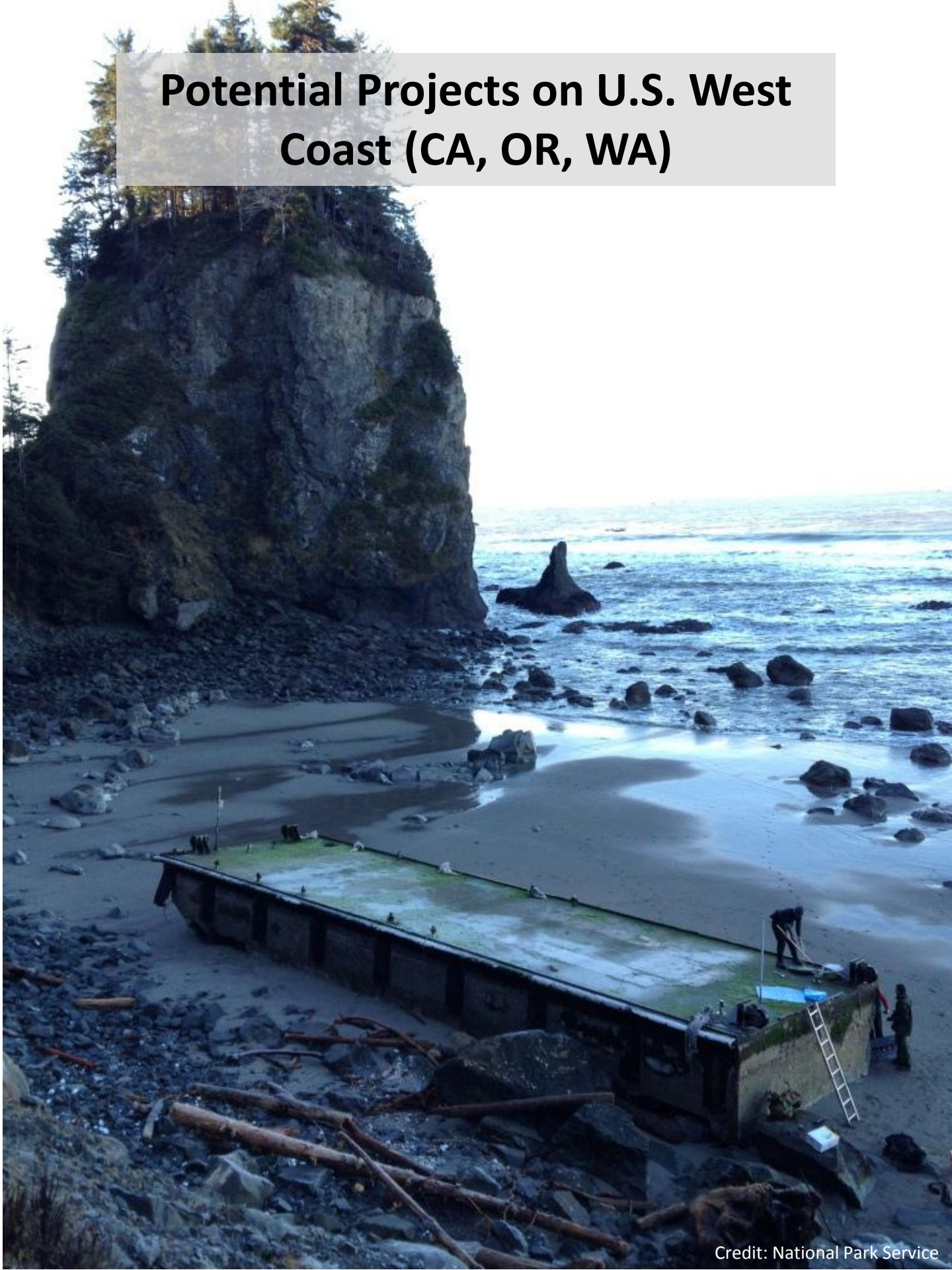
Starting in Summer, 2013 and ongoing.

**11) Local project contact information.**

Steve Lewis, ADF&G, Lowrie Island Coordinator  
 PO Box 53  
 Tenakee Springs, AK 99841  
[tenakeetwo@yahoo.com](mailto:tenakeetwo@yahoo.com)  
 (907) 736-2405 (home) 738-4205 (cell)  
 Until May 15, and after July 20

Kathy Peavey, Island Charters  
 PO Box 442  
 Craig, AK 99921  
[peavey@aptalaska.net](mailto:peavey@aptalaska.net)  
 (907) 826-3856 (home) 401-0790 (cell)  
 May 15 through July 20

