State of Alaska
Coastal Impact Assistance Program

December 2010 Amendment

APPENDIX B-1.1

Project Descriptions: Direct to State Funding

State Agency Initiated Projects – Tier 1
(Proposed)

State of Alaska
Coastal Impact Assistance Program
Direct to State Funding

Tier 1 - State Agency Initiated Projects		
Project ID Number	**Project Title**	**Spending Estimate**
AKCIAP _SOA_T1-08	Administration of the Alaska Coastal impact Assistance Program	$4,322,810.06
AKCIAP _SOA_T1-10	Geohazards Evaluation and Geologic Mapping for Coastal Communities	$2,581,095
AKCIAP_ SOA_T1-21	Evaluation of Bird Deterrent Techniques to Protect Coastal Areas from Oil Spills	$54,300
AKCIAP_ SOA_T1-30	Alaska Community Coastal Protection Project	$1,000,000

STATE OF ALASKA
COASTAL IMPACT ASSISTANCE PLAN

DEPARTMENT OF NATURAL RESOURCES (DNR)
DIVISION OF COASTAL AND OCEAN MANAGEMENT (DCOM)

PROJECT TITLE: Administration of the Alaska Coastal Impact Assistance Program (CIAP)

Note: This project was approved as part of the 2008 Alaska CIAP Plan. It was amended in the March 2010 plan to increase the budget due to the additional administrative expenses associated with the increase in annual CIAP allocation to the State of Alaska for fiscal years 2009 and 2010. However, in order to not exceed the 23% limitation on projects that address Authorized Use #3, the March 2010 Amendment did not include all of the administrative costs associated with CIAP. This December 2010 Amendment includes all administrative costs.

PROJECT CONTACT

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ADMINISTRATIVE CONTACT

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PROJECT LOCATION

Juneau, Alaska

PROJECT DURATION

2007- 2016. This project description covers administrative costs for the life of CIAP. Minerals Management Service (MMS) awarded an initial grant for this project in July 2009. MMS approved amendments in March 2010 and in June 2010. As grant funds must be expended within 4 years of issuance, the awarded grant and associated amendments only cover administrative costs through May 2013. DCOM will apply to the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE) for a new grant in 2013 to cover any outstanding administrative needs as described in this project description.

ESTIMATED COST

The total cost of this project is $4,322,810.06.

Spending Estimate ($)										
TOTAL	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2113**	**2014**	**2015**	**2016**
4,322,810.06	79,148	81,102	304,133	324,533	441,354	595,312	605,039	588,055	640,453	663,681.06

Funding per Allocation Year of CIAP ($)				
TOTAL	**FY 07**	**FY 08**	**FY 09**	**FY 10**
4,322,810.06	1,250	122,914	2,944,404.40	1,254,241.66

PROJECT DESCRIPTION

The purpose of this project is to provide for planning and administration of the Alaska Coastal Impact Assistance Program. The Division of Coastal and Ocean Management within the Department of Natural Resources has the authority to manage, implement, and monitor the Alaska CIAP. DCOM will serve as the lead agency for CIAP and will be the liaison between the state and BOEMRE for purposes of CIAP. DNR will develop and amend the state's CIAP plan as needed, apply to BOEMRE for each grant, and track each CIAP project.

Legislation effecting CIAP

On May 21, 2009, Governor Palin signed legislation (CSSB 75(FIN)) into law effecting the distribution of the direct to state portion of CIAP funds. This project description regarding the administration of CIAP will administer the program consistent with BOEMRE guidelines and consistent with the legislation. The Alaska legislature appropriated the direct to state portion of CIAP funds (all four years combined) as follows[1]:

1. $23,067,581.13 to DNR for state initiated projects
2. $1,373,070.31 to Department of Fish & Game (DFG) for the Western Alaska Salmon Coalition's (WASC) Chum and Sockeye Genetic Identification Program
3. $13,710,856.08 to Department of Commerce, Community and Economic Development (DCCED) for an open solicitation from the public
4. $9,340,520.70 to DCCED for use by eight named municipalities and four named coastal resource service areas (CRSAs) (amounts range from $86,110 to $2,570,786) per named recipient)

Tasks

This administrative project will cover costs associated with the following three tasks, each of which are programmatic in nature.

1. Plan development and amendment:

CIAP Plan development is a major component of administering CIAP.

[1] These numbers do not include the administrative costs associated with CIAP. CIAP administrative costs were taken proportionately from each of these four categories.

DCOM worked closely with the CPSs in the development and refinement of their projects and was the lead in the solicitation, selection, and refinement of projects from the state agencies. DCCED was the lead in the solicitation and selection of projects from the public and named recipients.

In addition to funding DCOM's and DCCED's plan development efforts, this administrative project also funds CIAP project development efforts conducted by the CRSAs. It is important to note that the CRSAs are comprised of rural areas within the State of Alaska that function without the benefit of borough governments. The CRSAs range in size from approximately 9,400 square miles to over 35,000 square miles and include between four and 40 different rural communities, many of which are geographically isolated from one another. Their size, number of communities and isolation contribute to the high cost of doing business in these areas. Each of the four CRSAs are run by a board made up of seven to nine individuals from the area. This administrative project includes funds that will be made available to each of the four CRSAs for project development (up to $50,000 per CRSA). While included in the administrative grant, the funds will be reduced from the overall amount available for projects, as allocated to each CRSA by legislation.

DCOM intends to review the Alaska CIAP plan annually to evaluate whether or not it still reflects the state's and CPSs' priorities. Should priorities shift DCOM will revise the state plan. The revised plan will go out for public review and will be submitted to BOEMRE for approval. DCOM will also prepare any administrative amendments to incorporate project changes that have occurred through the grant process.

2. Grant applications

The State of Alaska will directly receive $1,576,250 annually for FY 2007 and 2008, $24,356,719.71 for FY 2009, and $24,105,619.51 for FY 2010 in CIAP funds.

