

State of Alaska
Coastal Impact Assistance Program

APPENDIX B-2

Project Descriptions
Direct to Coastal Political Subdivision Funding

Approved Projects

KODIAK ISLAND BOROUGH	
Tier 1 Projects	
AKCIAP_CPS_KIB_T1_01	Metal Debris and Household Hazardous Waste Clean Up and Removal from Remote Communities in the KIB
AKCIAP_CPS_KIB_T1_02	Trail Hardening or Relocation to Enhance and Improve Coastal Water Quality and Stream Habitat
AKCIAP_CPS_KIB_T1_03	Public Education on the Value of Conserving Wetlands and Other Coastal Habitats
AKCIAP_CPS_KIB_T1_04	Mapping of Coastal and Marine Resources
Tier 2 Projects	
AKCIAP_CPS_KIB_T2_01	Coastal Erosion Study

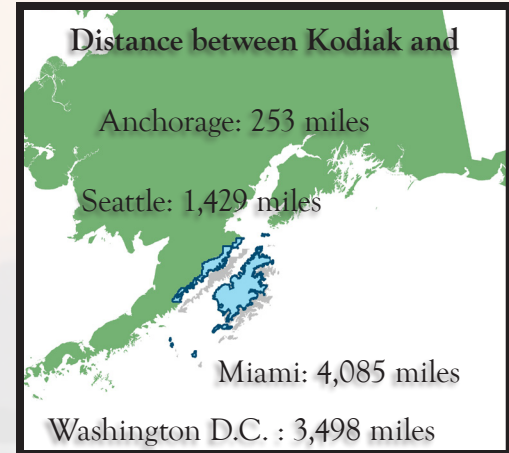
KODIAK ISLAND BOROUGH

Brief History: Kodiak Island is the second largest island in the United States. The area consists of traditional lands of the Alutiiq people. Russian fur trappers arrived in 1792 seeking sea otter pelts and later established Kodiak as the first capital of Russian Alaska. Since the Aleutian Campaign of World War II, several branches of the U.S. military have maintained a presence in Kodiak. Today it is home of the largest U.S. Coast Guard base in the country. The 1960s brought growth in commercial fisheries and fish processing, which are still prevalent in the Borough's economy. In 1998 Kodiak Island became the new home to the Kodiak Launch Complex, a low-Earth orbit launch facility. Today, Kodiak's fishing port is the largest in the state and ranks third in the country. Through cultural center development and community efforts, there has been a resurgence in Alutiiq awareness and culture in the Borough.

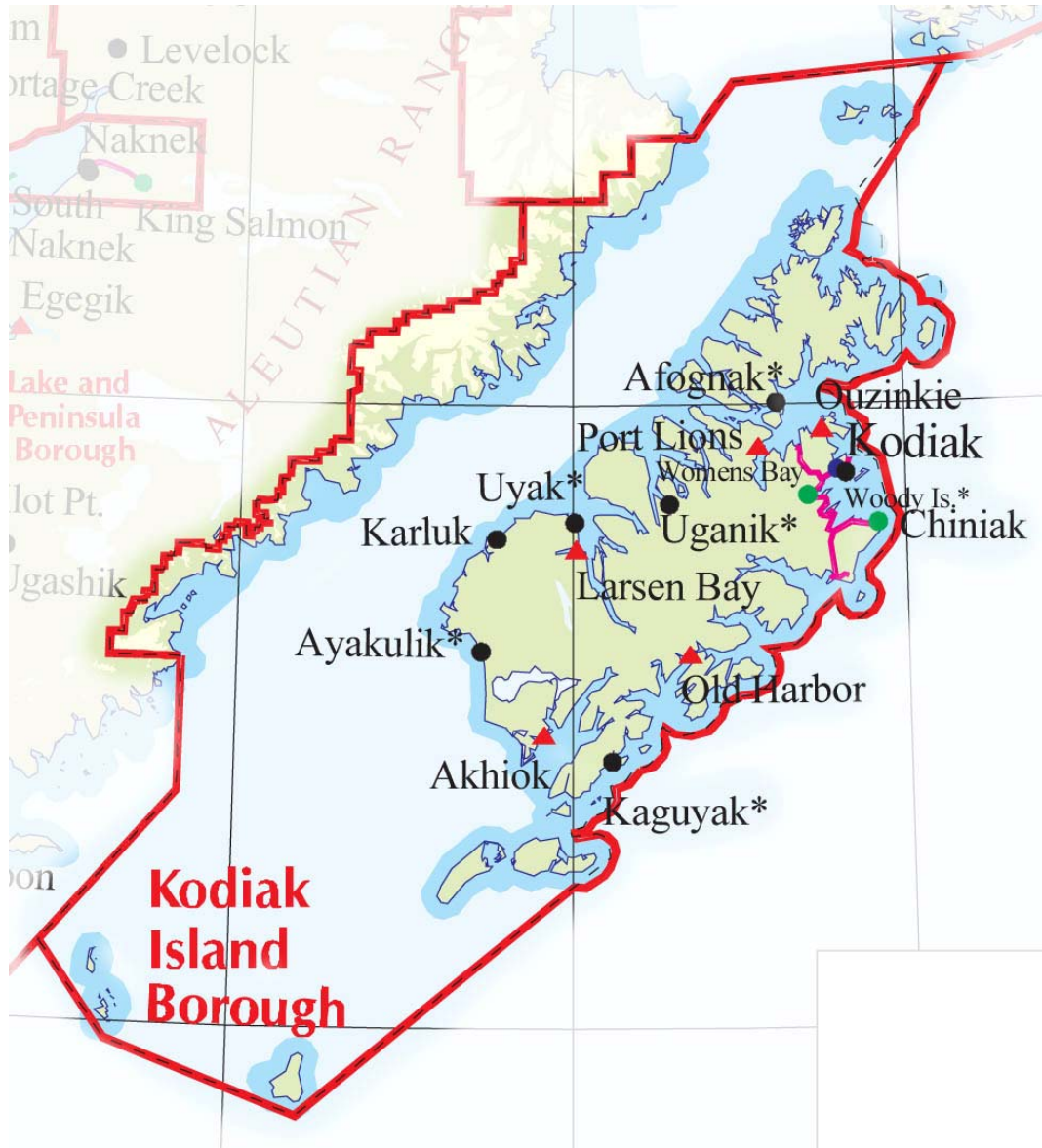


Photo by: Bud Cassidy

Pronunciation:	(KOH-dee-ack)
Population (2007):	13,373
Shoreline:	2,774 miles
Coastal Area:	17,415 square miles
Annual Precipitation:	40-60"
Hours of Daylight Summer:	18 hours, 24 min
Hours of Daylight Winter:	6 hours, 15 min
Regional Native Corporations:	Bristol Bay Native Corp. & Koniag Inc.
Legislative District:	3, 4, B



KODIAK ISLAND BOROUGH



**STATE OF ALASKA
COASTAL IMPACT ASSISTANCE PROGRAM**

Kodiak Island Borough

PROJECT TITLE: Metal Debris and Household Hazardous Waste Cleanup and Removal from Remote Communities in the Kodiak Island Borough

Note: This project was approved as a Metal Debris Clean Up and Removal Project in the 2008 Alaska CIAP Plan. The budget has been increased and project expanded to include removal of household hazardous waste.

PROJECT CONTACT

Contact Name: Charles E. (Bud) Cassidy, Director, Community Development
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Kodiak Island Borough
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PROJECT LOCATION

- 1) Spruce Cape Beach (see map attached)
- 2) Monashka Bay/VFW Beach (see map attached)
- 3) Remote Kodiak Communities of Ouzinkie, Port Lions, Larsen Bay, Karluk, Akhiok, and Old Harbor

PROJECT DURATION

Four (4) years

ESTIMATED COST

Spending Estimate (\$)				
TOTAL	Year 1	Year 2	Year 3	Year 4
2,175,795.29	40,000.00	40,000.00	1,053,725.76	1,042,069.53

Funding per Allocation Year of CIAP (\$)				
TOTAL	FY 07	FY 08	FY 09	FY 10
2,187,451.52	40,000.00	40,000.00	1,053,725.76	1,042,069.53

PROJECT DESCRIPTION

This project will clean-up and remove hazardous material and metal debris in Kodiak Island Borough communities and along selected shoreline segments. Kodiak is an island

archipelago. The only viable methods of recycling and disposal are expensive due to the high cost of shipping.