# Potential Projects on U.S. West Coast (CA, OR, WA)





## Removal of the Misawa Dock Grounded at Olympic National Park

**1. Project Name: Japanese Tsunami Misawa Dock Removal from Olympic National Park**

**2. Project Location: Olympic National Park, Washington State**

**3. Project Purpose:**

A 188 ton concrete dock washed ashore on a remote beach within Olympic National Park, Washington on December 17, 2012. The dock was positively identified as originating from the fishing port of Misawa during the March 11, 2011 Tōhoku Tsunami. A multi-agency team led by staff from Olympic National Park (OLYM) including scientists from the National Science Foundation Japanese Tsunami Marine Debris Invasive Species Team (NSF Team) conducted site reconnaissance, non-native species sampling, and dock decontamination. The team identified a total of 63 living Japanese species, 10 of which are known non-native invasive species. The remnant macro-fouling community was removed or killed by the Team; however, the dock remains onsite while the agencies develop a plan for removal. Although the dock was decontaminated, the potential exists for pathogens or non-native species to still live in the tanks and crevices within the dock. The dock is constructed of pre-stressed Styrofoam encased in concrete. The entire dock contains approximately 200 cubic yards of pre-stressed Styrofoam, enough to coat a football field to 1 inch depth. The dock needs to be removed as soon as possible before it refloats and damages other areas, or breaks up and contaminates the coastal wilderness of OLYM. The Japanese government has generously provided some funds to remove marine debris from the Tsunami. State and federal agencies are also contributing to the removal of the dock. The purpose of this proposal is to seek additional funds for removal of the entire dock.

**4. Project Description:**

This project will contribute towards protection of the OLYM coastal wilderness by removing the Japanese dock. The coastline of OLYM is the longest stretch of wilderness coastline in the lower 48 states and was designated a UNESCO Biosphere Reserve in 1976. This coast hosts one of the most diverse assemblages of intertidal organisms on the west coast of North America, with more than 750 species of marine invertebrates and macroalgae (seaweeds) inhabiting its diverse intertidal habitats. Most of the OLYM intertidal zone also falls within the boundary of the Olympic Coast National Marine Sanctuary (OCNMS). The dock is a threat to the coastal wilderness of OLYM and to the OCNMS as a structure that could physically damage the shoreline, as a source of contaminants and debris, and as a source of non-native species.

Weighing 188 tons, the dock is constructed of pre-stressed Styrofoam encased in a cage of rebar and stainless steel, itself encased in concrete. Eighteen vertical black rubber fenders (~150 lbs each) and 14 horizontal white rubber bumper strips (~75 lbs each) protect the length sides of the dock. Manhole covers and ladders at each end of the dock access large holds (~152 ft<sup>2</sup>). The entire dock contains approximately 200 cubic yards of pre-stressed Styrofoam, enough to coat a football field to 1 inch depth.

The dock, one of four lost from Misawa, Japan in March 2011 tsunami, is a notable marine debris object not just because of the size and potential source of debris but also because of the potential for the introduction of non-native species. Unlike debris from onshore areas that was washed out to sea by the tsunami, the Misawa docks included an intact marine community of native organisms from the Misawa harbor. For example, the Misawa dock that washed ashore at Agate Beach, OR in June 2012 was at sea for 452 days yet still contained 117 living species from Japanese waters, 26 of which are known to have been successfully introduced outside of Japan. The NSF Team identified 63 living Japanese species from the dock in OLYM. The dock was

decontaminated by the reconnaissance team; however, the potential still exists that some species or pathogens remain on or in the dock structure. Any introduction of non-native and potentially invasive marine species would be a great threat to the significant national marine resources of OLYM.

Working with other state and federal agencies, we propose to remove the dock as soon as feasible during winter months. NOAA has received tentative cost estimates for removal and will be awarding a contract with OLYM for removal soon. NOAA, NPS and the Japanese government are contributing towards the removal of the dock and have personnel who have worked long hours to decontaminate and secure the dock. The costs, though, are higher than the agencies can absorb under current shrinking federal budgets.

**5. Project Deliverables:**

- Protection of coastal wilderness of OLYM and of the OCNMS waters.
- Removal of dock that has the potential to damage the intertidal habitat, to refloat and damage other areas, to be a navigational hazard, and introduce invasive non-native species.

**6. Cost/Budget:**

Tasks	Estimated Cost	Status
Partial dock removal	\$450,000	To be completed by partners and contractors
Full project completion	\$200,000	Unmet Need
<b>Total</b>	<b>\$650,000</b>	

**7. Annual Schedule of Operations, 2013:**

Task	Start Date	Completion Date
Dock removal	March-April 2013	June 2013

**8. Conservation Partners:**

- Federal Partners – DOI: National Park Service, DOC: NOAA, National Marine Sanctuaries
- State Partners – Washington Department of Fish and Wildlife
- International Partners – Japanese government

**9. Unmet Need:**

Under the current budget status, the agencies are unable to financially meet the full amount to remove the dock. The agencies are considering fall back actions if unable to remove the entire dock, but those actions would leave the park at risk to damages from contamination habitat alteration, exposure to invasive species, and abandonment of a man-made structure in congressionally designated wilderness. With \$200,000 from a CWRP the NPS and NOAA would be able to remove the entire dock.

**10. Project Schedule:**

The project will begin within 1-2 months depending on weather and logistics.