DCOM will manage all the CIAP grants for this direct to state portion of the funding. This includes submitting the applications to BOEMRE, accepting the awards, and reporting on the grants. Once a grant is awarded, DCOM will use Reimbursable Service Agreements (RSA) to sub grant the award to the state agency responsible for the project. For the projects that will be conducted by the legislatively named recipients and those selected from the public solicitation, DCOM will use an RSA to transfer the funds to DCCED. DCCED will further sub award the funds to the entity conducting the project.

DCOM and DCCED will provide assistance, as appropriate and as needed to the entities conducting the projects (state agency, public, named recipient, WASC) and the coastal political subdivisions to review grant proposals.

3. Grant tracking

DCOM and DCCED will regularly communicate with project contacts and monitor project progress. DCOM will provide a progress report template that will focus on achievement of milestones, progress on measurable objectives, unexpected challenges, and expenditures. At a project's conclusion DCOM will verify and document the successful completion of the

measurable outcomes. If outcomes are not met, DCOM and DCCED, if appropriate, will work with the project contact to determine what steps and budget is necessary to complete the project. If a project changes course or falls short of projected outcomes DCOM will work as a liaison between the project agency and BOEMRE in order to keep BOEMRE apprised of project revisions or to amend the grant as needed.

MEASURABLE GOALS AND OBJECTIVES

The following products are the measurable outcomes that will demonstrate the successful management, implementation, and monitoring of the Alaska CIAP:

- A final approved State of Alaska CIAP plan that accounts for all of the CIAP funds allocated to the State of Alaska and the eight Alaska CPSs
- An RSA for each of the CIAP projects that will transfer funds from DCOM to the state agency conducting the project or to DCCED or DFG for further sub award to the entity conducting the project
- Sub grants from DCCED to the entity conducting the project for each of the projects selected through the public solicitation and projects proposed by the legislatively named recipients.
- Project Progress Report template
- All required state grant reports, to be submitted to BOEMRE
- Documentation of project completion for each CIAP grant issued to the State of Alaska
- Amendments to Alaska CIAP plan as needed to be submitted to BOEMRE

PROJECT CONSISTENCY WITH CIAP AUTHORIZED USE

This project is consistent with CIAP Authorized Use Number 3: *Planning assistance and the administrative costs of complying with CIAP*.

This project will cover administrative costs of the tasks noted above. These tasks are essential for the state to successfully comply with CIAP requirements.

COORDINATION WITH FEDERAL RESOURCES OR PROGRAMS

The primary function of DCOM is to implement and administer the Alaska Coastal Management Program (ACMP), a federally approved program consistent with the Federal Coastal Zone Management Act. DCOM coordinates multi-agency state and federal project reviews for consistency with the ACMP. It also administers the distribution of Federal Section 306, 309 and 310N funding to coastal communities and state agencies for their implementation of the ACMP as well as special projects related to coastal management. As the recipient of both the ACMP grant funding and the CIAP funding, DCOM can ensure project coordination and can assist the grantees in developing projects that build on each other.

COST SHARING OR MATCHING OF FUNDS

CIAP funds will not be used to meet cost sharing or matching requirements of other federal grants.

STATE OF ALASKA
COASTAL IMPACT ASSISTANCE PLAN

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS

PROJECT TITLE: Geohazard Evaluation and Geologic Mapping for Coastal Communities – Amendment

Note: This project was originally approved as part of the 2008 Alaska CIAP Plan with a budget of $1,123,500. A revised project was approved as part of the March 2010 Amendment in which the budget was increased to $2,725,500, the funding year changed, and the number of communities to be studied expanded. This December 2010 Amendment has a slightly reduced budget. Project description and deliverables have not changed.

PROJECT CONTACT

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PROJECT LOCATION

At least nine, and up to fifteen, high-risk coastal communities in Alaska, to be determined in consultation with the Alaska Division of Community and Regional Affairs, Alaska Coastal Management Program staff, the U.S. Army Corps of Engineers (COE), the Denali Commission, the Immediate Action Workgroup of the Alaska Governor's Subcabinet on Climate Change, and affected coastal districts. Preliminary findings indicate that Kivalina, Shishmaref, Newtok, Shaktoolik, and Unalakleet are likely to be high-priority target communities for the first studies. Other communities that are less well-studied will also be evaluated as potential targets.

PROJECT DURATION

4 years

ESTIMATED COST

Spending Estimate ($)				
TOTAL	**Year 1**	**Year 2**	**Year 3**	**Year 4**
2,581,095	187,614	801,386	814,633	777,462

Funding per Allocation Year of CIAP ($)				
TOTAL	**FY 07**	**FY 08**	**FY 09**	**FY 10**
2,581,095	0	209,200	2,371,895	0

PROJECT DESCRIPTION

This amended project will expand our program of coastal community geohazards evaluation and geologic mapping in support of community and district planning. The Division of Geological & Geophysical Surveys (DGGS) will collect the necessary field data to produce and publish surficial and engineering-geologic/hazards maps of Alaskan coastal communities, prioritized in consultation with the Alaska Division of Community and Regional Affairs, Alaska Coastal Management Program staff, the U.S. Army Corps of Engineers (COE), the Denali Commission, and affected coastal districts. The maps will identify local natural hazards that must be considered in the siting, design, construction, and operations of development projects to ensure protection of the coastal area. Maps may include proposed community relocation sites in response to the severe coastal erosion problems now facing various Alaskan communities. Mapping will be completed at local and/or regional scales as needed to address specific local problems and to understand and evaluate the larger geologic context of the area. The engineering-geologic/hazards maps will be published in GIS format with standard metadata and will delineate areas where natural hazards such as erosion, slope instability, active faults, flooding, and earthquake effects should be considered at a more detailed level to fully evaluate construction risk and to ensure that the coastal areas are not damaged by planned and proposed development. Project work will be coordinated with current U.S. Geological Survey coastal studies to ensure there is no duplication of effort.