Spruce Cape Beach is a former community waste dump where solid waste was for years simply dumped over the side of the high bank by the City of Kodiak in order for the tide to take the trash out to sea as a means of disposal. Of course, this practice was abandoned many years ago; however, all that remains now are larger pieces of metal which were too large to be moved by the tide. These abandoned metal parts pose an aesthetic blemish on the beach. However, more importantly they also constitute a safety hazard to marine mammals. The abandoned metals act as an artificial reef attracting near shore prey species, which then attract marine mammals. The marine mammals such as seals, sea lions and otters may become injured upon the abandoned metal in pursuit of prey.

The VFW beach along Monashka Bay is the site of a ship that was grounded sometime after WWII. The vessel has long been determined to be of no historical significance. It was a retired vessel used in WWII that was intended to be scuttled off shore. The chosen method of scuttling, however, was to use the vessel for target practice rather than opening sea doors or using demolition techniques. The vessel did not sink as planned and eventually drifted ashore to where it now rests. Over the years, no effort was made to preserve, sustain or salvage the rusting hulk. Most of the vessel has rusted away except for the substantial keel and ship bottom, which protrudes from the beach sand. Large panels of rusting steel from the hull have become detached from the hulk, are scatter along the beach, and have become embedded in the near shore habitat zone. Similar to the Spruce Cape Beach segment, the rusting metal has become scattered and embedded in the near shore habitat such that it has become a safety hazard for marine mammals and human users alike who use this area for subsistence fishing and gathering.

Metal and household hazardous waste removal has always been a problematic waste issue in the largely native villages of the Kodiak Archipelago. It is very expensive to ship batteries and other hazardous materials from the villages, including household hazardous materials, antifreeze, etc. As a result, vehicles, appliances and metal containers that are shipped to the villages are very seldom disposed of appropriately. The villages of Kodiak are small enough (less than 300 people each) that their landfills are only minimally regulated by the Alaska Department of Environmental Conservation. Metals are often segregated and stockpiled in the villages awaiting shipment back to Kodiak for proper disposal. In many cases the hazardous materials in large appliances and derelict vehicles are not removed or disposed of properly.

The coastal villages of Kodiak Island are located in areas adjacent to lagoons, estuaries and anadromous streams, which are prime nursing and spawning areas for marine mammals and many fish and shellfish species. Due to the prevailing topography of the island, many of these communities back up to steep terrain which virtually ensures that any hazardous material release and or solid waste leachate will find its way to an anadromous stream or marine habitat.

In the past, the Kodiak Island Borough has purchased a barrel crusher, oil/water separator, and a used oil burner. The borough provided training for each village to assist with making it easier to back haul the waste containers back to the main borough landfill and recycling center. Even though the communities have been good about crushing the metal containers, they have been building up in the communities for a number of years. In addition to the crushed containers, there are many barrels that do not get crushed. These barrels have become partially filled repositories for used and contaminated hazardous products, batteries, etc. The rupture, mishandling or neglect of these barrels represents a substantial threat to the local environment both from the standpoint of terrestrial mammals and anadromous/marine species.

In addition, there are also many abandoned vehicles and appliances stored in these communities. In many cases, the threat is not so much from the metal vehicle or appliance as it is from the fluids and insulation contained in these items. Un-drained oils and lubricants in vehicles, antifreeze residue, insulation in refrigerators and freezers as well as the refrigerant itself all present a hazard to the local flora and fauna when left to deteriorate in the local village landfill (or in some cases on residential lots in the town).

Abandoned metals are often wrecked or vandalized so that the fluids and insulation padding is exposed, making it more likely that a hazardous release or spill may occur. In addition, the insulation and padding associated with abandoned cars and appliances represents a desirable nesting material for many species of bird and mammal which can spread the material far and wide.

In other cases, the piles of junk vehicles and appliances stored near a remote landfill can become a nesting site for small animals, which makes it an attractive nuisance for larger mammals like fox and bear. Sometimes the junk vehicles and appliances are attractive to non-native species such as rats and mice imported to the community in food shipments or on commercial vessels. At other times, they may harbor feral dogs and cats no longer tended to by village residents.

Year 1 of the project will be largely devoted to reconnaissance of the remote villages and shoreline areas identified in the scope of project. In addition, if there are any permits required from the Alaska Department of Environmental Conservation, Alaska Department of Natural Resources, the U.S. Army Corps of Engineers, etc., those permits will be identified and the application process initiated at this stage. This effort will precede the development of a detailed scope of work to be incorporated into the bid specifications for the project. There will be a need for travel, lodging, telephonic and online communications, bid document preparation, etc. Once the bid documents are completed there will be a need to advertise an open and competitive solicitation for the services necessary to do the job. The Kodiak Island Borough code requires competitive solicitation for all purchases of goods and services.

Years 2 and 3 of the project will be devoted to the clean-up and transport activities. Some material may be shipped to Kodiak for transshipping to outside recycling and

disposal operators, however it is expected that the bulk of the materials will be shipped off-island directly.

Year 4 will be devoted to any remaining clean-up and transportation of metal debris and hazardous materials. Given the relatively short work seasons in Kodiak and the frequent periods of inclement marine weather, a great deal of flexibility will be built into the project specification. Year 4 will be designated for any needed resolution of outstanding work items, demobilization and grant closeout.

Considerable effort will be made to coordinate this project with the affected local village governments which are all incorporated Second Class Cities with the exception of Karluk. The KIB will also coordinate with Tribal Councils in these communities to greatest extent possible. Coordination with state and federal agencies will largely be limited to obtaining permits as needed, however, it is likely that particular emphasis will be placed on coordinating with those agencies which maintain a presence in Kodiak or who make an effort to become involved in this project.

MEASUREABLE GOALS AND OBJECTIVES

Year 1:

- Prepare scope of work for bid solicitation. Initiate permit review through Coastal Project Questionnaire in order to determine what permits may be required based on the work to be done. May require U.S. Army Corps of Engineers permit, ADNR permit, ADF&G or FWS (timing) permits.

Year 2:

- Remove and dispose of (or recycle) residual shipwreck metal debris at VFW beach. Remove and dispose of (or recycle) large metal wastes from former dumpsite along the shoreline at Spruce Cape. Begin removing household hazardous waste and related metals stockpiled in the communities of Old Harbor, Akhiok and Karluk and prepare for disposal or recycling.

Year 3:

- Complete removal of waste and metals from Old Harbor, Akhiok and Karluk. Remove household hazardous waste and related metals stockpiled in the communities of Larsen Bay, Port Lions and Ouzinkie and prepare for disposal or recycling.

Year 4:

- Complete all waste removal and disposal/recycling operations. Close out grant.

PROJECT CONSISTENCY WITH CIAP AUTHORIZED USE

This project is most closely aligned with CIAP Authorized Use #1, *Project and activities for the conservation, protection, or restoration of coastal areas, including wetlands.*

There are no authorized metal disposal sites in the outlying borough communities and metals from abandoned or wrecked vessels, domestic appliances and automobiles are

collected and stockpiled by the local communities for eventual removal. While removal costs are beyond the reach of these communities, the stockpiled metals are slowly rusting and oxidizing away in close proximity to beach marine environments and near anadromous streams. Removal of the metal debris stockpiled in remote villages and along identified shoreline segments will protect coastal areas around the Kodiak Island Borough from the contaminants associated with the debris and from the safety hazards the contaminants pose to wildlife and as described above.

COORDINATION WITH FEDERAL RESOURCES OR PROGRAMS

With the exception of Port Lions and Ouzinkie, the other four villages located within the Kodiak Island Archipelago are also located adjacent to the Kodiak National Wildlife Refuge. The refuge shares the borough's concern about the environmental quality in these areas and the impact that harboring non-native species may have on the natural flora and fauna of the refuge.

Both the refuge and the Kodiak Island Borough subscribe to the best practices of the Kodiak Island Archipelago Bear Management Plan, which was developed, by the Alaska Department of Fish and Game. This document covers a great number of bear concerns and suggests "best practices" on how to manage and improve bear habitat both within and outside of the refuge proper. In the Kodiak "Road System," the community has spared no expense to purchase bear resistant dumpsters and electric fences to surround all active landfill and to adopt a pro-active approach to avoiding negative human/bear encounters. The outlying village communities of Kodiak also share these values; however, their ability to enact "best practices" has been hampered by geography and economics.

