



Department of Environmental Conservation
Division of Environmental Health
Tsunami Marine Debris Status Report for Calendar Year 2013
Prepared February 2014

Alaska Marine Debris 2013 Shoreline Prioritization Workshop

The Department of Environmental Conservation (DEC) and the National Oceanic and Atmospheric Administration (NOAA) co-hosted a workshop in January 2013, the 2013 Alaska Marine Debris 2013 Shoreline Prioritization Workshop. In order to most effectively use available resources, the State of Alaska worked with NOAA to create a prioritization approach that would take into account the most consistent inputs available on debris density, debris impacts and removal feasibility for each shoreline area. Data on debris densities was combined with assessments of the foreseeable impacts of this debris by Federal, State, local and Alaska Native resource managers for coastal Alaskan lands, as well as assessments of feasibility from the active marine debris removal community in Alaska. The workshop was held in Anchorage, Alaska, on January 17, 2013 at the National Park Service Regional Headquarters.

To accomplish the marine debris removal prioritization, the area covered by the 2012 aerial survey was divided into a total of 44 segments, delineated by shoreline type, shoreline length, and land ownership, from Dixon Entrance in Southeast Alaska to Hallo Bay on the Alaska Peninsula and Tugidak Island in the Kodiak Archipelago. The size of these segments was defined in order to allow for rough prioritization, with the understanding that specific operational sub-prioritization within segments would be necessary prior to field action. The aerial survey results were analyzed using GIS to provide average debris density ratings for each of these segments. This data was made available online in advance of the workshop through the NOAA Arctic Environmental Response Management Application (ERMA).

At the workshop, participants utilized a rubric that had been prepared by State of Alaska and NOAA to capture relative ratings of the foreseeable impacts of inert debris to shoreline segments, and to register input on needs for information on HAZMAT and invasive species debris. The nine segments with highest debris densities were processed, with the intention that remaining segments, as well as new segments defined at the workshop, will be reviewed in an ongoing process. The resulting priority is captured below, organized by the ranking determined at the workshop:

Priority Ranking	Segment Name	Segment Region
1	Kayak Island	Eastern Gulf of Alaska
2	Outer Montague	Prince William Sound
3	Outer Hinchinbrook	Prince William Sound

4	Shuyak and North Afognak Islands (to Pillar Cape)	Kodiak Archipelago
5	Outer Island to Gore Point (including Gore Point)	Central Gulf of Alaska
6	Cape Yakataga to Kayak Island	Eastern Gulf of Alaska
7	Cape Muzon to Suemez Island	Southeast Alaska
8	Baker, Noyes, Lulu, San Fernando and Western Prince of Wales Islands	Southeast Alaska
9	Kruzof Island	Southeast Alaska

The marine debris shoreline prioritization determinations resulting from this workshop are a critical component of the planning and procurement process for the utilization of the funds received from the Government of Japan through the NOAA Statement of Work (SOW) funding request process.

Staffing

The Department of Environmental Conservation coordinates the activities of state agencies relating to tsunami marine debris. This includes being the primary point of contact for NOAA and other federal agencies. DEC assists in cleanup efforts related to petroleum products and hazardous material debris.

A short term nonpermanent (STNP) position, funded with general funds, was created in the Environmental Health Division of the Department of Environmental Conservation to work exclusively on the tsunami debris project. This position was filled from April 1 to July 31, 2013. When the STNP position ended, the Department received authorization for the creation of a long-term non-permanent (LTNP) Tsunami Marine Debris (TMD) Program Coordinator position. The individual who filled the STNP was hired as the TMD Program Coordinator and began working again in mid-October 2013. This employee, a lawyer with extensive experience in rural and coastal Alaska, works seasonally and as needed to lead and coordinate the administrative requirements to insure the State of Alaska is meeting its responsibilities regarding tsunami-generated marine debris in Alaska.

Funding

The Department entered into a Memorandum of Agreement (MOA) with NOAA which provides the authorization and mechanism for the two parties to request, receive and disburse funding, and outlines each agency's responsibilities. Under the terms of that over-arching agreement, the Department is required to submit a Statement of Work (SOW) describing the type and location of tsunami-generated marine debris survey and removal.

The Department completed and submitted to NOAA two separate funding requests (SOWs) which were approved and resulted in the receipt of \$1 million from the \$5 million provided to the five impacted states by the Government of Japan (funds administered by NOAA).