Approximately 6,600 miles of Alaska's coastline and many low-lying areas along the state's rivers are subject to severe flooding and erosion. The United States General Accounting Office (GAO; now the U.S. Government Accountability Office) reported in 2004 that flooding and erosion affects 184 out of 213 (86 percent) of Alaska Native villages, and most of these are coastal communities. Many of the problems are long-standing, although some studies indicate that increased flooding and erosion is being caused in part by changing climate. The GAO found that four villages – Kivalina, Koyukuk, Newtok and Shishmaref – are in imminent danger from flooding and erosion, and planning is underway to relocate these villages further inland. Of the top four at-risk villages, all but Koyukuk are coastal communities.

These findings were reinforced in 2006, when the U.S. Army Corps of Engineers examined erosion issues in the communities of Bethel, Dillingham, Kaktovik, Kivalina, Newtok, Shishmaref, and Unalakleet as part of its Alaska Village Erosion Technical Assistance Program. The coastal villages of Kivalina, Newtok, and Shishmaref were determined to have only 10-15 years left in their current locations before being irretrievably lost to erosion if countermeasures were not implemented.

Even more recently, the Immediate Action Workgroup of the Alaska Governor's Subcabinet on Climate Change (2008) identified the communities of Kivalina, Koyukuk, Newtok, Shaktoolik,

Shishmaref, and Unalakleet as being in greatest peril due to climate change phenomena and therefore in most need of immediate actions to prevent loss of life and property. The Workgroup recognized the necessity of developing a "methodology for prioritization of needs based on the risk to lives, health, infrastructure, homes, businesses, subsistence harvests, significant cultural attributes, and the quality of life." Furthermore, "villages with declining populations, which already cannot support continuation of vital services such as a school, would likely be a lower priority than those which are likely to sustain viable communities during the foreseeable future." These first steps, taken in coordination with the affected communities, are a start at developing a prioritization of target communities for the geologic investigations of this project.

The final report of the Alaska Climate Impact Assessment Commission to the Alaska State Legislature on March 17, 2008, found that "specific communities are in need of more detailed geologic and hydrologic mapping, including geophysical hazard mapping, in order to define the adequacy of the local terrain for adapting to coastal and riverine erosion and permafrost thawing." The Commission specifically recognized the need to provide "adequate resources to the Division of Geologic and Geophysical Surveys (DGGS) in the Department of Natural Resources, to coordinate state-federal engineering surveys of potential evacuation routes, village relocation sites, and material sources, including gravel and armor rock. This coordinated effort will insure that sites will prove sustainable and can optimize local resources in a cost effective manner." The Commission singled out the same GAO-targeted communities of Kivalina, Newtok, Shishmaref, and Koyukuk as being particularly impacted, and found that as many as twenty other Alaskan villages may suffer from similar strategic short-comings.

The current proposal follows the Commission's recommendation that the criteria by which a community is identified as "at risk" and in need of relocation due to erosion or other potential damage as a result of climate change be developed in conjunction with the state administration, the Denali Commission, and the U.S. Army Corps of Engineers (COE). Our prioritization metrics will include assessment of the relative potential value and usefulness of conducting studies in a given area.

DGGS will use the requested funding for project operations, including field work, publication costs, and contract geologists and/or engineers, and to continue funding a Geologist IV project lead and a Geologist I to provide field and office assistance as well as technical, database, and GIS support for preparing maps, reports, and metadata for publication.

MEASURABLE GOALS AND OBJECTIVES

Year 1: Develop prioritized list of coastal communities needing detailed geologic mapping.

Publish engineering-geologic/hazards maps and reports for one coastal community.

Year 2: Publish engineering-geologic/hazards maps and reports for at least two coastal communities.

Year 3: Publish engineering-geologic/hazards maps and reports for at least three coastal communities.

Year 4: Publish engineering-geologic/hazards maps and reports for at least three coastal communities for a total of at least nine coastal communities.

PROJECT CONSISTENCY WITH CIAP AUTHORIZED USE

This project is consistent with CIAP Authorized Use number 4, *Implementation of a federally-approved marine, coastal or comprehensive conservation management plan*, because the products will be directly applicable to development and amendment of coastal district coastal management plans. There are 35 coastal districts in Alaska (only 28 of the districts are currently active). District plans are a component of the Alaska Coastal Management Program (ACMP), a federally approved and funded program. Geologic and hazard maps produced by the proposed project will provide the scientific basis required for the designation of natural hazard areas by coastal districts and the Department of Natural Resources under state regulations, 11 AAC 112.210(a): *"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."* Designation of natural hazard areas are important to the implementation of the ACMP because state regulations *require* that a designation exist in order for the coastal districts or the state to implement related district enforceable policies or the state ACMP natural hazard standard, 11 AAC 112.210 (c): *"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."*

Because of Alaska's size and active geologic processes, many geologic hazards jeopardize the integrity of the state's infrastructure and the safety of its people and environment. These include active faults, earthquakes, tsunamis, volcanoes, landslides, snow avalanches, erosion, flooding, and permafrost, among others. However, very little field data currently exist in Alaska on which to delineate and describe many of these hazards. Even minimal baseline data are nonexistent in many areas targeted for hazards assessment. Without supporting scientific documentation, reliable natural hazards designations can not be made and significant harm to life, property, and the environment may result.

Identification and evaluation of geologic hazards are critical elements in the planning and design process for all kinds of infrastructure to guide location choices and prevent structural failure. Such information has been extensively used in the past to successfully prevent damage, injuries, and environmental impacts from geologic hazards. For example, severe environmental damage was avoided during the 2002 magnitude 7.9 Denali Fault earthquake, even though the Trans-Alaska oil pipeline was violently shifted several feet where it crosses the fault. Because the fault location and potential motion had been identified on the basis of pre-construction geologic studies, the pipeline was properly engineered to accommodate this fault offset. Breakage could have resulted in the spilling of large quantities of crude oil that would have flowed down the Delta, Tanana, and Yukon Rivers, causing significant environmental damage along the way and potentially impacting coastal habitats of the Yukon Delta. Without the basic geologic mapping and evaluation to identify and characterize the geologic hazard, the pipeline could not have been engineered to withstand the lateral offset and seismic shaking to which it was exposed during the earthquake.

