

Gulf of Alaska Keeper

EVOSTC

Harbor Protection and Marine Restoration

Marine Debris Removal Grant

Barren Islands Amendment

By Chris Pallister

Team Leader

907-345-0166

chris@goak.org

September 10, 2013

Table of Contents

Background Information	3-5
Proposed Barren Islands Debris Cleanup Narrative	6-9
Barren Island Charts	10-12
Barren Islands Debris FY 2014 Removal Budget	13
Barren Islands Debris Removal Budget Narrative	13-15

Background Information

In early 2012, Gulf of Alaska Keeper (GoAK) commenced work on a multi-year marine debris cleanup, **EVOSTC Project #12120116, Contract # IHP-12-057**. During the summer of 2012, the EVOSTC-funded cleanup work focused on removing decades of built-up deposits of marine debris from southwest Prince William Sound (PWS) beaches. In 2013, pursuant to an amendment to the original contract, GoAK removed Japanese Tsunami Marine Debris (JTMD) from targeted shorelines in PWS and delayed the proposed Barren Islands cleanup by one year. The Chart 1 illustration on page 4 is of the shorelines proposed for the PWS JTMD cleanup in 2013 and the Chart 2 illustration on page 5 is of the PWS shorelines actually cleaned in 2013, including the southeast portion of Knight Island that is currently being cleaned.



One of 16 loads of JMD removed from PWS in 2013

Tsunami Debris Collector Areas within PWS ————
 Continuous Heavy Tsunami Debris Field outside PWS ————