The borough would also expect to coordinate with the Natural Resource Conservation Service, which maintains a local office in Kodiak. With regard to moving metals from the nearshore tidal area, borough staff would confer with the National Oceanic and Atmospheric Administration (NOAA), which maintains an office locally, to ensure that any best practices are followed by a qualified metal removal contractor.

Removing metal from the beach sites may require a permit from the U.S. Army Corps of Engineers due to the potential beach disturbance which may be required to affect the clean up. In addition, the Alaska Department of Natural Resources asserts ownership of the tidelands so they will also be an agency that must be coordinated with. This will be determined at the time the project is slated to move forward.

Lastly, the borough will also coordinate with the United States Coast Guard regarding regulations pertaining to the handling and shipping of household hazardous waste and related metal in the form of vehicles, appliances and waste containers, which may have a potential for hazardous material release in transit to a recycling or approved waste disposal site.

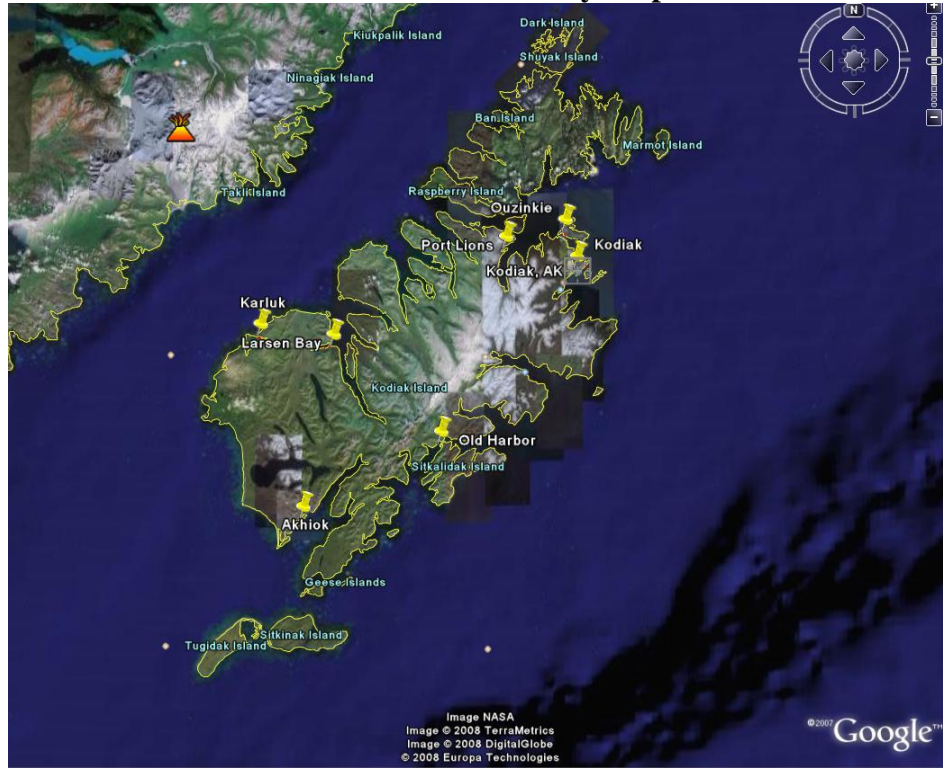
COST SHARING OR MATCHING OF FUNDS

CIAP funds may be used for cost sharing or matching purposes required by another grant. If they are used in this manner, a letter will be included with the CIAP grant application

from the other Federal agency (the agency charged with administering the program that includes the cost of sharing or matching requirement) indicating that the other agency's program allows the use of Federal funds to meet cost sharing or matching requirements.