Very specific to the coastal setting and the proposed project are the ramifications of villages currently sited along the Alaska coast that are experiencing severe impacts from erosion and flooding. Mitigation of these impacts, both in the short- and long-term, will run the gamut from simple beach armoring to construction of elaborate erosion-control structures to complete relocation of entire settlements. Baseline surficial and engineering-geologic/hazards maps will be critical to coastal districts as they develop and administer their coastal management plans in the context of these major undertakings.

COORDINATION WITH FEDERAL RESOURCES OR PROGRAMS

DGGS maps geology and geohazards around the state of Alaska with State General Fund and Capital Improvement Project funding, and with secondary funding from sources such as the Federal STATEMAP program through the U.S. Geological Survey. In the past, these projects have rarely had a coastal hazards component. CIAP funds are adding a strong coastal focus to DGGS mapping programs and enhancing ongoing hazard mapping efforts. DGGS recently received Capital Improvement Project funding for mapping geologic hazards in Alaska, with particular emphasis on hazards that could potentially be exacerbated by climate change. This funding can be leveraged with Federal funding from programs like STATEMAP which, with CIAP funds, will develop a comprehensive Alaska geohazards program.

Studies are being carried out in many individual communities to respond to and mitigate the effects of flooding and erosion, including those by the U.S. Corps of Engineers and local governments and planning agencies. Relocation studies have already begun for some communities, such as Newtok and Shishmaref. This project's assessment of geology and natural hazards over a larger area complements and enhances these more site-specific efforts and will provide valuable information for identifying potential relocation sites that will not repeat the mistakes of the past or fall victim to other, as-yet unforeseen natural hazards or conditions that may adversely impact the coastal environment and/or require future mitigation efforts at the new sites. The USGS is planning to fly a high-resolution LiDAR survey of the north coast of Alaska, and DGGS is encouraging them to extend their data collection efforts to the northwest coast of Alaska, including many of the communities that will likely be targeted by our hazard mapping efforts. We are considering partnering with the USGS in this effort by providing limited funding support for the survey if it includes our areas of interest around high-risk coastal communities. The Digital Elevation Models generated by this airborne survey will be extremely useful for documenting the location and magnitude of coastal erosion and would thus be a valuable tool for assessing potential development and/or relocation sites. DGGS will coordinate its efforts with the local, site-specific studies and community organizations in order to take full advantage of the work that is being done by other groups and share our own insights and results. We would hope to leverage logistical and data resources with all of these groups to the extent possible in order to maximize the return on our field studies and laboratory results.

COST SHARING OR MATCHING OF FUNDS

DGGS does not intend to use CIAP funds for cost sharing or matching purposes with other Federal agencies.

REFERENCES CITED

Alaska Climate Impact Assessment Commission, 2008, *Final Commission Report*: Alaska Climate Impact Assessment Commission Final Report to the Legislature, 125 p. http://www.housemajority.org/coms/cli/cli_finalreport_20080301.pdf

Immediate Action Workgroup, 2008, *Recommendations Report to the Governor's Subcabinet on Climate Change*: Immediate Action Workgroup Recommendations Report to the Governor's Subcabinet on Climate Change, 60 p. http://www.climatechange.alaska.gov/docs/iaw_dftrpt-21mar08-v6.pdf

U.S. Army Corps of Engineers-Alaska District, 2006, *Alaska Village Erosion Technical Assistance Program: An Examination of Erosion Issues in the Communities of Bethel, Dillingham, Kaktovik, Kivalina, Newtok, Shishmaref, and Unalakleet*: U.S. Army Corps of Engineers Report, 46 p. http://iss.poa.usace.army.mil/akerosion/references/AVETA%20Report%20-%20Compressed.pdf

United States General Accounting Office, 2004, *Alaska Native Villages: Villages Affected by Flooding and Erosion Have Difficulty Qualifying for Federal Assistance*: U.S. General Accounting Office Report GAO-04-895T, 21 p. http://www.gao.gov/new.items/d04895t.pdf