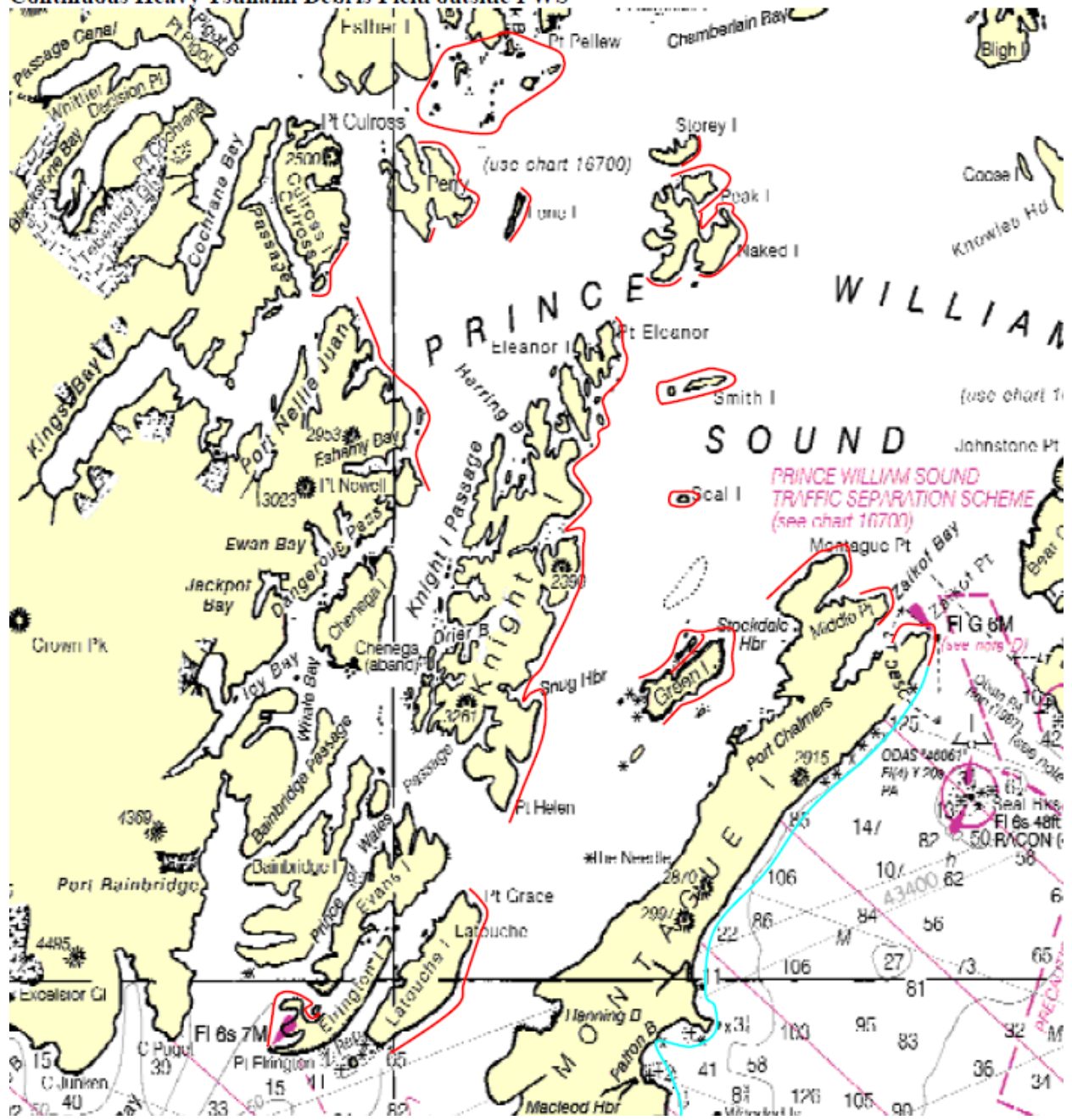


Chart 1. PWS shorelines proposed for 2013 cleanup



Chart 2. PWS shorelines cleaned during 2013 JTMD cleanup. Not shown on this chart, north and eastern Latouche Island and the southwest corner of Elrington Island have also been cleaned.

- Cleaned for EVOSTC** 
- Being Cleaned for EVOSTC** 
- Cleaned for Alaska Legislature** 

As can be seen from a comparison between the two charts, the actual cleanup deviated somewhat from the proposed cleanup. That is because we only cleaned where we found significant tsunami debris deposits. 16 landing craft loads of debris comprising 640-cubic yards or over 64 tons of JTMD were removed from over 300 miles of PWS shoreline. A complete report on the 2013 JTMD cleanup will be submitted when the GoAK crew completes cleanup operations at the end of September. With the successful completion of the PWS JTMD cleanup, Gulf of Alaska Keeper proposes to turn cleanup focus once again upon the Barren Islands.

2014 Amended Barren Islands Marine Debris Removal Project

Gulf of Alaska Keeper (GoAK) originally proposed this marine debris cleanup project as a portion of a multiyear marine debris cleanup proposal to the Trustee Council. That proposal was submitted and approved before the full extent of impacts from the March 2011 Japanese earthquake and tsunami became apparent in Alaska. In response to the influx of Styrofoam, urethane foam, and other Japanese tsunami marine debris (JTMD), GoAK submitted an amended proposal to the Trustee Council which delayed the Barren Island cleanup project one year. GoAK instead spent the 2013 season removing JTMD from impacted PWS shorelines. GoAK started the 2013 PWS JTMD cleanup May 8 and will finish cleaning beaches there toward the later part of September.

While JTMD continued to wash up on PWS beaches during the winter of 2012/2013, and will likely continue to do so for years, the immediate threat to shorelines within PWS from the massive volume of foam tsunami debris has been substantially abated. GoAK has successfully removed most of the foam debris from inner PWS. However, Montague Island's Gulf of Alaska shoreline has an immense quantity of foam debris littering its beaches. Refloated debris from the northern three fifths of that shoreline still poses a direct threat to inner PWS beaches. GoAK received a grant from the Alaska Legislature to remove JTMD from high priority beaches. We are using part of the legislative grant to clean a small portion of the northeast Montague shoreline to prevent, as much as is possible, refloated debris from entering and again fouling inner PWS shorelines. In addition to the 2013 cleanup work on northeast Montague Island, a portion of the legislative funding will be used in the summer of 2014 to help with the Barren Islands cleanup project.

GoAK has also been selected by the Alaska Department of Environmental Conservation as a contractor eligible to submit cleanup proposals for ADEC marine debris projects, including the projects supported with Japanese funds gifted to the U.S. for JTMD response. Funding GoAK obtains from ADEC, and with their approval, will first be applied to cleaning outer Montague Island, particularly the northern beaches that have the potential to send refloated debris into PWS.