**11. Local Contact:**

Louise Johnson, Chief of Natural Resources, Olympic National Park  
 Phone: (360) 565-3060, Email: louise\_johnson@nps.gov

Sarah Allen, Pacific West Region, National Park Service  
 Phone: (415) 623-2202, Email: sarah\_allen@nps.gov

## Surveillance for non-native aquatic species from the Japanese Tsunami Misawa Dock at Olympic National Park

### 1. Project Name:

Surveillance for non-native aquatic species from the Japanese Tsunami Misawa Dock that grounded at Olympic National Park

### 2. Project Location:

Olympic National Park, Washington State

### 3. Project Purpose:

A 188 ton concrete dock of Japanese origin washed ashore on a remote beach within Olympic National Park (OLYM), Washington State on December 17, 2012. The dock was positively identified as originating from the fishing port of Misawa during the March 11, 2011 Tōhoku tsunami. A multi-agency team led by staff from OLYM and including scientists from the National Science Foundation Japanese Tsunami Marine Debris Invasive Species Team (NSF Team) conducted site reconnaissance, non-native species sampling, and dock decontamination. Because of its remote location and limited low tides allowing access, more than 95% of the attached biota was released into the intertidal waters of OLYM before decontamination could be implemented. To date, a total of 63 living Japanese species have been identified from the Misawa dock, 10 of which are known invasives species. While most of the organisms shed into the marine environment are not expected to survive, the potential for biological invasion from the Misawa biota exists. The NSF Team removed the remaining marine organisms on the dock. To ensure no non-native species become established, though, the park needs to intensively monitor the area for a few years.

The purpose of this proposal is to:

1. Conduct surveys to identify taxonomically any non-native aquatic species in the area of the dock grounding.
2. Document the areal extent of non-native aquatic species in the area of the dock grounding.

### 4. Project Description:

This project will document presence/absence and areal extent of non-native aquatic species in the area of the dock grounding. A team of experts from Oregon State University will identify taxonomically any non-native species. The Japanese dock is a notable marine debris object because of the size and potential for the introduction of non-native species. Unlike most terrestrial origin marine debris released into the ocean from the Japanese tsunami of 2011, the Misawa docks were in marine waters of Misawa harbor and had Japanese organisms attached. The Misawa dock that washed ashore at Agate Beach, OR was at sea for 452 days and contained 117 living Japanese species, 26 of which have been successfully introduced outside of Japan. By contrast, the Misawa dock was at sea for 647 days.

The coastline of OLYM is the longest stretch of wilderness coastline in the lower 48 states and was designated a UNESCO Biosphere Reserve in 1976. This coast hosts one the most diverse assemblages of intertidal organisms on the west coast of North America, with more than 750 species of marine invertebrates and macroalgae (seaweeds) inhabiting diverse intertidal habitats. Most of the OLYM intertidal zone also falls within the boundary of the Olympic Coast National Marine Sanctuary (OCNMS). Any introduction of non-native and potentially invasive marine species would be a great threat to these significant national marine resources.

To date the NSF Team has identified 63 living Japanese species from the Misawa dock in OLYM, 10 of which have been successfully introduced outside of Japan. More than 95% of the non-native organisms aboard the dock were deposited into the OLYM intertidal zone by surf action before full decontamination could be implemented. The fate and survival of these organisms is unknown, though most are not expected to survive because of the harsh, wave-swept environment of the OLYM coast. The combination of sand, gravel and wave action effectively stripped the exposed surfaces of the dock. However, potential refugia do exist near the dock landing site, and some Japanese species (or pathogens associated with them) could

invade the OLYM coast. The procedures for dock removal also may release organisms. A monitoring program is needed immediately to detect potential biological invasions from the dock community.

We propose to monitor intensively the grounding site for non-native species for a period of five years. We will target specific habitats and known species that were on the dock. The sampling would occur at 0 year (i.e. this summer), 1 year, 2 year, and 5 year post grounding for a total of four surveys. The survey area would include likely colonization areas at and near the grounding site. Oregon State University will provide a group (3-5) of taxonomic experts. Specific protocols will be developed with the NSF Team to ensure quality control and assurance measures are achieved, and they have developed a protocol for identifying and sampling for non-native species.

**5. Project Deliverables:**

- Annual summary report of surveys and any taxonomic identification of non-native species.
- Documentation of non-native species with photographs and maps.

**6. Cost/Budget:**

Tasks	Estimated Cost	Status
Dock removal	\$500,000	Completed by Partners
Monitor for invasive marine species 4 Survey years at @ \$12,000/year	\$48,000	Unmet Need
NPS field staff, data management and supplies	\$10,000	2013-2014 NPS and Partners
<b>Total</b>	<b>\$558,000</b>	

**7. Annual Schedule of Operations, 2013, 2014, 2015,- 2018:**

Task	Start Date	Completion Date
Dock removal	March-April 2013	June 2013
Survey annually	Summer tide dependent	July 2018
Data management	April 2013	December 2018
Annual field report	April	July

**8. Conservation Partners:**

- Federal Partners – DOI: National Park Service, DOC: NOAA, National Marine Sanctuaries
- State Partners – Washington Department of Fish and Wildlife
- Academic: Oregon State University, Williams College

**10. Unmet Need:**

The park can provide logistical support, some field support and data management but does not have the expertise to identify non-native species in the field. Oregon State University has experts to identify species. The unmet need will cover their personnel and travel costs for four annual visits, each of which will take five days to complete.