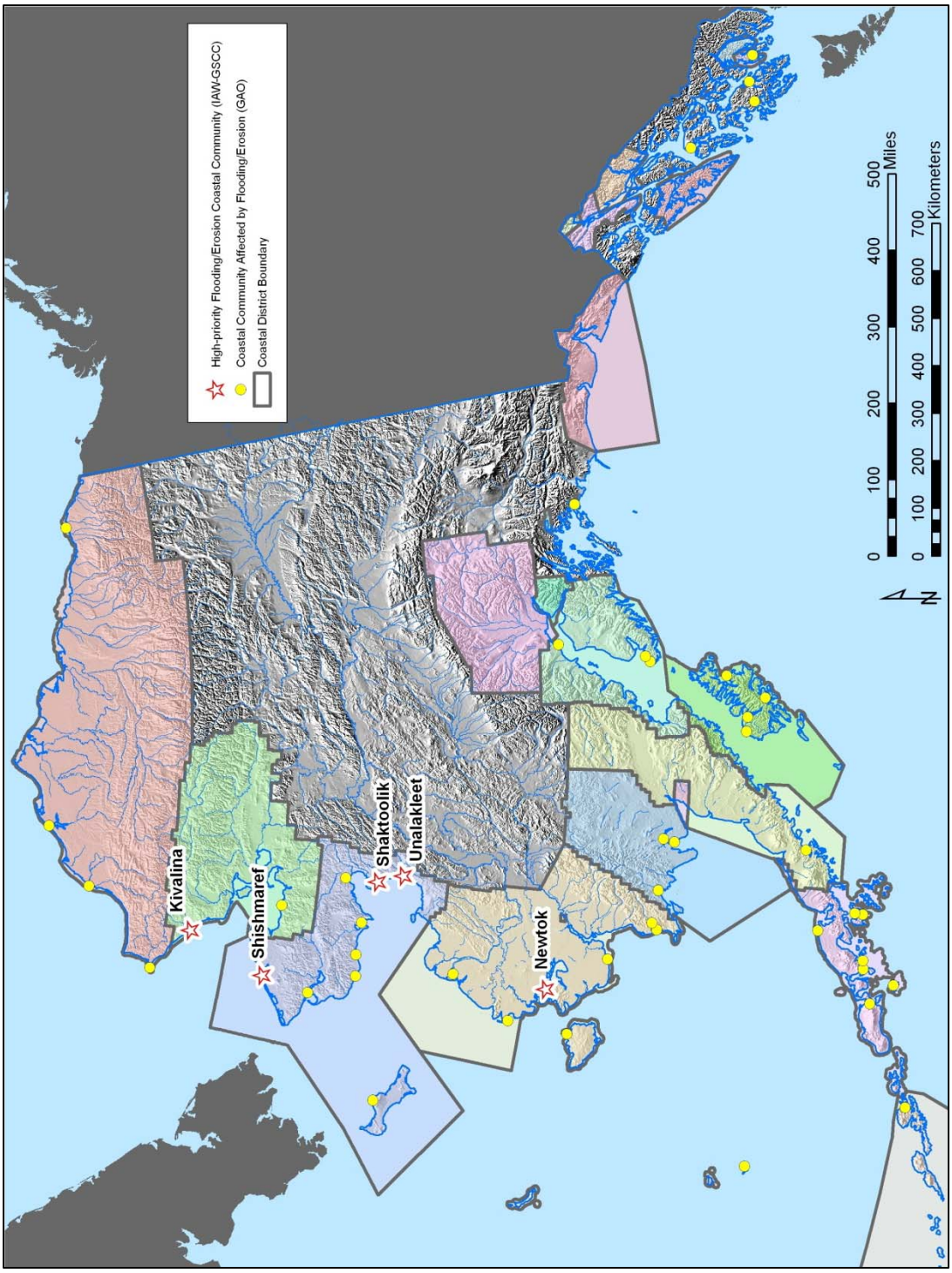

Figure 1. Map of Alaska showing Coastal Districts and coastal communities that the Immediate Action Workgroup of the Alaska Governor's Subcabinet on Climate Change has identified as being in greatest peril due to climate change phenomena, and therefore in most need of immediate actions to prevent loss of life and property. Additional candidate communities for hazards evaluation are also shown, based on a report by the Government Accountability Office (GAO).

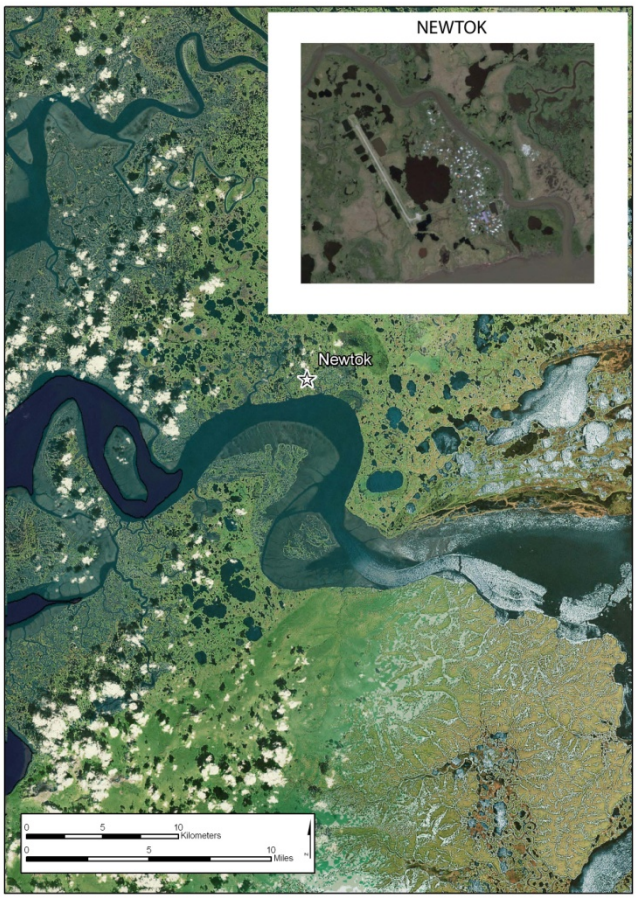

Figure 2. Maps of Shishmaref (pop. 609), Newtok (pop. 353), and Kivalina (pop. 398), communities that are endangered by severe flooding and erosion. These are some of the communities that are likely to be targeted for mapping studies by DGGS to assess local natural hazards that must be considered in the siting, design, construction, and operations of development projects in the coastal area

STATE OF ALASKA
COASTAL IMPACT ASSISTANCE PROGRAM

Department of Fish and Game, Division of Habitat

PROJECT TITLE: Evaluation of Bird Deterrent Techniques to Protect Coastal Areas from Oil Spills

PROJECT CONTACT

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PROJECT LOCATION

The project will occur along the coast of the western side of upper Cook Inlet. Specific sampling locations will be determined based on observations during the spring and fall aerial surveys.

PROJECT DURATION

The project is proposed as a 1-year project, including spring and fall field testing and subsequent report writing. Depending on the timing of CIAP funding availability, field sampling could occur within the first year of funding or may need to be deferred to the following year.

ESTIMATED COST

The major assumptions associated with the proposed budget include: the Alaska Department of Fish and Game (ADF&G) will provide technical expertise and field personnel, 1-day aerial surveys will be required in the spring and fall to locate birds and determine sampling locations, Cook Inlet oil spill response cooperatives will be contracted for vessel and skiff needs, two 1-week sampling events will occur (spring and fall), temporary field camps will be established using existing infrastructure (major equipment purchases or investment of set-up time will not be required), and in-kind support of personnel and bird hazing equipment from oil spill response cooperatives will be used to the extent practicable.