Barren Islands 2014 Marine Debris Project Narrative

Now that shorelines within PWS have been cleared of JTMD, we propose removing marine debris from the Barren Islands during the summer of 2014. Since this proposal was originally submitted, two winters of JTMD accumulation have occurred on the Barrens. Consequently, there is significantly more debris, particularly tsunami related

foam debris. Small foam debris is labor intensive to remove and, because of that and the increased volume of debris, GoAK anticipates a 20% increase in the man hours necessary to complete this cleanup. However, we are not requesting an increase in funding from the Council for this project, but instead plan to utilize small teams of volunteers to assist with the job. GoAK's \$366,800 request for EVOSTC funding for this project remains the same as in the original proposal.

The Barren Islands are situated about 20 miles southwest of Elizabeth Island, at the southwest end of the Kenai Peninsula, across Kennedy Entrance. Southwest from the Barren Islands, it is about another 20 miles across Stevenson Entrance to Shuyak Island at the north end of the Kodiak Island archipelago. Ushagat Island is the western most and largest of the Barren Islands. Ushagat Island is about 7 miles east to west and 3.5 miles north to south. West and East Amatuli Islands, about 3 and 2-miles long respectively, are several miles to the east of Ushagat Island and are significantly smaller than Ushagat Island. Nord, Sud and Sugarloaf Island, between ½ and 1-mile long each are the three remaining "major" islands in the group, however there are numerous small unnamed islets in the area.

The Barren Islands are part of the Alaska Maritime National Wildlife Refuge. They comprise an ecologically rich, but sensitive environment. MD cleanups in this area will be closely planned and coordinated with Refuge staff. GoAK has initiated permitting for the cleanup project.

Ushagat Island has several long sections of shoreline uninterrupted by headlands that combined total approximately 5 miles in length. These beaches for the most part are heavily fouled by marine debris (MD), especially those beaches armored with drift logs. In those shoreline areas with lowlands beyond the beaches, particularly on the island's north side, MD has been driven far onshore. In some areas, large amounts of debris are found hundreds of yards beyond the tideline. Large quantities of MD have also washed over beach berms and been deposited in two sizable lakes on the island's north side.

In addition to the stretches of low-profile continuous beach on Ushagat Island, there are approximately another 12 miles of rocky shoreline pocketed with numerous MD collector areas. Most of these discontinuous collector beaches are heavily fouled with MD. These shorelines will be quite difficult to clean because most of them will need to be accessed by skiff. Cleanup personnel will generally not be able to walk from one collector pocket to the next. The balance of the remaining 8 to 10 miles of coastline on Ushagat Island is steep with few debris-catchment areas and will need little cleanup effort.

Most of the low beaches on Ushagat Island have MD deposits nearly comparable to the massive MD deposits Gulf of Alaska Keeper removed from Gore Point, where 20 tons of plastic MD were removed from just a single third-of a-mile shoreline. That particular Gore Point beach took a 7-man professional cleanup crew, with the assistance of 5 volunteers, one month to clean. The beaches on Ushagat Island, and the other Barren Islands, are not quite as badly fouled as those at Gore Point, but they are more extensive and even more difficult to access in many circumstances. As such, cleaning shorelines in the Barren Islands will be very difficult and time consuming. We estimate that it will take a ten-person crew with rotating 6-person teams of volunteers 62 days to thoroughly clean the beaches in this area.

The Barren Islands sit at a convergence of strong storms, currents, and tides. The Alaska Coastal Current approaches the islands from the east. Strong tidal currents from Cook Inlet and Shelikof Straits surge around the islands. Storms hit the islands in the summer cleanup season primarily from the southwest to the southeast, but can come from any quarter. There are only two good anchorages for cleanup support vessels, one each on the north sides of East and West Amatuli Islands. Generally, when not working on either East or West Amatuli Island, crew vessels will need to move to the lee side of an island for protection. The lack of secure anchorages will require a considerable amount of effort and time to move crews to beach work sites. Careful daily on-site attention to, and consideration of, actual and forecasted weather conditions will determine crew placement and work schedules.

Marine debris will be collected by hand and smaller items placed in large garbage bags. The garbage bags and larger debris items will then be moved to accessible staging sites and placed in large Super Sacks. At the end of the season, the Super Sacks will be lifted by a helicopter onto a large barge anchored offshore. **In a departure from the original proposal, the debris will likely then be transported out of Alaska along with debris collected on outer Montague Island and from other cleanup projects along the Gulf of Alaska.** We are currently working with other cleanup groups to coordinate the debris transport effort.