MAPS

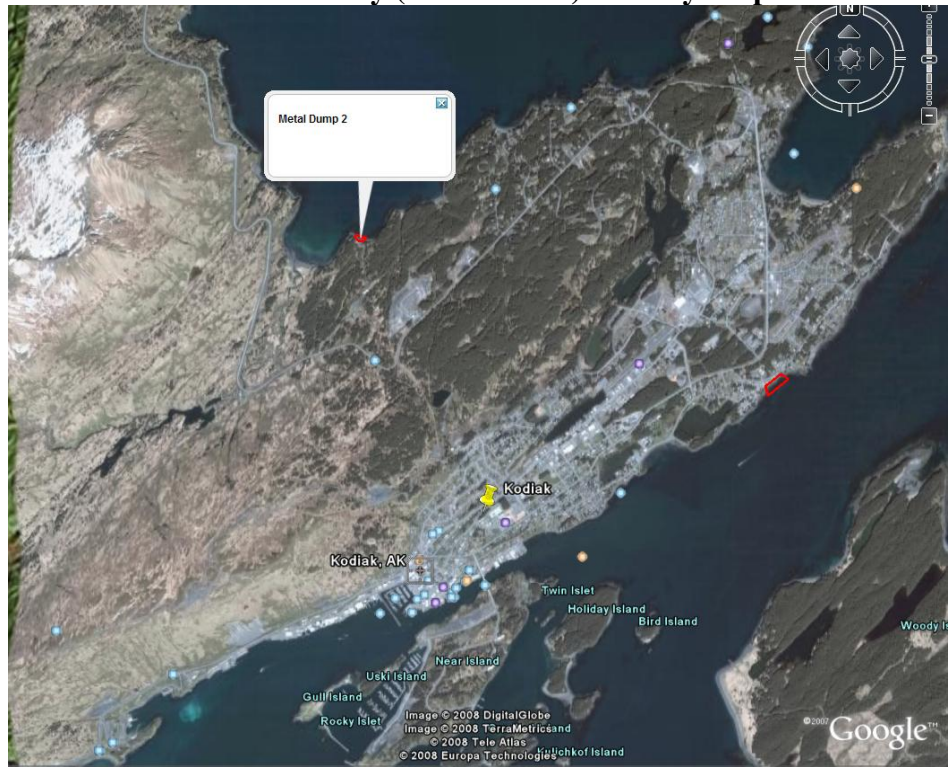
Kodiak Island Vicinity Map



Spruce Cape Road Beach Segment



Monashka Bay (VFW Beach) Vicinity Map



Monashka Bay (VFW Beach) Site Map



Akhiok Dumpsite Vicinity Map



Akhiok Dumpsite Site Map



Karluk Dumpsite Vicinity Map



Larsen Bay Dumpsite Vicinity Map



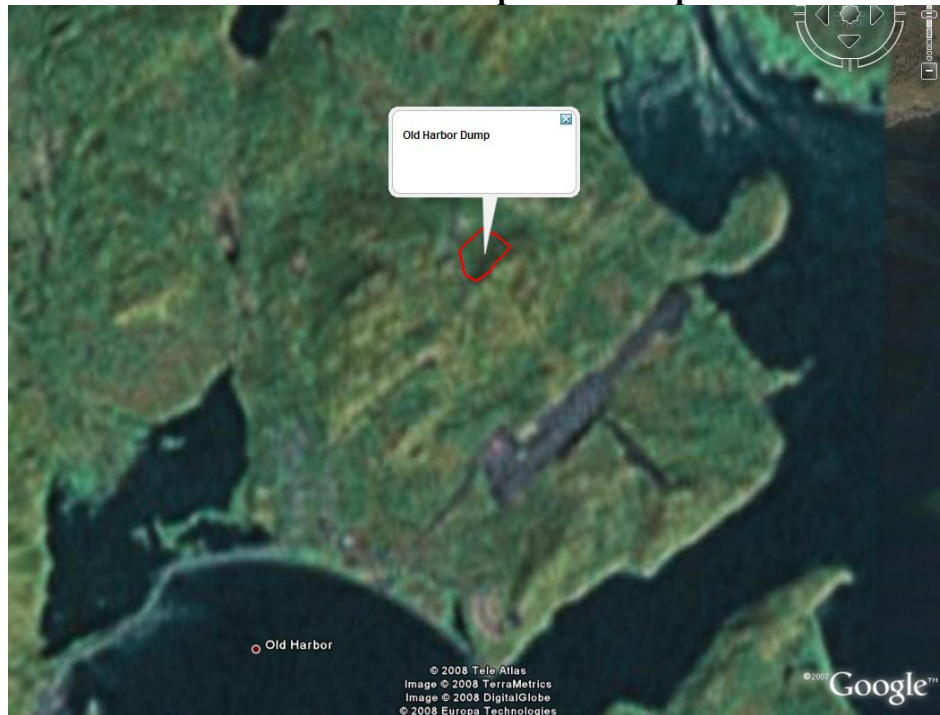
Larsen Bay Metals Dumpsite Vicinity Map



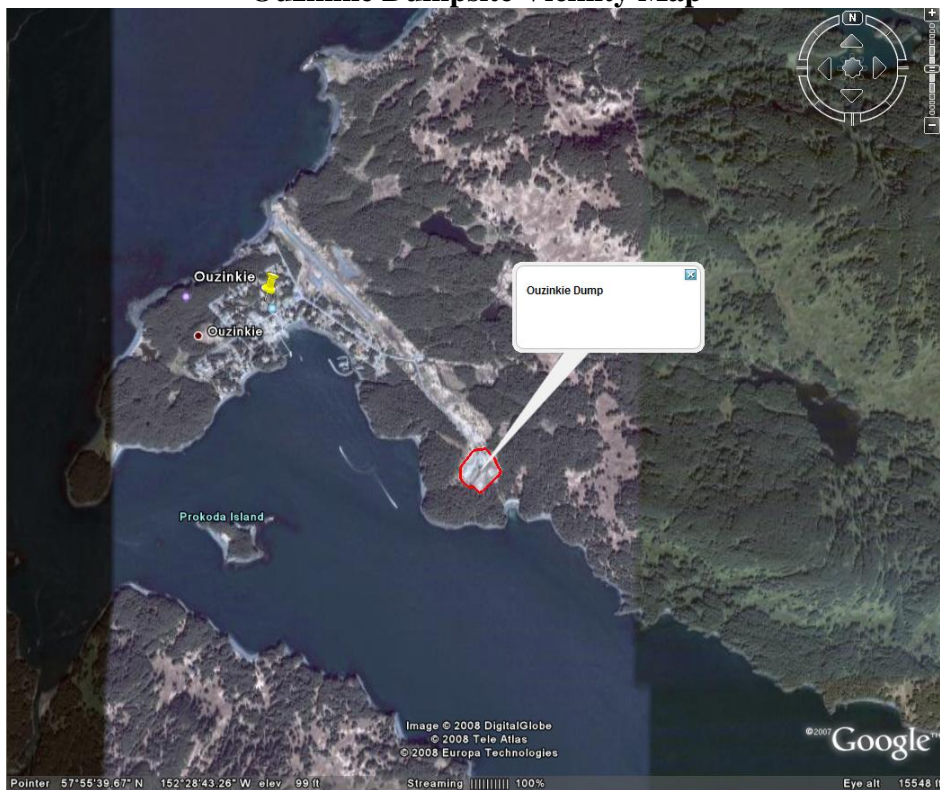
Old Harbor Dumpsite Vicinity Map



Old Harbor Dumpsite Site Map



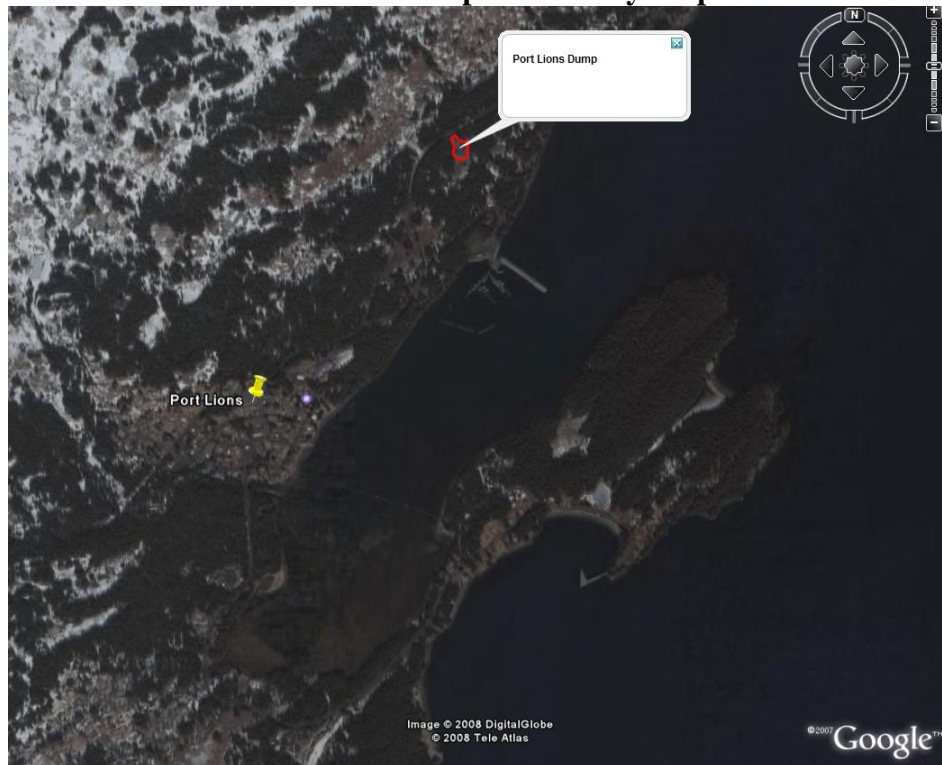
Ouzinkie Dumpsite Vicinity Map



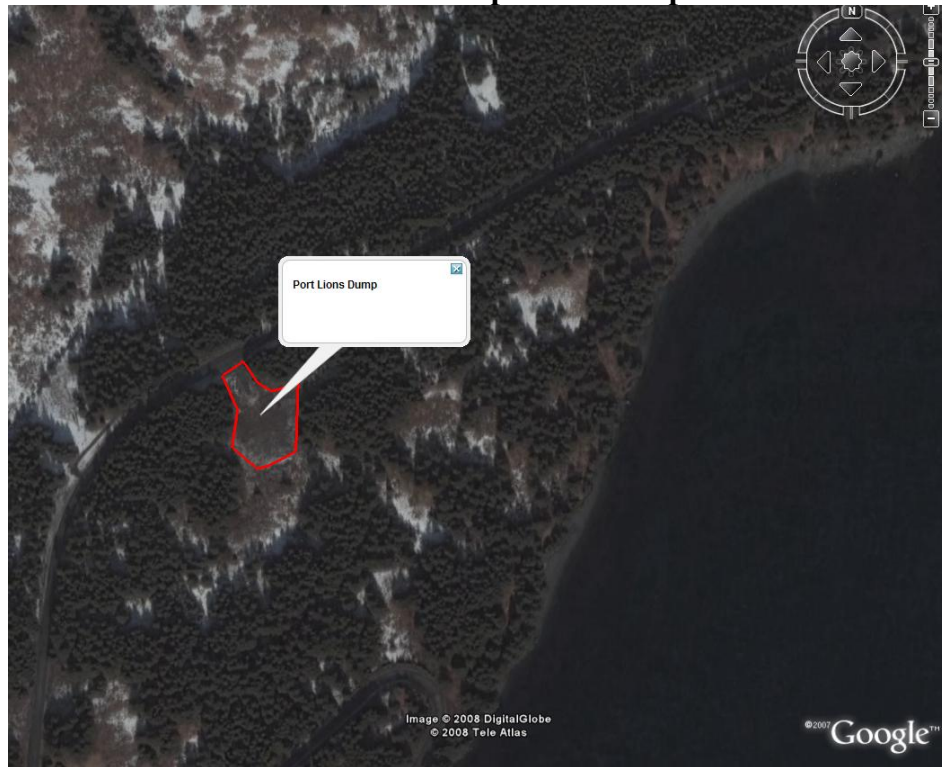
Ouzinkie Dumpsite Site Map



Port Lions Dumpsite Vicinity Map



Port Lions Dumpsite Site Map



**STATE OF ALASKA
COASTAL IMPACT ASSISTANCE PROGRAM**

Kodiak Island Borough

**PROJECT TITLE: Trail Hardening or Relocation to Enhance and Improve
Coastal Water Quality and Stream Habitat**

Note: This project was approved as part of the 2008 Alaska CIAP Plan. The budget and amount of trail to be hardened or relocated has been increased.