Spending Estimate ($)				
TOTAL	**Year 1**	**Year 2**	**Year 3**	**Year 4**
54,300	54,300	-	-	-

Funding per Allocation Year of CIAP ($)				
TOTAL	**FY 07**	**FY 08**	**FY 09**	**FY 10**
54,300			54,300	

PROJECT DESCRIPTION

The Wildlife Protection Guidelines for Alaska, within the State/Federal Unified Response Plan, identifies the use of deterrents as a secondary response strategy for minimizing oil effects on migratory birds. ADF&G, in coordination with the United States Fish and Wildlife Service (USFWS) and the United States Department of Agriculture/Wildlife Services (USDA/WS), has recommended that many crude and non-crude oil facilities or transport companies maintain bird deterrent or hazing equipment and trained individuals to preclude oiling of migratory birds in the event of a spill. The capability to haze wildlife has been required by the Alaska Department of Environmental Conservation (ADEC) through the department's oil spill prevention and contingency plan approvals (18 AAC 75). The typical bird hazing kit is designed for a shore-based or boat-based hazing program and includes 12-gauge cracker shells, 15-mm firecrackers, and reflecting tape and balloons. In addition, some companies have propane cannons within their response equipment inventories. There is also at least one hazing device that is not shore-based (e.g., Breco Buoy) for use in open water situations. While companies have cooperated in establishing the capability to haze wildlife, there has been limited use or testing of these bird hazing kits during an oil spill response in Alaska.

Various devices and techniques have been evaluated for use in oil spills (Greer and O'Connor 1994; Koski, Kevan, and Richardson 1993; Lehoux and Bordage 2000; Sharp 1978; Ward 1977). A few of the studies have focused on the use of deterrent devices in open-water habitats (Lehoux and Balanger 1995; Hounsell and Reilly 1995; Whissom and Takekawa 1998) and some work has been done with individual techniques within habitats similar to Southcentral Alaska (Biggs, Sverre, and Boisvert 1978). None of the studies have focused on determining the effectiveness of a combination of deterrent techniques in habitats similar to those found in Southcentral Alaska. Much of the west side of Cook Inlet consists of extensive tide flats and wetlands used by migrating waterfowl and shorebirds in the spring and fall. Large tidal fluctuations pose additional complications in effectively deterring birds away from oiled intertidal areas. Field testing of prescribed hazing kits to evaluate their effectiveness in Southcentral Alaska conditions would aid in the development of wildlife protection and response contingency planning. Further, because intertidal habitats similar to western Cook Inlet exist throughout Alaska, knowledge gained from this study will have potential effects on statewide oil spill response planning and strategies and can be applied in future Outer Continental Shelf (OCS) oil and gas development in Alaska.

The over-arching goal of this project is to test the current bird deterrent equipment and techniques available in Alaska and determine their effectiveness in western Cook Inlet. Project findings may suggest needed modifications to wildlife hazing kits and/or techniques currently in place. Further, the project findings may have potential impacts on oil spill response planning, procedures, and requirements and could redefine oil spill response requirements statewide.

The project will be conducted during the spring and fall (if permitted), along the western Cook Inlet coastline. The western Cook Inlet area was chosen because of the relative simplicity of logistics compared to other areas of the state; this approach assumes that information gathered in western Cook Inlet will have applicability to other areas statewide, including locations planned for OCS oil and gas development. Work will be conducted by the ADF&G, Division of Habitat,

in coordination with ADF&G, Division of Wildlife Conservation, the USFWS and the USDA/WS. Logistical support may be provided by oil spill response action contractors in Cook Inlet. Specific project tasks include:

1. Conduct aerial surveys to determine distribution, species diversity, and approximate abundance of spring and fall staging waterfowl and shorebirds in upper western Cook Inlet.
2. Select test and control sites in western Cook Inlet based on aerial survey information.
3. Identify and record species, flock sizes, and bird activity within test and control sites, tide stage, and weather conditions prior to initiating hazing activities.
4. Using recommended industry hazing kits, expose birds within given test area to selected hazing devices and techniques individually and in combination; record numbers of individuals remaining, by species; distance from hazing device(s); effort of hazing activities; and other appropriate measures of effectiveness.
5. Conduct testing in the spring and fall to evaluate differences in the effectiveness on spring and fall migrating waterfowl and shorebirds.

MEASUREABLE GOALS AND OBJECTIVES

The specific project objectives are to:

1. Quantitatively field test bird deterrent devices and techniques, both individually and in various combinations, for effectiveness in hazing waterfowl and shorebirds varying in species and flock size from tidal flats and wetland areas.
2. Quantify differences in the effectiveness of bird deterrents on spring and fall migrating birds.
3. Provide recommendations, as appropriate, to modify bird hazing kits or hazing techniques for use in Cook Inlet and statewide spill responses to account for differences in technique effectiveness under different testing scenarios.
4. Work with industry response action contractors, the Minerals Management Service (MMS), the U.S. Coast Guard (USCG), the Environmental Protection Agency, the ADEC, and the USFWS to incorporate study findings into spill contingency plan procedures and equipment to increase the potential for successful bird hazing operations.

Objectives 1 through 3 will be presented in a technical report produced by ADF&G. Objective 4 will be accomplished by distributing the technical report to partner agencies and industry groups, and as a part ADF&G's participation in ongoing oil and gas contingency planning.

PROJECT CONSISTENCY WITH CIAP AUTHORIZED USE

The project is consistent with multiple CIAP authorized uses and the strongest connection is with CIAP Authorized Use 1 – *Projects and activities that directly or indirectly benefit the natural coastal environment through the conservation, protection, or restoration of the natural coastal environment*.

Evaluation of wildlife deterrent techniques in Alaska is necessary to improve the state's oil spill wildlife response capabilities. Improved capabilities provide a direct benefit for the protection of coastal environments in the event of an oil spill by preventing birds and wildlife from congregating in oiled coastal areas and allowing habitat clean-up activities to proceed in the absence of wildlife. Oil spill response agencies and cooperatives support the improvement of oil

spill response equipment and techniques and recognize that the currently approved equipment and techniques have not been rigorously tested.