Once the 2014 field season is underway and reports are received that document the volume and extent of tsunami-generated marine debris remaining on Alaska's coastline, the Department will determine the need for and scope of a third Statement of Work to request additional funding from NOAA.

Procurement

With assistance from DEC procurement staff, the initial Request for Proposals (RFPs) for the monitoring, aerial surveying, removal, and disposal of tsunami-generated marine debris was issued on June 7, 2013 with proposals due on July 17, 2013. The RFP process was open to respondents throughout the state of Alaska. A three-person Proposal Evaluation Committee (PEC) reviewed the responses and selected three contractors for debris collection/removal and three for aerial surveys. All contractors who were ultimately selected have documented experience throughout the state. Debris contractors, in particular, are located in, and have specific experience in, numerous communities. They often utilize local personnel and services. Contracts were also executed for three qualified aerial survey contractors. All contractors will be eligible to respond to location-specific Project RFPs for term contracts for marine debris removal and aerial surveys for up to four additional years.

Multiple Project RFPs (PRFPs) for debris removal and aerial surveys are in the final stages of development. Once the specific location for these operations are selected – a process which will be accomplished in early 2014 by reviewing the current debris accumulation with NOAA, other state and federal entities, and others with specific knowledge of debris, land, and shorelines - these PRFPs will be posted early in calendar year 2014. This will allow the state to issue contracts and have all debris activities ready to commence when the weather permits. Different areas of the state have different weather patterns but operations can generally commence in late April or early May and continue through September.

The contracts awarded for marine debris removal are designated by geographical area of operation. For the Southeast debris cleanup regions, subcontractors in Craig, Sitka, Yakutat, are expected to perform work.

- Sitka Sound Science Center (SSSC): Prioritized segments 7, 8 and 9
- Alaska Marine Stewardship Foundation (AMSF) (will use local contractors in SE Alaska): Prioritized segments 1, 4, 5, 6, 7, 8, and 9
- Gulf of Alaska Keeper (GoAK) (Partnered with Island Trails Network): All nine prioritized areas

Aerial survey contracts were awarded to Airborne Technologies, Inc., Cruz Construction, and Weston Solutions. Extensive work with the IT/GIS staff and NOAA has been done to refine the specifications for the 2014 aerial survey in order to ensure that the new survey photographs and data can be compared to the 2012 survey and also provide additional useful geospatial data in a cost-effective manner.

Reporting

Successful contractors for 2014 debris operations will be required to comply with reporting protocols for HAZMAT, invasive species, debris collection, and they will be required to submit quarterly progress reports. Several forms and protocols were developed in consultation with experienced debris removal organizations, DEC HAZMAT personnel, and NOAA. The TMD Program Coordinator worked with employees in SPAR on handouts for the public and for marine debris removal crews regarding the handling and disposal of marine debris, particularly common hazardous debris items such as phostoxin (rat poison) containers. Hazmat and safety guidance documents were also informed by a review of both commercial hazmat training course conducted for debris crews in the Kodiak area and safety plans from experienced marine debris organizations.

Reports from contractors will be used in the preparation of DEC's quarterly reports to NOAA. Information from marine debris crews that have been working with other funding and from other observers throughout the state is being assessed in order to better determine the quantities and locations of marine debris that remain on shorelines after the 2013 clean-up season. Reports, observations, the 2012 survey photos, and the prioritization rubric all inform decisions about which specific locations to target in Project RFPs for aerial survey and debris operations for the 2014 field season.

Observations in Calendar Year 2013 and Opportunities for 2014

Marine debris removal operations were conducted in numerous locations in Alaska in 2013. These were funded from a variety of sources, including the \$1 million appropriation from the Alaska legislature to the Gulf of Alaska Keeper (GoAK) partnership, funding from EVOSTC and Chugach Forest RCAC to GoAK, Coastal Impact Assistance (CIAP) grants administered through the Alaska Marine Stewardship Foundation (AMSF), corporate donations (e.g., Wal-Mart), and contributions from private donors. A NOAA community-based grant, using funds separate from the Government of Japan funds, supported an effort in a remote area of the Kodiak region (Tugidak Island).

Debris removal operations address all debris, not just tsunami-related items, but most have provided some estimates of the nature and origin of the debris collected. Reporting on the nature, presumed origin, weight, and volume of debris varies from operation to operation, as do the calculations of shoreline, mileage, or acreage cleaned. Total poundage is difficult to calculate because debris operations report to different funders, and some operations are funded by more than one source. A good-faith estimate of the total debris poundage collected and brought to recycling and disposal, or safely stored on site for later removal, in calendar year 2013 is 700,000 pounds (350 tons). A ton of marine debris averages 10 cubic yards.