**11. Project Schedule:**

Sampling should occur during a 5-day summer low tide series, where tidal elevation is <-1.0 ft to allow for adequate substrate exposure and sampling time.

**12. Local Contact:**

Steven Fradkin, Marine Ecologist, Olympic National Park  
Phone: (360) 928-9612, [steven\\_fradkin@nps.gov](mailto:steven_fradkin@nps.gov)

Sarah Allen, Pacific West Region, National Park Service  
Phone: (415) 623-2202, Email: [sarah\\_allen@nps.gov](mailto:sarah_allen@nps.gov)



**Oregon's Volunteer-based Tsunami Debris Response**  
OREGON MARINE DEBRIS TEAM

- 1) **Project Name:** Oregon's Volunteer-based Tsunami Debris Response
- 2) **Location:** Entire length of the Oregon coast
- 3) **Project Purpose:** In 2012, the Oregon Marine Debris Team (OMDT) was formed as a collaborative effort to leverage resources and volunteers in addressing Japanese tsunami marine debris (JTMD). The OMDT, made up of CoastWatch, the Washed Ashore Project, SOLVE, Surfrider Foundation, and OSU's Oregon Sea Grant, has a mission to protect Oregon's beaches from marine debris by engaging Oregonians in stewardship, education, science and monitoring. The OMDT has been the volunteer engagement lead for the State in planning for and dealing with JTMD, but has had limited success at securing funding to support expanded cleanups and monitoring. The purpose of this project is to increase on-the-ground cleanup and monitoring activities in Oregon. Much of the hard costs associated with large JTMD removal are being met, but the recruitment and continued coordination of volunteers and the planning and implementation of beach clean-ups for smaller debris is not being funded.
- 4) **Project Description:** This project, which would be a combination of the categories *Small Debris Removal* and *Detection/Monitoring*, will expand Oregon's capacity to deal with JTMD and long-term marine debris. Specifically, the project will increase the number of cleanups happening in Oregon in 2013-2014, will expand monitoring locations in Oregon, and will coordinate data collection to establish a baseline of marine debris in Oregon. Particular clean-up events will provide opportunities for corporate sponsors to connect with highly visible public activities in demonstrating their support for the stewardship efforts of the Oregon Marine Debris Team.
- 5) **Deliverables:**
  - 50 cleanups per year in 2013 and 2014
  - Coordination and training of volunteers in Oregon
  - Expand monitoring sites coast-wide
  - Coordination of data collection from data cards and monitoring
- 6) **Cost/Budget (including estimates of in-kind contributions)**

TASK	ESTIMATED COST	STATUS
Initial monitoring sites	\$35,000	Funded by partners
Data Management	\$10,000	Unmet need
Volunteer recruitment and oversight	\$10,000	Unmet need
Beach Cleanups (50+/year)	\$15,000	Unmet need
Build local capacity for response to marine debris	\$10,000	Funded by partners
Expanded monitoring	\$10,000	Unmet need

## 7) Schedule of Operations

TASK	Start Date	Completion Date
Monitoring	9-2012	9-2014
Data Management	6-2013	Ongoing
Volunteer recruitment and oversight	6-2013	Ongoing
Beach Clean-ups (50/year)	6-2013	6-2014
Supporting capacity for local response	3-2013	Ongoing

## 8) Conservation Partners (including federal and state agencies and NGOs)

Federal Partners: National Oceanic and Atmospheric Administration, Bureau of Land Management, and the U.S. Forest Service

State Partners: Oregon Emergency Management, Oregon Department of Environmental Quality, Oregon Parks and Recreation Department, and Oregon Department of Fish and Wildlife

Other Partners: Lions Clubs and Pacific States Marine Fisheries Commission

Oregon Marine Debris Team Members: CoastWatch, Surfrider Foundation, Washed Ashore, SOLVE, and Oregon Sea Grant

**9) Unmet need (the portion of the project to be covered by the CWRP partner):** The volunteer recruitment and oversight, data management, and beach clean-ups (\$45,000)

**10) Project Schedule or projected start date:** Project can proceed promptly if unmet need is satisfied.

## 11) Local project contact information

Jamie Doyle  
Sea Grant Extension Agent  
Oregon State University  
631 Alder St.  
Myrtle Point, OR 97458  
541-572-5263 x288 office  
541-297-4227 cell

Charlie Plybon  
Oregon Field Manager  
Surfrider Foundation  
oregon.surfrider.org  
541-867-3982 office  
541-961-8143 cell

## SOLVE Oregon Coast Tsunami and Small Marine Debris Project

**Project Name:** Oregon Coast Tsunami and Small Marine Debris Project

**Location:** Entire length of Oregon Coast

**Project Purpose:** Increasing volunteerism to remove small marine and tsunami debris from the entire stretch of Oregon coastline is the main focus of this project. As part of SOLVE's two coast-wide beach cleanups each year, we also support community-lead beach cleanups year-round. Based on trends from the past three years and anecdotal evidence indicating that marine debris in 2012 was higher than previous years, we anticipate the need for an increased level of volunteerism to support three beach cleanups as part of this project. Two Spring Beach Cleanup events (March 2013 and 2014) plus the 2013 Fall Beach & Riverside Cleanup are included in this request.