Numerous possibilities exist for future oil and gas development in Southcentral Alaska. The MMS is evaluating Oil and Gas Lease Sale 214, North Aleutian Basin, as part of the Outer Continental Shelf Oil and Gas Leasing Program, 2007-2012. Further, two potential State-offered lease sales in the region may provide additional development opportunity, including the Cook Inlet and Alaska Peninsula area wide lease sales. Oil and gas exploration and development introduces the potential for oil spills. Companies conducting oil and gas exploration and development activities must have approved State of Alaska oil spill prevention and contingency plans. Industry contingency plans include a wildlife response component, which generally describes the plan holder's capability for conducting wildlife deterrent and hazing activities. In addition, the Wildlife Protection Guidelines for Alaska, Annex G in the State/federal Unified Response Plan, identify wildlife protection strategies in the event of an oil spill. Project findings will assist regulators in improving wildlife response capabilities through both industry and government spill contingency plans; although our testing efforts will be focused in western Cook Inlet, study findings will have potential statewide impacts, including areas planned for OCS oil and gas development.

COORDINATION WITH FEDERAL RESOURCES OR PROGRAMS

ADF&G is a member in the Wildlife Protection Working Group, which was established by the Alaska Regional Response Team (ARRT) in 1987. The Working Group is chaired by a representative from the U.S. Department of the Interior (USDOI), Office of Environmental Policy and Compliance and includes representatives from USFWS, USCG, oil industry, and spill response cooperatives, including Alaska Clean Seas and Cook Inlet Spill Prevention and Response. The Working Group prepared the Wildlife Protection Guidelines for Alaska, which describes wildlife deterrents/hazing as a response option to preclude or minimize oiling impacts to wildlife. ADF&G coordinated with USFWS and USDOI Working Group members and with a USDA/WS representative in identifying the need to evaluate wildlife deterrent equipment and techniques. USDA/WS currently provides training in the use of wildlife deterrents to industry representatives and spill cooperatives to meet wildlife response contingency planning training requirements. The USFWS and USDOI Working Group members and the USDA/WS representative have expressed support for the proposed project.

COST SHARING OR MATCHING OF FUNDS

CIAP funds will not be used for cost sharing or matching purposes. Oil spill response cooperatives support this project and may potentially provide in-kind resources and logistics support for field sampling efforts.

STATE OF ALASKA
COASTAL IMPACT ASSISTANCE PROGRAM

Alaska Department of Commerce, Community, and Economic Development
Division of Community & Regional Affairs

PROJECT TITLE: Alaska Community Coastal Protection Project

PROJECT CONTACT

Contact Name: Sally Russell Cox
Address: 550 West 7th Avenue, Suite 1770; Anchorage, Alaska 99501
Telephone Number: (907) 269-4588
Fax Number: (907) 269-4563
Email Address: sally.cox@alaska.gov

PROJECT LOCATION

This project will focus on three villages located within the coastal zone of Western Alaska that are severely threatened by coastal hazards: the communities of Shishmaref, Kivalina, and Shaktoolik.

Shishmaref is located on Sarichef Island, in the Chukchi Sea, just north of the Bering Strait. Shishmaref is five miles from the mainland, 126 miles north of Nome and 100 miles southwest of Kotzebue. The village is surrounded by the 2.6 million-acre Bering Land Bridge National Reserve. Shishmaref is part of the Beringian National Heritage Park. The community lies at approximately 66.256670° North Latitude and -166.071940° West Longitude. (Sec. 23, T010N, R035W, Kateel River Meridian.)

Kivalina is located at the tip of an 8-mile barrier reef located between the Chukchi Sea and Kivalina River. It lies 80 air miles northwest of Kotzebue. The community lies at approximately 67.726940° North Latitude and -164.533330° West Longitude. (Sec. 21, T027N, R026W, Kateel River Meridian.) Kivalina is surrounded by the Chukchi Sea Unit of the Alaska Maritime National Wildlife Refuge.

Shaktoolik is located on the east shore of Norton Sound. It lies 125 miles east of Nome and 33 miles north of Unalakleet. The community lies at approximately 64.333890° North Latitude and

-161.153890° West Longitude. (Sec. 23, T013S, R013W, Kateel River Meridian.) Eastern Norton Sound is designated as a critical habitat for the spectacled eider.

PROJECT DURATION
This project is projected to last two years.

ESTIMATED COST

Spending Estimate ($)				
TOTAL	**Year 1**	**Year 2**	**Year 3**	**Year 4**
$1,000,000	$503,600	$496,400		

Funding per Allocation Year of CIAP ($)				
TOTAL	**FY 07**	**FY 08**	**FY 09**	**FY 10**
$1,000,000			$1,000,000	

PROJECT DESCRIPTION
The Alaska Community Coastal Protection Project will develop strategies to protect the natural coastal areas surrounding the communities of Shishmaref, Kivalina and Shaktoolik as these villages pursue the relocation of all or portions of the existing community. Each community strategy will address current threats to the coastal environment by infrastructure (fuel tanks, sewage facilities) at risk from erosion, flooding and storm surge, as well as the future protection of the coastal environment through well-planned community relocation activities. The approach to the strategic management plans for the three communities will be similar to the CIAP-funded **Mertarvik Community/Waterfront Strategic Management Plan**[2] (see the Minerals Management Service press release for this project at http://www.mms.gov/ooc/press/2010/press0119.htm). ***The Alaska Community Coastal Protection Project*** will also utilize information from the CIAP-funded **Geohazard Evaluation and Geologic Mapping for Coastal Communities Project**[3], which will produce maps identifying local natural hazards that must be considered in the siting, design, construction, and operations of development projects to ensure protection of the coastal area and to identify proposed community relocation sites in response to the severe coastal hazards issues now facing Shishmaref, Kivalina, and Shaktoolik**.**

Background
In 2003, a congressionally-directed study[4] found that 184 out of 213, or 86 percent, of Alaska Native villages are affected to some extent by flooding and erosion. The study found that "while the problems are long standing, various studies indicate that coastal villages are becoming more susceptible to flooding and erosion due in part to rising temperatures". Alaska has more than

[2] See State of Alaska Project 6 at http://dnr.alaska.gov/coastal/CIAP/March2010/March%2010_Appendix_B-1_State_Project_Descriptions_clean.doc#CIAP0806
[3] See State of Alaska Project 10 at http://dnr.alaska.gov/coastal/CIAP/March2010/March%2010_Appendix_B-1_State_Project_Descriptions_clean.doc#CIAP08010
[4] See http://www.gao.gov/new.items/d04142.pdf. The U.S. General Accountability Office (GAO) was directed to carry out GAO-04-142 December 12, 2003. Alaska Native Villages: Most Are Affected by Flooding and Erosion, but Few Qualify for Federal Assistance.