GoAK's plan for cleaning this sensitive area includes housing the cleanup crews on a 54-foot support vessel in order to limit human impact on the area. There will be no onshore camps in the Barren Islands. Workers will be shuttled to and from shore on a daily basis. All cleanup-generated waste and trash will be stored onboard and transferred to Homer for proper disposal. A 32-foot landing craft will be used for transferring MD from accessible beaches and providing logistical support for the project. A 45-foot landing craft will be used to transfer crew over longer distances to cleanup beaches and to move gear and debris. Four inflatable skiffs will also be used access beaches, ferry crew, and to collect and consolidate debris.

The shoreline in the Barren Islands is rocky, largely unprotected, and subject to strong currents. There are only a few areas where a large landing craft could approach the shore safely. For that reason, GoAK plans to use the same cleanup methodology successfully employed on the Gore Point cleanup. Crews, using only hand tools, will collect debris in garbage bags. A small landing craft can access many of the beaches and will be used to consolidate debris for later shipping. The garbage bags of MD will be moved to accessible locations for helicopter slinging. The garbage bags will be placed in Super Sacks which will be cached until the end of the cleanup season. A helicopter will then sling the Super Sacks of MD onto a large landing craft or barge. The MD will then be shipped to a recycler and/or landfill for disposal. All salvageable items, such as fishing floats, fuel drums, etc., will be given to commercial fishermen or any other entities that might want them.

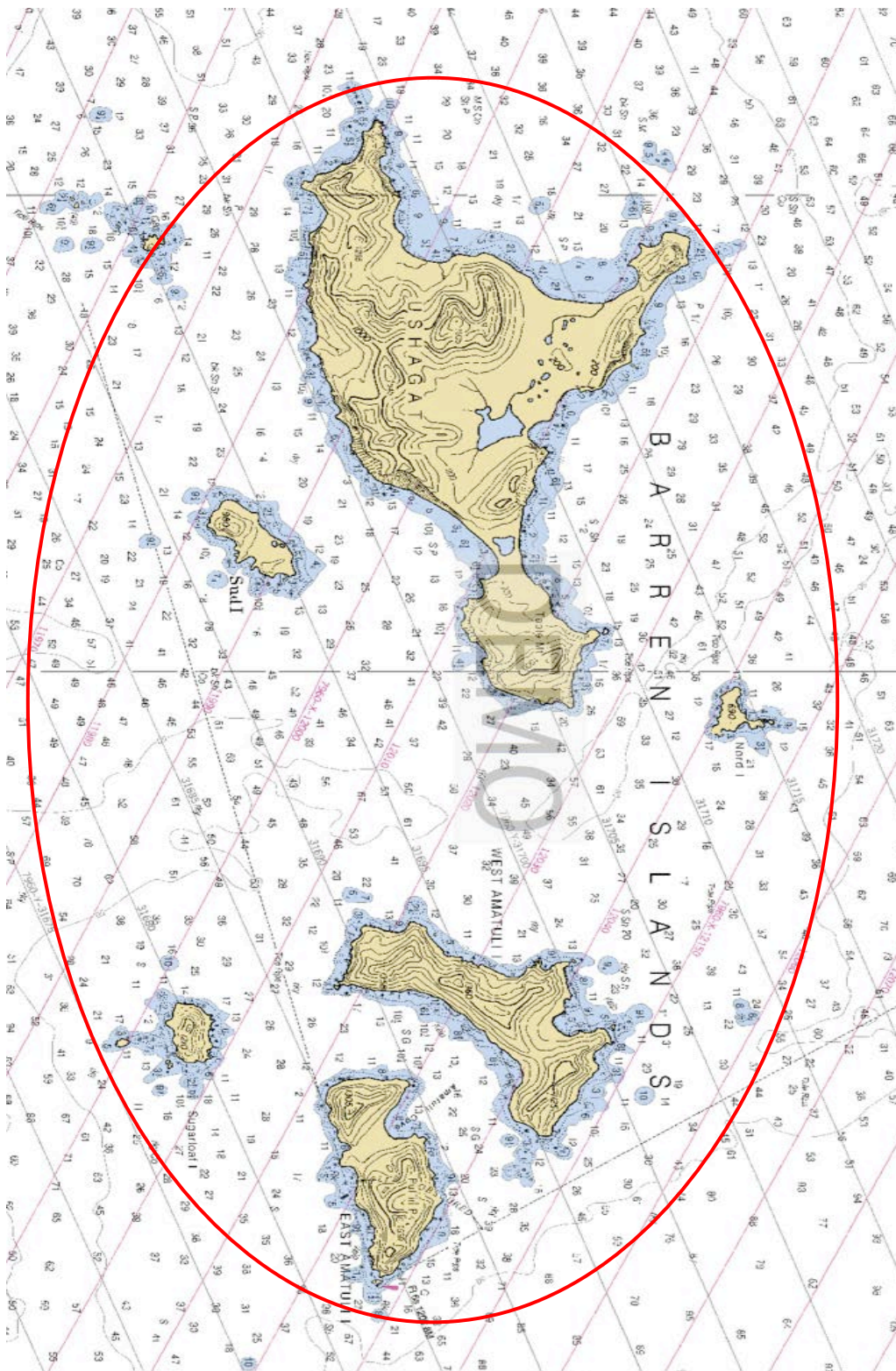
GoAK anticipates that between 80 and 100 tons of primarily plastic marine debris will be removed from between 20 and 25 miles of coastline in the Barren Islands over the duration of this project. The width of the shoreline cleaned will vary from approximately 25 yards on steeper beaches up to several hundred yards inland on the low profile, low elevation beaches. At least 2.6 million square yards of coastal habitat will be cleaned during this project and as much as 4.4 million square yards could be cleaned.