In response to what is becoming an unprecedented amount of marine debris in Oregon, SOLVE has taken initial steps to more actively engage and empower coastal citizens to respond as needed to this problem. This project will put SOLVE staff in direct contact with coastal communities to help them better prepare for the twice-annual beach cleanup events, as well as other marine and tsunami debris events that need an immediate response.

In 2012 alone the two beach cleanup events drew over 8,100 volunteers who collected almost 125,000 pounds of trash and debris for proper disposal of which well over 1,000 pounds was recycled. Larger items such as tires, mattresses and box springs, coolers, barbecues and much more were collected from our natural landscapes. In addition, more than five acres of non-native plants were cleared to make the land available for native plant installations.

**Project Description:** This project will focus on providing one-on-one assistance to 17 Zone Captains to meet the needs of their community cleanup efforts. More than 50% of our Zone Captains are Oregon Parks and Recreation Department staff. Two U.S. Forest Service staff are also Zone Captains. This group of dedicated volunteers will receive guidance, resource materials and project supplies to help make their work of increasing volunteerism successful. In addition, SOLVE provides bags, sharps containers, tongs, flyers and press releases to help local communities spread the word about Oregon's coastal stewardship opportunities. Thanks to our partnership with *Local Coast Haulers*, SOLVE is able to arrange for free pickup and disposal and recycling of the debris collected by volunteers. The beach cleanups epitomize collaboration and partnership for the sake of our coastlines and communities. Through these collaborations we anticipate increasing the number of volunteers at each event by 10%.

The most common item reported up and down the coast is bite-sized pieces of plastic. Some types of plastic may never fully degrade, but instead break down into smaller and smaller pieces which can threaten the health of birds, turtles and marine mammals if ingested. Other common items reported included cigarette butts (which also contain plastic), bottle caps, bags, ropes, Styrofoam, and tires. This project will educate volunteers about the ways in which their actions can prevent these types of debris from every reaching the ocean.

**Deliverables:**

- a. clean and healthy Oregon beaches for both people and wildlife
- b. empowered volunteers who are committed to long-term stewardship of Oregon's beaches
- c. collaborative efforts between SOLVE, communities, coastal citizens and the project partners listed below for long-term coastal stewardship

d. increased tourism and revitalized local economies

**Cost/Budget:**

Task	Estimated Cost	Status
Zone Captain and key volunteer support and training	\$60,000	Unmet Need
5000 small debris collection bags	\$2,500	Completed by Partner orgs
Volunteer materials/supplies	\$1,000	Covered by project sponsors
Collateral design/printing/dist.	\$5,000	Covered by project sponsors
Travel	\$2,500	Covered by project sponsors

**Schedule of Operations:**

Task	Start Date	Completion Date
Zone Captain train'g/support	3 mos in advance of each event	Event date
Volunteer recruitment	2 mos in advance of each event	Event date
Road trip for personal ZC support; supply delivery	1 mos in advance of each event	Event date

**Conservation Partners:**

- Surfrider Foundation
- Local Coast Haulers
- Oregon Parks & Recreation Department
- U.S. Forest Service

**Unmet Need (CWRP funding):**

Support and training of 17 Zone Captains and their key volunteers to provide resource materials, project supplies, press releases and training and project support.

**Project Timeline:**

Project planning is currently underway. The 2013 Spring Beach Cleanup is scheduled for March 30<sup>th</sup>; 2013 Beach and Riverside Cleanup will take place September 28<sup>th</sup>; and the 2014 Spring Beach Cleanup date is yet to be determined.

**Local Project Contact:**

Briana Goodwin  
Program Coordinator / Tsunami Debris Response Coordinator  
SOLVE  
2000 SW 1<sup>st</sup> Ave., Suite 400  
Portland, OR 97201  
503-844-9571, ext. 317  
[briana@solv.org](mailto:briana@solv.org)

**Oregon Shores Conservation Coalition CoastWatch Program – Monitoring  
for Marine Debris**

**Project Name:** Monitoring for Tsunami Debris and Other Marine Debris in Remote Areas

**Location:** Entire Oregon Coast

**Project Purpose:** CoastWatch is the only program in the United States through which the citizens of a state have adopted its entire coastline. CoastWatch “mile adopters,” some 1,300 strong, keep watch for a wide range of things, both natural changes and human impacts. Marine debris is one of the potential impacts for which CoastWatchers monitor. With the impending threat of tsunami debris intensifying this concern, CoastWatch seeks to step up its efforts to organize and train volunteers to survey the entire Oregon coast and participate in cleanups. CoastWatch has co-founded the Oregon Marine Debris Team with four other organizations. The OMDT is applying for CWRP support separately, and this proposal is not meant to conflict with that (should there be any conflict, we would defer in priority to the OMDT). However, CoastWatch’s special role is to supply volunteers to monitor the shoreline, for tsunami debris specifically and marine debris generally and especially to make sure that the more remote and/or rugged areas of the coast are monitored. The proposal here is to increase CoastWatch’s capacity to recruit, organize and train coastal monitors and survey the more difficult-to-cover portions of the coast on behalf of the OMDT.