PROJECT CONTACT

Contact Name: Charles E. (Bud) Cassidy, Director, Community Development
Department
Kodiak Island Borough
Address: 710 Mill Bay Road, Kodiak, Alaska 99615
Telephone Number: (907) 486-9360
Fax Number: (907) 486-9396
Email Address: bcassidy@kodiakak.us

PROJECT LOCATION

This project includes updating the Kodiak Island Borough (KIB) "Road System" Trails Plan and hardening or relocating selected trail segments of the following trails:

- Saltery Cove Road/Trail
- Portage Cove Trail
- Anton Larsen Bay to Sharatin Bay Trail
- Other trail segments identified for their detrimental impact on terrestrial or anadromous habitat.

PROJECT DURATION

Four (4) years

ESTIMATED COST

Spending Estimate (\$)				
TOTAL	Year 1	Year 2	Year 3	Year 4
181,516.00	23,500.00	23,500.00	67,258.00	67,258.00

Funding per Allocation Year of CIAP (\$)				
TOTAL	FY 07	FY 08	FY 09	FY 10
181,516.00	23,500.00	23,500.00	67,258.00	67,258.00

PROJECT DESCRIPTION

In 2003 and 2004, the borough embarked upon the first phase of a trail planning process to consider the use of all-terrain vehicles (ATV) and off-road vehicles (ORV) on existing

trails accessible from the Kodiak “road system.” A background study and trail user survey was completed, as well as some GPS mapping of trails, during this period. This CIAP project will build on these initial efforts by first identifying the trail segments traversing through high value habitat areas and which exhibit the greatest degree of environmental degradation due to trail use. The project will then harden or relocate certain unimproved off-road vehicle and multi-use trail segments in order to enhance and improve coastal water quality, anadromous stream habitat and to preserve the related terrestrial habitat.

Unrestricted ATV and ORV use and unplanned trail development occurring over the years has contributed to significant erosion and degradation of riparian areas where these trails are located within the Kodiak Island Borough. Both permitted and non-permitted ATV and ORV stream fords have caused trampled stream banks, destroying vegetation and accelerating erosion into waters used by anadromous fish. Trails created from unrestricted recreational use have been developed without planned construction techniques, contributing to severe erosion problems, impacts to wetland areas, and destabilized stream crossings. These user impacts have lead to poor drainage patterns, bank destabilization, deep rutting, mud holes, widened tread, damage to vegetation, and year-round standing water. A combination of poor trail location and unsuitable terrain has increased erosion and enhanced trail braiding.

In an effort to minimize detrimental impacts to riparian areas and wetlands and improve stream habitat, the KIB will relocate trails to avoid sensitive habitat; stabilize eroding stream banks and construct bridges to improve stream crossings; and rehabilitate severely degraded wetland areas through trail hardening.

In the initial year of the project, the Kodiak Island Borough will initiate a KIB “Road System” Trail Plan in order to update all local trail data. The Trail Plan will identify those trail segments that are most in need of hardening or relocation in order to restore streams and wetland areas degraded by ATV and ORV use. The borough has already budgeted matching funds in exceeding 50% of the CIAP Year 1 grant amount for this first year planning project. The KIB will use nationally recognized trail management criteria, techniques and “best management practices” to establish a priority list of potential trail projects in those areas accessible to the bulk of the borough population. It is intended that trail priorities established in this planning process may be substituted for the initial trail segments identified above once the reconnaissance and analysis have been completed.

In the second, third and fourth years of the project, the KIB may coordinate with the Kodiak Soil and Water Conservation District (KSWCD), or the Island Trails Network (nonprofit) or other conservation groups to identify trails in need of relocation or hardening and which are located in wetlands or sensitive habitat. Once the plan priorities are established, the KIB may also consider rolling all needed trail improvement or relocation projects into a single bid project which will be put out for competitive solicitation. Although specific projects are proposed here for the highest traffic trails, Saltery Cove Road/Trail, Portage Cove trail and the Anton Larsen Bay to Sharatin Bay

Trail, the borough would like to maintain some flexibility to apply CIAP project funds to other trail segments that may show a higher level of need than what has currently been identified. If that requires a plan amendment it is expected that the case will most likely be made with the updated plan analyses. In the alternative, the KIB would hope that perhaps one trail segment could be substituted for improvement or relocation so long as the same lineal footage of improved trail meets the same CIAP criteria. Bridges will be considered, as appropriate, at ORV stream fords to reduce the impact off-road vehicle fords have on anadromous streams. The KIB will consult with ADF&G regarding the advisability, design and placement of any proposed bridging in lieu of stream fords. All proposed trail improvements will occur within the coastal zone.

MEASUREABLE GOALS AND OBJECTIVES

Year 1:

Initiate a KIB “Road System” Trail Plan in order to update all trail data and identify the trail segments that are most in need of hardening or relocation. The plan may not be complete after one year, however the contract specifications will establish a priority list of potential trail projects in those areas accessible on the “Road System” to the bulk of the borough population. In areas of private property owner permissions will be sought during this phase of the project.

Year 2:

Relocate and/or harden 2,000 lineal feet of trail located in wetlands or sensitive habitat along the SALTERY COVE ROAD/TRAIL or other higher priority trail segments if such are identified in the trail planning process. Depending on the success of the first year planning process, there may be a need to utilize some additional funds to ensure that the trail plan is complete and adopted by the Kodiak Island Borough Assembly.

Year 3:

Relocate and/or harden 6,000 lineal feet of trail located in wetlands or sensitive habitat along the PORTAGE COVE TRAIL or other higher priority trail segments if such are identified in the trail planning process.

Year 4:

Relocate and/or harden 6,000 lineal feet of trail located in wetlands or sensitive habitat along the ANTON LARSEN BAY TO SHARATIN BAY TRAIL or other higher priority trail segments if such are identified in the trail planning process.

PROJECT CONSISTENCY WITH CIAP AUTHORIZED USE

These projects are eligible under CIAP Authorized Use #1, *Project and activities for the conservation, protection, or restoration of coastal areas, including wetlands.*

Trail improvements on heavily used trails will protect and restore anadromous streams and high value habitat in coastal areas and wetlands. Recent trail studies, as part of a borough “Road System” Trails Plan identified several trail segments with high public use characteristics, which were subject to observable soil erosion and vegetative disturbance directly affecting anadromous streams and wetlands. These trails are ANCSA 17(b)

easements or located on public (State of Alaska) lands, which cannot be otherwise managed to exclude or restrict off-road vehicle usage so that trail hardening is deemed the only viable method of improving the coastal water quality and anadromous stream habitat. To the extent feasible, trail alignments will be fixed (with the approval of the underlying landowner) and the trails hardened or relocated in order to eliminate braided trail segments and trail alignments on steep slope areas that are most vulnerable to erosion. Elimination of braided trails will also have the added benefit of preventing trespass on private, largely native lands. Additional bridging effort will be considered to improve water quality in the downstream vicinity of approved and non-approved stream fords.

COORDINATION WITH FEDERAL RESOURCES OR PROGRAMS

The Kodiak Island Borough would coordinate these planning and trail improvement activities with the Natural Resource Conservation Service (NRCS) and a local non-profit trails organization called the Island Trails Network. Many of the trails along the Kodiak “Road System” provide access to state lands that are used for grazing and public recreation purposes. Improvements to trails that are designated as ANCSA part 17B easements may require some coordination with Bureau of Land Management or other responsible federal custodian for such designated trail easements.

In the past, the Kodiak Island Borough has requested and received technical support in its trail planning efforts from the National Park Service (NPS). The borough would try to include the NPS to the greatest extent possible in development of the planning process, assisting with meeting facilitation and providing other technical assistance with mapping and best management practices as appropriate.