In addition to the Barren Island professional cleanup effort, GoAK will have teams of volunteers working along with our crew. Two 6-man contingents of Japanese volunteers will work in the field with the GoAK crew for two weeks each. Other local volunteers will also join the cleanup team. They will assist cleanup efforts on northeast Montague Island and also on the Barren Island project. By using teams of volunteers for the Barren Islands project, we anticipate reducing the cleanup timeline by 6 days, from 80 days to 74 days, which will reduce crew costs. However, after experiencing the difficult access conditions for cleanup crews on the northeast end of Montague Island, conditions which are very similar to those on the Barren Islands, GoAK decided a larger and faster crew boat is necessary to safely transport crew and volunteers in the Barren Islands. Hence, the increase in vessel costs.

GoAK will also take 8-10 volunteers and 3 donated vessels out for 7 days to re-clean 14 MD monitoring plots throughout PWS. Eight volunteers will also help clean 3 Gore Point monitoring beaches over a 6-day period. GoAK will also participate in an ongoing MD toxicity research project on Elizabeth Island at the southwest tip of the Kenai Peninsula. Three volunteers will spend two weeks traveling to and collecting samples from fish, water, and sediments in a coastal salmon rearing lake and outlet stream severely polluted by marine debris.

Barren Islands 2014 Project Charts

Projected 2014 marine debris cleanup area 



Ushagat Island, Barren Islands

Heavy continuous MD deposits ———

Moderate to heavy continuous MD deposits ———

Heavy MD deposits in concentrated pockets ———



West and East Amatuli Islands, Barren Islands

Heavy continuous MD deposit —

Heavy MD deposits in concentrated pockets —



Barren Islands Cleanup FY 2014 Budget

Budget Category (e.g. personnel, supplies, contractual, etc.)	EVOSTC Funds	Matching Contributions	Total Expense	Nature (cash or in-kind) And Source of Match
Personnel -CCF (public outreach) -Volunteer Cleanup -Volunteer Research	1,500.00 0.00 0.00	0.00 92,250.00 8,600.00	102,350.00	Cash-EVOSTC In-kind-Volunteer labor In-kind-GoAK/UAA/WM labor
Travel -Volunteer transport	0.00	1,300.00	1,300.00	In-kind-Volunteers
Equipment -Vol. cleanup vessels -Super Sacks	0.00 00.0	103,000.00 5,250.00	108,250.00	In-kind - vessel owners In-kind - GoAK
Supplies -Watermaker filters -Garbage bags -Volunteer food	0.00	500.00 900.00 5,120.00	6,520.00	Cash-GoAK In-kind – ALPAR In-kind - volunteers
Contractual -Contract Crew - - -Work Vessels w/fuel -Debris Disposal -Liability Insurance -MD Monitoring leaders	0.00 0.00 69,300.00 296,000.00 0.00 0.00 0.00	150,000.00 2,700.00 0.00 0.00 13,000.00 8,000.00 3,500.00	542,500.00	Cash–AK Legislature Cash–private donors Cash-EVOSTC Cash-EVOSTC Cash-private donors Cash-private donors Cash-Private donors
Accounting/Bookkeeping	0.00	2,000.00	2,000.00	Cash- GoAK
Total	366,800.00	396,120.00	762,920.00	