**Project Description:** This project will expand CoastWatch’s capacity to work intensively with volunteers to monitor the entire shoreline, and especially remote areas, and thus to provide infrastructure for the Oregon Marine Debris Team, within which CoastWatch is a partner. We are well aware that this does not fit well with holding individual activities that corporations can sponsor—but ongoing monitoring is a fundamental need to support cleanup efforts. We will hold several special events which could be sponsored—expeditions to monitor the entire Oregon Dunes National Recreation Area, the very rugged Boardman State Park, and several of the state’s headlands. These special projects could be individually sponsored activities and promoted as special events.

**Deliverables:** 1) Entire CoastWatch volunteer base informed about and alerted to tsunami debris; 2) Five special public education events concerning tsunami and other marine debris (also serving as recruitment opportunities); 3) Five special marine debris monitoring expeditions to remote areas, including support for those monitoring from the sea and visiting remote beaches via mountaineering techniques; 4) At least 100 reports by CoastWatch volunteers on debris conditions in remote areas; 5) Improved quality of CoastWatch monitoring for marine debris in the long term through the heightened training provided by this project.

**Cost/Budget:**

<b>Task</b>	<b>Estimated Cost</b>	<b>Status</b>
Personnel—Volunteer Coordinator	\$41,400	\$20,700 still unmet
Personnel—other staff involved in training	\$13,040	Unmet need
Travel	\$13,000	\$5,500 still unmet
Facility Rental	\$2,500	\$1,500 unmet
Equipment/vehicle rental	\$2,000	Unmet need
Printing and communications for project	\$1,000	Unmet need
Office (including printing and communications)	\$1,200	CoastWatch budget
Administration	\$3,700	CoastWatch budget
Conduct beach cleanups (>1000 hours)	~\$20,000	In-kind value of volunteer activity
Organizing costs for remote area surveys	\$10,000	Unmet need
Evaluation services	\$4,500	In-kind contribution
<b>Total CoastWatch Project Budget</b>	<b>\$112,340</b>	<b>\$40,700 Unmet Need</b>

The project will mobilize a large amount of volunteer time; a minimum estimate is 1,000 hours. Latest national estimates are that the value of an hour of volunteer time is \$21.79; a slightly older estimate for Oregon put it at \$18.85. Evaluation services will be contributed by Cedar Lake Research LLC, a firm that specializes in project design and evaluation and data analysis.

**Schedule of Operations:** Monitoring needs to be done on a continuous basis; CoastWatch is active year-round, with volunteers checking on their adopted miles at least quarterly. The present project would ramp up those activities to meet the increased need. CoastWatch is already an active program. This proposal would enable the program to increase its current half-time volunteer coordinator position to meet the needs of this special marine debris project, and cover the costs of a great increase in travel, facility rental, equipment, and other related costs. But with the basic program in place, CoastWatch can gear up to expand marine debris monitoring and tsunami cleanup activities quickly and smoothly. Again, we recognize that monitoring such as this does not fit well with corporate support for discrete events, but ongoing monitoring underpins the type of cleanup project represented by the OMDT. CoastWatch as a whole is a unique resource, and we seek funding for the program's coastwide monitoring services.

**Conservation Partners:** As stated earlier, CoastWatch (and parent group Oregon Shores) is a partner in the Oregon Marine Debris Team, which also includes Surfrider, SOLVE, Washed Ashore and Oregon Sea Grant. We will work in close partnership with these groups. It should be stressed that nothing proposed here replaces the tsunami debris organizing and cleanup project proposed by the OMDT. Rather, the present proposal would enable CoastWatch to increase its own volunteer infrastructure in order to participate much more effectively in the OMDT effort, and especially to assure thorough coverage of remote and difficult-to-reach areas, where debris may accumulate and where impacts to wildlife and habitats may be most threatening. In addition to the OMDT partners, we will work closely with the Oregon Parks and Recreation Department, the Coast Guard, the U.S. Forest Service, the U.S. Bureau of Land Management, and the U.S. Fish and Wildlife Service, as well as the Oregon Department of Fish and Wildlife.

**Unmet Need:** The proposed budget is what is needed to enable CoastWatch to conduct more intensified monitoring for marine debris, particularly in remote areas. The existing CoastWatch budget of about \$51,000 supplies the basic foundation for the program; the budget described here covers the unmet needs to take CoastWatch to this higher level.