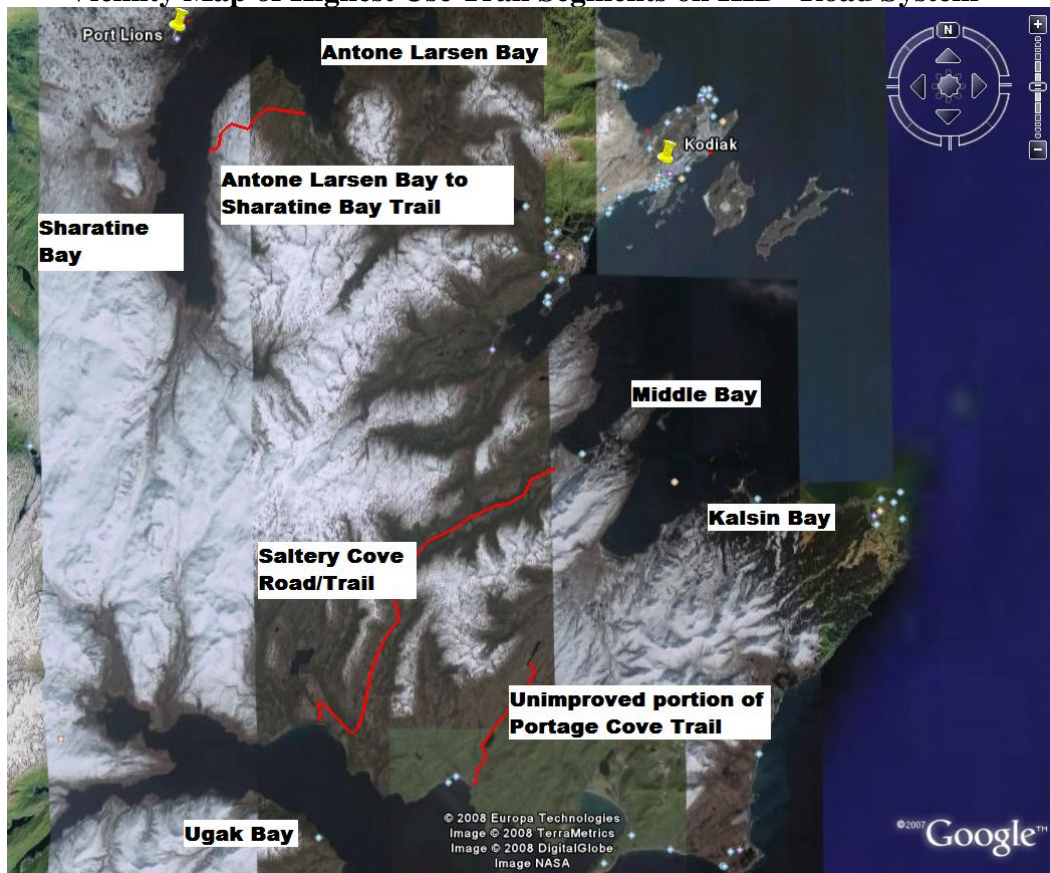
COST SHARING OR MATCHING OF FUNDS

CIAP funds may be used for cost sharing or matching purposes required by another grant. If they are used in this manner, a letter will be included with the CIAP grant application from the other Federal agency (the agency charged with administering the program that includes the cost of sharing or matching requirement) indicating that the other agency’s program allows the use of Federal funds to meet cost sharing or matching requirements.

Efforts will be made within the community to match grant dollars with volunteer labor and equipment time by working with local trail groups such as the Island Trail Network and other unincorporated trail user groups.

MAPS

Vicinity Map of Highest Use Trail Segments on KIB “Road System”



**STATE OF ALASKA
COASTAL IMPACT ASSISTANCE PROGRAM**

Kodiak Island Borough

**PROJECT TITLE: Public Education on the Value of Conserving Wetlands,
Anadromous Streams and other Coastal Habitat**

Note: This project was approved as part of the 2008 Approved Alaska CIAP Plan. The budget is the same. However, the deliverables have been increased due to more accurate pricing.

PROJECT CONTACT

Contact Name: Charles E. (Bud) Cassidy, Director, Community Development
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Kodiak Island Borough
Address: 710 Mill Bay Road, Kodiak, Alaska 99615
Telephone Number: (907) 486-9360
Fax Number: (907) 486-9396
Email Address: bcassidy@kodiakak.us

PROJECT LOCATION

Borough wide

PROJECT DURATION

One (1) years

ESTIMATED COST

Spending Estimate (\$)	
TOTAL	Year 1
9,670.52	9,670.52

Funding per Allocation Year of CIAP (\$)				
TOTAL	FY 07	FY 08	FY 09	FY 10
9,670.52	9,670.52	0	0	0

PROJECT DESCRIPTION

This project focuses on educating the general public about the value of conserving wetlands, anadromous streams and other coastal habitat through the following efforts:

1. Update, publish, and distribute an educational brochure about the damage caused by crossing salmon streams with all terrain vehicles (ATVs) and off road vehicles (ORVs), featuring "Lester Lightfoot," the state trail mascot.

2. In partnership with recreation and conservation groups such as the Kodiak Audubon Society, Island Trail Network or Kodiak Soil and Water Conservation District, develop and deliver an educational hike program for all ages and abilities in order to educate people about the value of conserving coastal habitat. The hikes will occur in coastal areas, near anadromous streams or near high value wetland habitat. Hikers will be provided with an educational brochure and water bottle “stickers” with web address to locate additional related information.

The need for public education on the value of conserving wetlands, anadromous streams and other coastal habitat was a finding of the “ATV Stakeholder Committee” which was empanelled by the KIB Assembly in 2003 and 2004. This finding is based on evidence that most environmental damage and reckless use of ATV’s or ORV’s is due to ignorance by some trail users of the importance of wetlands, anadromous streams and other coastal habitat.

One of the reasons for this finding is the fact that Kodiak is home to the largest U.S. Coast Guard (USCG) base in the nation, based on the total number of service personnel and dependents. The USCG base is like a city unto itself, except that fully 1/3 of its population rotates to other duty stations or separates from the service each year. In addition to the typical in-migration/out-migration that the Kodiak community might otherwise see, many of these service personnel fit the demographic of generally younger persons with disposable incomes that allow for ATV/ORV purchase and a high interest in outdoor recreational activities, whether that means going fishing on an ATV/ORV or just riding the ATV/ORV for recreation.

Over the years, unrestricted all-terrain vehicle and off-road vehicle use, and unplanned trail development have contributed to significant erosion and degradation of riparian areas and trails in the Kodiak Island Borough. Both permitted and non-permitted ATV and ORV stream fords have caused trampled stream banks, destroying vegetation and accelerating erosion into waters used by anadromous fish. Trails created from unrestricted recreational use have been developed without planned construction techniques, contributing to severe erosion problems, impacts to wetland areas, and destabilized stream crossings. These user impacts have led to poor drainage patterns, bank destabilization, deep rutting, mud holes, widened tread, damage to vegetation, and year-round standing water. A combination of poor trail location and unsuitable terrain has increased erosion and resulted in trail braiding.

In 2004, Stacy Studebaker, a teacher, member of the local Audubon Society, and a member of the ATV Stakeholder Committee developed an educational brochure. She developed the “Lester Lightfoot” character, which the Kodiak Island Borough and State of Alaska have both adopted as a symbol on some of its trail education materials. This project will update the brochure to show current approved stream ford crossings, expanded agency coordination, and will result in the printing and distribution of the brochure (the original brochure is included with this project description) as well as related water bottle “stickers” with web addresses to obtain additional related information.

The ATV Stakeholder Committee highlighted the need for environmental education for ATV/ORV users. The brochure effectively distributes the message. Until the supply of brochures ran out and the content became dated, local ATV/ORV dealers helped distribute the brochures with each new ATV purchase and the USCG includes the brochure in each welcoming packet for new arrivals. Additionally, the brochures were also available at tourist kiosks around town and distributed to specific trail user groups. Investing in this project will restore the benefits originally obtained by the first educational effort and help to institutionalize this effort beyond the duration of the CIAP program.

Since the formation of the ATV Stakeholder Committee and the development of the brochure, there has been an increase in local interest and involvement in environmental protection through improved trail construction and maintenance. A local trail non-profit has recently been formed, the Island Trail Network, Inc (ITN). Several trail improvement projects have been undertaken by the ITN with grant funds from other sources. These projects have been done to repair and relocate certain damaged trails to improve habitat while still allowing multiple use of the trails. These projects have been successful largely due to the volunteer labor provided by local ATV/ORV enthusiasts who have shown the ability to mobilize their human and motorized resources when the need is made apparent. These efforts demonstrate the success of the ATV Stakeholder Committee and its educational efforts.