Barren Islands 2014 Removal Budget Narrative

Gulf of Alaska Keeper (GoAK) proposes to expend over a 74-day project a total of **\$762,920** to remove marine debris from the Barren Islands coast. Of the total projected cost, **\$366,800** would be from **EVOSTC** funds and **\$396,120** from **matching** funds. The matching funds would be comprised of a \$150,000 Alaska Legislature marine debris grant, \$27,200 in private donations, \$2,500 cash from GoAK, and \$216,420 of in-kind donations. For the past 6 years, GoAK’s cash donations have averaged approximately \$25,000 and in-kind donations \$225,000 for marine debris projects in the oil spill footprint area.

Personnel

In past years GoAK organized and conducted large volunteer cleanups in the Exxon oil spill footprint area, primarily in PWS and the Gore Point region. Up to 100 volunteers with 12 vessels spent four days each season cleaning beaches. Now that the more accessible beaches have been cleaned and only difficult remote shoreline remains to be cleaned, GoAK has turned to utilizing small groups of volunteers that work with our crew for up to two weeks each. We will have volunteer groups with us through much of the 2014 season, two of them from Japan. In addition, each summer, GoAK uses 8 volunteers and 3 vessels to re-clean 14 marine debris monitoring sites in PWS and 3 at Gore Point. Volunteers and GoAK board members donate over 4500 hours to these projects annually, an in-kind donation worth **\$92,250**. GoAK and researchers from the University of Alaska Anchorage and the College of Williams and Mary will also donate 420 field hours, an in-kind donation worth **\$8,610**, to a marine debris toxicity research project centered on Elizabeth Island during the summer of 2014. **\$1,500** would be expended on CCF instructors for the CACS public outreach program.

Travel

Volunteers for the different GoAK marine debris projects pay their own transportation costs to and from the project departure point. Volunteers also pay Whittier tunnel fees and parking fees where they join GoAK vessels, an in-kind donation of **\$1,300** annually.

Equipment

In-kind donations

Total contractual costs include an in-kind **\$88,000** donation of private vessel time and an in-kind **\$15,000** donation of charter vessel time.

The Barren Islands cleanup project will require that debris be loaded into Super Sacks so that a helicopter can sling the debris from the beach onto an offshore barge or landing craft. GoAK will donate 350 Super Sacks to the project, an in-kind donation of **\$5,250**. All other marine debris tools and equipment will be provided by GoAK.

Supplies

Water filtration supplies of **\$500** will be purchased by GoAK. Volunteers will provide their own food, an in-kind donation of **\$5,120**. ALPAR will donate **\$900** worth of garbage bags

Contractual

Cash

In July 2013, GoAK received an Alaska Legislature grant of which **\$150,000** will be used for the Barren Islands cleanup project. The Alaska Legislature grant combined with the **\$366,800** requested from EVOSTC and **\$27,200** from private donors will pay for cleanup related insurance (\$8,000); disposal costs (\$13,000); pay for two individuals for 7 days to clean 14 marine debris monitoring beaches with 8 volunteers, collect the data and to produce the monitoring reports and analysis (\$3,500); large vessel lease for 6 days to collect cached marine debris for disposal (\$24,000); helicopter lease for two days to transfer debris from Barren Islands beaches to large vessel (\$35,000); contract for 3 cleanup support vessels and 4 skiffs. The support vessels include a 45-foot landing craft for moving crews to work sites and hauling debris, a 32-foot landing craft for collecting and transferring debris to collection sites, a 54-foot crew quarter vessel, and also 4 12-foot inflatable skiffs with outboards for beach access, garbage transfer, and crew transport (all with fuel for \$4,000 per day for 74 days=\$296,000); cost of contract crew of 10 people to clean beaches in the Barren Islands (\$3000 per day for 74 days=\$222,000).

Accounting/Bookkeeping

GoAK will pay an accountant **\$2,000** to do the bookkeeping and accounting associated with this project.

Indirect, Management, Travel and Profit

There are **no** additional indirect, management, travel, or profit charges for the Barren Islands project.