**Project Schedule:** The work proposed here could start almost immediately. The marine debris work would run continuously for the coming year. Special monitoring initiatives such as those described here (conducting a survey of the entire Oregon Dunes area, for instance) would take place during the summer and fall, to avoid dangers associated with severe weather. While this proposal is for one-year support, CoastWatch (already an 18-year-old program) will continue with its monitoring activities in the future.

**Contact information:** Phillip Johnson, Executive Director, Oregon Shores Conservation Coalition, P.O. Box 33, Seal Rock, OR 97376; (503) 754-9303; [phillip@oregonshores.org](mailto:phillip@oregonshores.org).

# California Thank You Ocean Campaign Initiative to Expand Japan Tsunami Marine Debris Outreach and Cleanup Efforts in CA

**1. Project Name:** Joint Initiative to Expand Japan Tsunami Marine Debris Outreach and Cleanup Efforts in CA

**2. Location:** California Coast and Beaches

### **3. Project Purpose**

The National Marine Sanctuary Foundation in partnership with the [California Thank You Ocean \(TYO\)](#) campaign and the [California Coastal Commission \(CCC\)](#) is seeking funding to fill a critical role by providing outreach and education and coordinating with local volunteer organizations to safely and effectively assist in the cleanup of marine debris along California's coast generated from the 2011 Japanese earthquake and subsequent tsunami. Communities along the West Coast are already seeing early signs of Japan tsunami marine debris (JTMD). The purpose of this project is to ensure that Californians are organized and prepared to respond to the potential influx of Japanese tsunami marine debris and aims to support local communities as they will be the most affected and largely responsible for JTMD cleanup.

### **4. Project Description**

The TYO campaign, in partnership with the CCC, will effectively leverage each other's resources to conduct JTMD outreach and education, as well as engage and support more volunteer beach cleanups. TYO is an outreach campaign supported by the State of California, the NOAA Office of National Marine Sanctuaries and the Ocean Communicators Alliance (OCA). The CCC's Public Education Program takes the lead every year in coordinating California Coastal Cleanup Day, and works to increase public knowledge of coastal and marine resources.

The TYO campaign is currently in the final development stages of a centralized JTMD online toolkit that brings easily accessible and understandable information to Californians. This website will provide accurate, up-to-date information and resources, actions the public can take, and tools and protocols for volunteer groups to safely remove debris and collect data. The CCC has a long history of conducting beach cleanups along the coast and has been organizing the state's largest volunteer event since 1985. This event assembles more than 82,500 volunteers to remove more than 1.2 million pounds of trash and recyclables from beaches, lakes, and waterways. The CCC also recently launched a mini grants program in 15 coastal communities focusing on JTMD, which provides support to local cleanup activities.

The TYO campaign can disseminate information and cleanup opportunities to a wide audience, but is limited in their capacity to execute on the ground cleanups. The CCC, however, has a framework to support cleanup efforts and needs assistance in identifying more partners and increasing media and communication outreach. By working together, this project allows for the increased dissemination of uniform messaging, the announcement of cleanup opportunities, and support for cleanups which will ultimately lead to more cleanup events along the coast.

The project will require a part-time project coordinator to work jointly with TYO and CCC, as well as state government agencies and organizations to gather, develop and authorize outreach information, and to ensure it is easily accessible and understandable to the general public. The coordinator will also help manage the mini grants program and conduct site visits.

## 5. Deliverables

- a) **JTMD Centralized Web Site:** A consistently updated online site dedicated to JTMD, linked with the CCC volunteer registration site, through the TYO website at [www.thankyouocean.org](http://www.thankyouocean.org). This site will contain accessible information for dealing with marine debris including, but not limited to, a regularly updated marine debris bulletin, cleanup opportunities, FAQ sheets, safety information, contact information, data cards, and instructions and protocols for dealing with potentially sensitive and hazardous items that may be encountered.
- b) **Updated Contact Information:** A working contact list of beach cleanup organizers and volunteer coordinators developed primarily through the CCC's volunteer network.
- c) **Mini Grants Program:** These mini grants will directly assist with the costs associated with cleanup materials such as bags, trash and recycling bags, data cards, and any additional tools.
- d) **Outreach Campaign:** A coordinated and targeted outreach campaign through the existing TYO social media outreach (including Facebook ads and promotion, Twitter) and leveraging our partners' traditional and social media outlets to promote the information toolkit and volunteer opportunities. The project coordinator would also develop new ideas about how to publicize and market both informational and cleanup efforts.

## 6. Cost/Budget (including estimate of in-kind contributions)

Task	Estimated Cost	Status
Overhead and project coordination	\$47,300	In-kind contributions from Thank You Ocean, CACoastal Commission, and National Marine Sanctuaries Foudnation and other donations, approximately half remains unmet
Mini Grants Program	\$15,000 (\$500-\$1,500/grantee)	Unmet Need
Advertising, Promotion, and Outreach Materials	\$3,000	Unmet Need



## 7. Schedule of Operations

Task	Start Date	End Date
Website upkeep, outreach and education, maintain contact	Mar-13	On-going
Development and dissemination of education and outreach materials	Mar-13	Apr-14
Volunteer registration, coordinate with organizations	May-13	Dec-13
Mini Grants Program	May-13	Dec-13
Disseminate Request for Proposals, select grantees, award grants, conduct site visits, help organize volunteers		

## 8. Conservation Partners (including a federal and state agencies and NGOs)

Thank You Ocean's [Ocean Communicators Alliance](#) is made up of over 300 professionals in ocean-related organizations including the NOAA Office of National Marine Sanctuaries, the California Natural Resources Agency, NGOs, aquarium, and businesses who reach millions of Californians through their work. The CCC partners with many local NGOs, government agencies, and volunteer groups around the state. Both organizations are continually looking to work with new partners and provide opportunities for corporations and employees to get involved.