The second component of this project involves the development of an environmental education hiking program. Local groups such as the Kodiak Audubon Society and the Island Trails Network already have a program of guided hikes that provide both an opportunity for familiarization with the local trails and some educational information about the local flora and fauna unique to each trail. In particular, the Kodiak Island Borough has in the past funded the liability insurance for the Audubon Hiking Program; thereby leveraging its resources as an insured organization to obtain insurance coverage for this worthwhile community project. Based these relationships, we would call on the Audubon Society (and other trail organizations in the community) to designate a small percentage of their hikes to focus on a discussion of trail use and habitat preservation for those trail walks in or near coastal areas, wetlands or anadromous streams.

MEASUREABLE GOALS AND OBJECTIVES

- Publish and distribute 10,000 educational brochures about the damage caused by crossing salmon streams with ATVs and ORVs within one year of grant award.
- Print up to 10,000 water bottle “stickers with web addresses to educational websites with more information related to coastal habitat preservation.
- Conduct five (5) educational hikes in coastal areas, near anadromous streams or near high value wetland habitat in order to educate people about the value of conserving coastal habitat.

PROJECT CONSISTENCY WITH CIAP AUTHORIZED USE

These projects are eligible under CIAP Authorized Use #1, *projects and activities for the conservation and protection of coastal areas, including wetlands.*

Only an informed public will have an interest in voluntary conservation or protective efforts regarding the management of trails in coastal habitat areas, near wetlands or anadromous streams. This proposed public education project will work to protect coastal areas and wetlands in conjunction with a separate on-the ground trail hardening project also proposed under CIAP (Kodiak Island Borough CIAP Project 2). While the trail hardening will consolidate and improve the trails, allowing degraded wetland areas to be restored to a more natural state, the education component described in this project will emphasize the value of adhering to the trails and respecting the environment. As noted above, a substantial portion of the population in Kodiak is transient. Newcomers are often unfamiliar with the value of coastal areas, anadromous fish streams, and wetlands and are not aware of the need to protect such areas. The increased public interest in protecting coastal areas created by the original brochure has led to increased volunteer involvement in trail rehabilitation projects, leading to restored wetlands. The educational hiking program will target a separate group of citizens. It is presumed that an increase in awareness of human impacts on the coastal environment will continue to result in an increased interest in protecting the environment and volunteer conservation or protection efforts.

COORDINATION WITH FEDERAL RESOURCES OR PROGRAMS

The KIB will request technical assistance from the National Park Service to help to develop a simple and standardized educational program based on Kodiak trail and habitat values. The KIB will also pursue partnering with the local office of the National Resource Conservation Service in this regard.

The Kodiak Island Borough will request that the USCG continue to distribute the brochures to new arrivals.

COST SHARING OR MATCHING OF FUNDS

CIAP funds may be used for cost sharing or matching purposes required by another grant. If they are used in this manner, a letter will be included with the CIAP grant application from the other Federal agency (the agency charged with administering the program that includes the cost of sharing or matching requirement) indicating that the other agency's program allows the use of Federal funds to meet cost sharing or matching requirements.

EXHIBIT

Original Brochure addressing salmon habitat, stream fords, agency coordination.

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**STATE OF ALASKA
COASTAL IMPACT ASSISTANCE PROGRAM**

Kodiak Island Borough

PROJECT TITLE: Mapping of Coastal and Marine Resources

Note: This project was approved in the 2008 Alaska CIAP plan. It has not been changed.

PROJECT CONTACT

Contact Name: Charles E. (Bud) Cassidy, Director, Community Development
Department
Kodiak Island Borough
Address: 710 Mill Bay Road, Kodiak, Alaska 99615
Telephone Number: (907) 486-9360
Fax Number: (907) 486-9396
Email Address: bcassidy@kodiakak.us

PROJECT LOCATION

Borough wide

PROJECT DURATION

Three (3) years

ESTIMATED COST

Spending Estimate CIAP (\$)			
TOTAL	Year 1	Year 2	Year 3
29,011.56	9,670.52	9,670.52	9,670.52

Funding per Allocation Year of CIAP (\$)				
TOTAL	FY 07	FY 08	FY 09	FY 10
29,011.56	0	9,670.52	9,670.52	9,670.52

PROJECT DESCRIPTION

For the past several years, the Kodiak Island Borough has been in the process of converting its AutoCAD based mapping system into a GIS based cadastral database. At this point, the focus of this project has been to support the activities of the Assessing Department, which has provided the land ownership, and attribute database. This emphasis has resulted in the mapping priorities of the Community Development Department, nominally responsible for maintaining the GIS shapefiles, spending its time on the mapping of surveys and subdivisions only.

With the recent adoption of the Kodiak Island Borough revised Coastal Management Plan, the broader range of resource issues described therein has pointed out a substantial deficiency in current borough mapping with regard to the mapping of coastal and marine resources. Current KIB GIS maps do not include mapping for such resources, even though these resources are of great importance to borough residents.

Some mapping provided in the revised KIB CMP has brought together resource maps and data from many diverse sources. These maps were either copied wholesale from their original documents or in other cases were literally hand drawn on some kind of electronic base mapping in order to meet the criteria for coastal management planning. The purpose of this project would be to integrate such information directly into the KIB GIS system in order to make this information more obvious when the borough contemplates new planning projects or coastal development reviews. Easier access to the information will result in improved implementation of the KIB Coastal Management Plan and enhance environmental protection through more thorough review of proposed development projects. In addition, it is the borough's intention to make this GIS information generally available to the public online in a seamless borough wide GIS that would help people find this kind of information without having to search all the other marine resource agencies for documents and maps. Proper attribution of the source materials in metadata will ensure that those persons who need more in depth information may more easily locate the source documents through the KIB GIS as a "one-stop" online property and marine resource inventory.

MEASUREABLE GOALS AND OBJECTIVES

Year 1:

- Convert maps in the revised Kodiak Island Borough Coastal Management Plan into shape files, which can be added to the borough's GIS and subsequently published online along with the narrative plan information.

Year 2:

- Create a large format borough wide map for public display at borough offices. The map will include coastal resource information on all communities and shoreline areas of the borough.
- Create a large format color map for each one of the five incorporated communities within the Kodiak Island Borough for display at the city hall of each respective community.

Year 3:

- Integrate coastal and marine resources as a layer of information contained in the KIB GIS, which would then make the information available to the public via the Internet through the borough's web pages.

PROJECT CONSISTENCY WITH CIAP AUTHORIZED USE

This project is eligible under CIAP Authorized Use #4, *Implementation of a federally-approved marine, coastal or comprehensive conservation management plan.*

This project will help local planners implement the Kodiak Island Borough Coastal Management Plan. The coastal management plan is a component of the Alaska Coastal Management Program (ACMP), a program requiring federal approval by the National Oceanic and Atmospheric Administration. Improved mapping of coastal resources will assist local planners to protect and conserve coastal areas and wetland habitats when they review development projects for consistency with the ACMP. Given the geographical area of the borough, it is often not possible to schedule an onsite visit for every review conducted under the ACMP. A concise and easily accessible map and database will capture the data necessary to do high quality site level reviews. The database and maps will provide planners information on the environmental resources necessary to implement the enforceable policies in the KIB Coastal Management Plan and the statewide ACMP standards. KIB recently revised its coastal management plan in response to Alaska legislation passed in 2003. The funding available for the revisions to the KIB Coastal Management Program went largely to the policy development portion of the planning process and several required revisions thereto. The plan maps associated with the recent revisions were completed to a minimally acceptable standard in order to obtain plan approval and are not in a format that is generally accessible to the public or easily reproducible by KIB staff when reviewing projects for consistency with the ACMP.

COORDINATION WITH FEDERAL RESOURCES OR PROGRAMS

The Kodiak Island Borough has a longstanding relationship with the Kodiak National Wildlife Refuge (KNWR) and with the federal Fish & Wildlife Service (FWS). Currently the KIB is participating in an aerial photo effort the KNWR is coordinating to obtain remote imagery for a large area in and around Larsen Bay. In this project the borough is splitting the cost of a ground control survey with the Koniag Regional Native Corporation so that the resulting public domain imagery will have greater value to the public by virtue of being more suitable for inclusion in the KIB GIS and other GIS based project documents.