The totals are derived from reports from a variety of funders and operations. For example, AMSF estimates that 160,000 to 200,000 pounds of debris were collected and removed in all the operations funded through AMSF. Over 20,000 pounds were removed from Afognak Island, and 50,000-60,000

pounds from Cape Suckling, where new debris was spotted following a storm that came through after the clean-up there. At some AMSF locations it was estimated that 76% of the debris was Japanese, and thus possibly tsunami related.

Sitka Sound Science Center debris efforts removed 12,000 pounds of debris from over 23,000 linear yards of shoreline, including massive amounts of foam and Japanese buoys. In Yakutat, 48,000 yards of beach (of varying width) yielded over 7,000 pounds of debris, with foam and floats constituting one-third of the total. The weight to volume figures vary widely – nets are heavy, foam is high volume but low weight. Foam is a particular problem for disposal because of its volume and intractability. Numerous community landfills no longer accept marine debris, particularly due to the foam problem.

On Kodiak Island, Island Trails Network (ITN) estimates that 135,000 pounds of debris were collected from 52 miles of coastline in the Kodiak Archipelago. The marine debris incentive program resulted in the collection of over 22,000 pounds, most of it collected by a single fisherman who jumped on the incentive program (at fifty cents a pound) when his own fishing season was a bust. The closure of the marine debris storage/sorting area at the National Marine Fisheries Enforcement Center in Gibson Cove caused ITN to seek and ultimately obtain a 5 year license from the US Coast Guard to develop a marine debris storage area on USCG land in the Buskin River.

Gulf of Alaska Keeper collected more than 300,000 pounds of debris in the Prince William Sound area. Most of the areas cleaned in 2013 had been cleaned both before the arrival of the tsunami debris and at least once since tsunami debris began arriving in 2012. An estimated 50% of the total debris by volume is tsunami-related, but it is only 15 to 20% of the total by weight due to the quantities of foam. Estimates as to whether there is an increase or decrease in the rate of tsunami debris vary in different locations. Because of weather and hazardous shoreline conditions, the GoAK crews stored more than 300 super sacks of debris and nearly as much non-sacked debris – a total of approximately 130,000 pounds - on Montague Island and Gore Point to be removed during the 2014 season.

Because moving heavy super sacks and other debris from shore to vessel can be difficult, hazardous, and labor intensive, DEC is considering requesting additional funds from NOAA to mount a multi-region barge transport operation using three large empty commercial barges which are scheduled to return to a landfill/recycler in the Washington/Oregon area. These barges could move along the Alaska coastline and pick up large quantities of tsunami marine debris from GoAK sites and from sites cleaned by other debris contractors in many locations. Loading would be done by helicopter at locations where it is dangerous to haul debris out to vessels or barges with skiffs or inflatables. At other locations the debris can be moved to the barges by skiff. This would be a safe and cost-effective process and would solve disposal problems particularly where local landfills are refusing to accept marine debris for disposal or recycling, which is happening in communities throughout Alaska.

Outreach

Marine Debris was again a featured topic at the Alaska Forum on the Environment (AFE) this year in February at the Dena'ina Center in Anchorage. NOAA and DEC staff presented updates, and educational presentations were made by local marine debris organizations including contractors who will respond to upcoming PRFPs. Website updates and additions to DEC's extensive GIS map sites are an ongoing effort.

Preparation for outreach activities has begun with the development, in conjunction with the Alaska NOAA Marine Debris Regional Coordinator, of a database of communities and organizations that are doing marine debris activities in the state. This database will include a map of marine debris removal activities both accomplished and planned throughout the state from all funding sources.

DEC and NOAA are collaborating on how to address the need to develop a system of tracking marine debris activities throughout the Alaska. The grounding of the 77-foot tug and barge Hook Point-Alaganik near Cordova in late July 2013 highlighted the need for better information. The news reports on this grounding described the vessel as being engaged in marine debris activities, and both the Coast Guard and DEC were monitoring the event, but it took time to determine which entity was doing the debris removal work, and whether debris would remain on the beaches following this grounding.

Better awareness by all entities of all debris activities – past, present, and planned – will enable NOAA, DEC, and other entities – including communities and other funders - to plan and coordinate marine debris removal activities. This will maximize the effectiveness of the limited resources, address debris in the most critical locations, and contribute to safety and effectiveness of all debris removal activities.