## 9. Unmet Need

**Project Coordinator Services and Outreach Materials:** Despite TYO's creation of a centralized JTMD website, additional resources will be required to provide state-wide coordination and communication required to broadly engage and activate California's coastal communities so that they are informed and ready to take action.

**Mini-grants program and Travel for Project Coordinaton):** Organizations implement cleanup events on bare bone budgets while relying heavily on volunteer work. With an influx of cleanup events, more funding assistance will be needed to effectively conduct cleanups. Building off the successful model of CCC's mini grants program, leverage those funds to continue supporting on the ground cleanup efforts and conduct site visits to assist with the cleanup.

**10. Projected start date:** As early as March 2013 if unmet needs are satisfied.

**11. Local project contact information**

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# ***USS Advance* Removal Project**

**Project Name:** *USS Advance* Removal Project

**Project Location:** Old River at Beaver Island in Contra Costa County, CA

**Project Purpose:** The recent economic downturn has left boat owners abandoning recreational and commercial vessels in increasing numbers within the navigable waters of California. As a result, State waterways are clogged with hulks that break up, leak, sink, and add pollutants to waterways and marine habitat, including gasoline and sewage. In addition, toxic chemicals, such as lead and mercury, are leaching into State waters as paint flakes off and vessels deteriorate. Not only are these vessels trespassing on State lands, but they pose a threat to the public health, sensitive habitat, and water quality in the region. The California State Lands Commission (CSLC) has established a derelict vessel removal program to handle this type of marine debris and remove derelict vessels from State waterways. Often, derelict vessels are made of steel and other materials that are valuable as scrap; however, some vessels are made of wood, which does not have scrap value. This project would provide alternative sources of funding and partnerships to remove a wooden vessel from California State waters, and restore water quality and wetland habitat.

**Project Description:** The *USS Advance* was an *Acme*-class 173-foot minesweeper acquired by the U.S. Navy in 1955. After several deployments to the western Pacific and Far East, the *USS Advance* was decommissioned in December of 1970 and sold several times to private owners. Since at least 2009, the *USS Advance* has been illegally moored on State sovereign land adjacent to Beaver Island located in Old River in Contra Costa County. Assessor's records indicate that the vessel is owned by Beaver Island LLC, which the Secretary of State's records indicate is owned by an individual who cannot be reached. The vessel's owner was cited by the Contra Costa County Sheriff's Department, and trespass notices have been placed on the vessel. Requests for removal have also been forwarded to the owner's attorney, who has not responded.

To minimize its magnetic signature as a minesweeper, the *Advance* was built primarily of wood, which has virtually no scrap value. This adds to the challenge of finding an organization willing to remove the vessel. This partnership will contract Sean Alexander Marine Services, Inc., with the help of the California Department of Resources Recycling and Recovery (CalRecycle), to remove and dispose of the *USS Advance* from Old River, California State Lands Commission staff to provide staff time for project oversight and management, and the Contra Costa Sheriff's Department to provide staff support during the removal process.

## **Project Deliverables**

- The removal and disposal of the *USS Advance* from Old River in Contra Costa County, CA.
- Facilitate interagency partnerships for future collaboration.

**Cost/Budget:**

Task	Estimated Cost	Status
Project Planning and Oversight	In-Kind	Completed by CSLC
Vessel Removal, Disposal, and Cleanup	\$300,000	Unmet Need
<b>Total</b>	\$300,000	

**Schedule of Operations:**

Task	Start Date	Completion Date
Approval from the Commission	Next monthly Commission meeting	Next monthly Commission meeting
Identification, remediation, and removal of toxins, hazardous materials, trash, and mechanical devices	Will quickly commence once approved by the Commission	30 to 60 days from commencement of work
Dismantling and destruction of superstructure and hull		
Removal of material by barge to land transportation for disposal		
Final site cleanup		

**Conservation Partners:**

- California State Lands Commission (CSLC)
- Sean Alexander Marine Services, Inc.
- California Department of Resources Recycling and Recovery (CalRecycle)
- Contra Costa County Sheriff's Department

**Unmet Need:**

- Vessel removal and disposal will cost \$300,000. The cost of vessel removal will be covered by the Corporate Wetlands Restoration Partnership (CWRP) and its partners.

**Project schedule/Projected Start Date:**

- Project can be taken to the Commission for approval and begin once the unmet need is satisfied.

**Local Contact:**

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