The borough would expect to continue this close relationship with the KNWR and to a lesser degree with the Kodiak Maritime National Wildlife Refuge (KMNWR), which is not based in Kodiak.

With regard to the exploitation of coastal and marine resources, the KIB would also request technical assistance from the National Park Service (NPS) for trail mapping and trail planning activities. This is particularly important for areas in close proximity to rural communities, some of which have extended trail networks that may provide alternate transportation to certain resource areas traditionally accessed by boat or by air transport only. The borough would also consult with the Bureau of Land Management regarding the status of certain ANCSA part 17B easements. As the easements have never been surveyed, mapping a representation of the trails, as described in the creating documents, may be at odds with the physical evidence located on the ground.

COST SHARING OR MATCHING OF FUNDS

CIAP funds may be used for cost sharing or matching purposes required by another grant. If they are used in this manner, a letter will be included with the CIAP grant application

from the other Federal agency (the agency charged with administering the program that includes the cost of sharing or matching requirement) indicating that the other agency's program allows the use of Federal funds to meet cost sharing or matching requirements.

**STATE OF ALASKA
COASTAL IMPACT ASSISTANCE PROGRAM**

Kodiak Island Borough

PROJECT TITLE: Coastal Erosion Study

This project was approved as part of the 2008 Approved Alaska CIAP Plan. The duration and budget have been increased.

PROJECT CONTACT

Contact Name: Charles E. (Bud) Cassidy, Director, Community Development
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Address: 710 Mill Bay Road, Kodiak, Alaska 99615
Telephone Number: (907) 486-9360
Fax Number: (907) 486-9396
Email Address: bcassidy@kodiakak.us

PROJECT LOCATION

Borough wide

PROJECT DURATION

Two (2) years

ESTIMATED COST

Spending Estimate CIAP (\$)		
TOTAL	Year 1	Year 2
250,000	125,000	125,000

This is a Tier 2 project. Funding per allocation year of CIAP will depend on availability of funds.

PROJECT DESCRIPTION

The Kodiak Island Borough proposes to do a shoreline erosion study similar to the one that was done for the City of Homer in 2004. In 2004, the City of Homer contracted with the Kachemak Bay National Estuarine Research Reserve (KBNERR) to conduct a coastal erosion study. KBNERR acquired historical aerial photos, and drew a line at the top of the coastal bluff for each photograph set. Then, the researchers calculated the average rate of erosion for each part of the Homer shoreline. The researchers extrapolated how much erosion could happen over the next 50 years, based on the 1975-current erosion rate, and the overall known erosion rate from 1951.

This program involved developing a number of components that the City of Homer uses to better understand and manage its coastal resources. In particular, city planners have an estimate of coastal bluff erosion based on a series of aerial surveys, a description of the

salt marsh plant communities and their extent within the city, and a survey of beach habitats. They use this information in order to develop land use policies and regulations.

The shoreline mapping effort was conducted using standard techniques (Kaminsky et al. 1999, Moore 2000, Moore and Griggs 2002, Ruggeiero et al. 2003). The map of coastal erosion rates was developed by mapping the bluff edge on aerial maps collected in 1951, 1961, 1968, 1975, 1996, and 2003. Each set of images was rectified with an emphasis on points above the shoreline bluff and below the large bluffs north of the city. The images were initially rectified to common features with those found in the 1996 images to provide a rough rectification. A more precise rectification was accomplished by sequentially rectifying each set of images, i.e. 1975 was rectified to 1996 and 1968 rectified to 1975. This sequential approach allowed more features common to each image set, to be identified and used in the rectification.

The Homer coastal erosion study resulted in a GIS project containing the mosaic of rectified images and a derived coastline for each aerial survey. The map showed coastal erosion rates and included a spreadsheet of estimated erosion between sets of imagery and the overall erosion rate. A PowerPoint presentation was also developed based on the results of this project. The presentation has been shown in KBNERR's exhibit area at the Alaska Islands and Ocean Visitors Center in Homer, Alaska. The presentation includes the overall erosion rate and then focuses on eight areas of interest. At each area of interest the focus is on a small area of the coastline as the viewer cycles through the aerial images. To provide a reference point, the 1951 coastline is provided on each image. At the end of each sequence a summary slide with all of the coastlines is provided.

The products from this project have been of great value to the residents of Homer, Alaska as it has reduced the amount of property loss or damage that occurs due to structures being built too close to the bluff. Community planning has taken place with real understanding of coastal erosion. Recognizing the areas most susceptible to erosion along the shoreline has ensured that human activities potentially contributing to erosion can be curtailed.

In order to obtain this same kind of product, the Kodiak Island Borough project proposes the following actions.

- 1) Prepare a coastal erosion study for Kodiak Island similar to the 2004 study completed in Homer, Alaska, using historical aerial photography and other analytical techniques in order to identify areas where coastal erosion is likely to be a problem in the future. The emphasis will be on those areas near coastal communities.
- 2) Identify a 5 to 10 mile stretch of coastline near each of the five (5) incorporated communities of the Kodiak Island Borough and the federally recognized community of Karluk, where human activity and development are most likely to impact areas of coastal erosion or to be impacted by coastal erosion.

- 3) Hire a qualified consultant to conduct the study and facilitate policy development meetings.
- 4) Study the impacts of coastal development to assist in the development of local land use policies, which will protect the coastal zone from unsuitable uses and developments based on the variable carrying capacity of the lands along the shoreline throughout the Kodiak Island Borough.

MEASUREABLE GOALS AND OBJECTIVES

- Prepare a coastal erosion study that identifies coastal areas of the borough which are prone to erosion and address the impacts of human activity on these areas.

PROJECT CONSISTENCY WITH CIAP AUTHORIZED USE

This project is eligible under CIAP Authorized Use #4, *Implementation of a federally-approved marine, coastal or comprehensive conservation management plan.*

The proposed coastal erosion study will help local planners and state resource agencies implement the natural hazard standard of the Alaska Coastal Management Program (ACMP), a federally approved program. Development projects located within the coastal zone that require state or federal authorizations, or are a federal activity, are required to be consistent with the state ACMP standards prior to issuance of the authorizations. The ACMP standards aim to strike a balance between development and environmental protection by applying project stipulations intended to minimize environmental impacts. In particular, the ACMP natural hazard standard at 11 AAC 112.210(c) states the following:

“Development in a natural hazard area may not be found consistent unless the applicant has taken appropriate measures in the siting, design, construction, and operation of the proposed activity to protect public safety, services, and the environment from potential damage caused by known natural hazards.”

In order for the KIB to apply the above standard the state must first designate a project area as a natural hazard area. ACMP regulations at 11 AAC 112.210(a) require scientific evidence to make such a designation.

“Such designations must provide the scientific basis for designating the natural process or adverse condition as a natural hazard in the coastal area, along with supporting scientific evidence for the designation.”

The coastal erosion study proposed will provide the scientific basis required for the designation of natural hazard areas, thereby allowing for the implementation of the natural hazard standard.

Additionally, the erosion study will provide the basis for the development of local land use policies. Coastal erosion is recognized as a natural phenomenon which can degrade the productivity of coastal habitats and anadromous streams. Determining appropriate

management strategies can help mitigate the effects of this phenomenon and help avoid human activity that might contribute to coastal erosion.

COORDINATION WITH FEDERAL RESOURCES OR PROGRAMS

The Kodiak Island Borough would coordinate this project with the Natural Resource Conservation Service as a local source of information regarding soils conditions and characteristics. In areas where applicable, some coordination would also be appropriate with NOAA regarding ocean currents and aquatic species, the Federal Fish & Wildlife Service regarding marine mammals and the Kodiak Maritime National Wildlife Refuge in areas so designated along the coastline.

COST SHARING OR MATCHING OF FUNDS

CIAP funds may be used for cost sharing or matching purposes required by another grant. If they are used in this manner, a letter will be included with the CIAP grant application from the other Federal agency (the agency charged with administering the program that includes the cost of sharing or matching requirement) indicating that the other agency's program allows the use of Federal funds to meet cost sharing or match requirements.