33,000 miles of coastline, most of which is inhabited by indigenous populations which depend on subsistence resources to maintain livelihood and cultural integrity. Much of Alaska's coastline is impacted to varying degrees by severe erosion due to permafrost degradation and increasing temperatures, thereby exposing many indigenous communities to the uncertainties of a changing environment. [5]

In 2008, the Alaska Climate Change Sub-Cabinet[6] established the Immediate Action Workgroup (IAWG)[7] to identify the immediate needs of the communities imminently threatened by the effects of erosion, flooding, permafrost degradation, and other climate change-related impacts. Six communities were identified and the IAWG set forth to address the immediate actions that must take place over the next 18-24 months to assist these communities. Studies completed[8] since the establishment of the IAWG indicate that that the number of imminently threatened communities is likely much higher than the communities originally identified.

Based on the recommendations of the IAWG, in 2008, the Alaska Legislature established the Alaska Climate Change Impact Mitigation Program (ACCIMP) [9] with funding to address the immediate planning needs of communities imminently threatened by climate change-related impacts such as erosion, flooding, storm surge, and thawing permafrost. The ACCIMP is being implement by the Division of Community and Regional Affairs (DCRA) through technical assistance and grant funding to eligible communities for two purposes: 1) hazard impact assessments to identify and evaluate the climate change-related impacts to a community such as erosion, flooding, storm surge, and permafrost degradation, and to provide recommendations for further action by the community; 2) community planning grants to address the immediate actions the community must take based on the recommendations of the hazard impact assessments. Shishmaref, Kivalina and Shaktoolik are three of the communities DCRA is currently working with through the ACCIMP.

The ***Alaska Community Coastal Protection Project*** will expand upon the efforts of the ACCIMP by developing a strategy to benefit and protect the coastal area surrounding three of the most threatened communities, Shishmaref, Kivalina, and Shaktoolik, as these communities pursue the relocation of all or portions of the existing community. Each of the subject communities is located near a national reserve, a national wildlife refuge or a critical wildlife habitat. Each community has fuel or sewage infrastructure threatened by flooding, erosion or storm surge that in turn poses a real threat to the surrounding coastal environment and resources therein. A well planned strategy will not only address the near-term impacts to the coastal environment by infrastructure imperiled by coastal hazards, but will also minimize or negate impacts to the coastal environment during the relocation process.

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[5] Mason, Owen, M.J. William, O.H. Pilkey (1997): Living with the Coast of Alaska. Duke University Press, Durham, North Carolina.

[6] See http://www.climatechange.alaska.gov. The Alaska Climate Change Sub-Cabinet was established by Alaska Administrative Order 238 to advise the Office of the Governor on the preparation and implementation of an Alaska climate change strategy.

[7] See http://www.climatechange.alaska.gov/IAWG.htm.

[8] In 2007, the U.S. Army Corps of Engineers initiated the Alaska Baseline Erosion Assessment to coordinate, plan, and provide an overall assessment on the prioritizing of shoreline erosion management efforts in the State of Alaska.

[9] See http://www.commerce.state.ak.us/dcra/ACCIMP.htm.

Shishmaref is surrounded by the 2.6 million-acre Bering Land Bridge National Reserve and part of the Beringian National Heritage Park. Shishmaref is being affected by high rates of erosion along the shoreline. Climatic conditions have led to icepack development occurring progressively later each year. Without the icepack in place, the island is more susceptible to fall and early winter storms that have increased erosion and littoral drift. Erosion and littoral drift are shifting the island footprint northeastward and southwestward, subjecting the developed areas to massive wave scour and erosion of the fine materials that make up the island. Erosion is undermining buildings and infrastructure, causing several structures to collapse and fall into the sea *(see photos, next page)*. All efforts to arrest the erosion have been unsuccessful for other than short periods of time. According the **U.S. Army Corps of Engineers Baseline Erosion Assessment**, the airport and sewage lagoon have the greatest vulnerability to erosion, with the village power plant and bulk fuel facilities at risk to erosion.

Coastal storm and eroded shoreline in Shishmaref

Home falling over eroded bank in Shishmaref

Kivalina is surrounded by the Chukchi Sea Unit of the Alaska Maritime National Wildlife Refuge. The Chukchi Sea Unit contains the two largest arctic seabird colonies in the United States. Kivalina has experienced cyclic erosion and accretion, with modest accretion on the Chukchi Sea side more prevalent during the 30-year period of 1970 to 2000. The higher energy storms resulting in significant erosion occur during the winter months when the Chukchi Sea is frozen. This sea ice has served as natural erosion protection in the past. However, an increase in temperature of the Chukchi Sea has led to longer periods of open water and the Chukchi Sea is less likely to be frozen when damaging winter storms occur. Winter storms occurring in October and November of 2004 and 2005 resulted in significant erosion that threatened both the school and the village fuel tank farm. Erosion has also resulted in the loss of the community washeteria drain fields.

A coastal storm threatens critical infrastructure in Kivalina

A local work crew attempts to protect the eroded shoreline in Kivalina

Shaktoolik is located on eastern Norton Sound, which is designated as a critical habitat for the spectacled eider. Shaktoolik's beaches have historically been susceptible to damage and erosion from storms, tidal surges, and sea ice. Several areas along the coastline are vulnerable to erosion and flooding during the storm season. Considerable coastline erosion in the community occurred during recent storms in 2003, 2004, and 2005. Most of the Shaktoolik community and surrounding area lie within the 100-year floodplain. Erosion during flooding damaged the airstrip so extensively it was replaced. According to the **U.S. Army Corps of Engineers Baseline Erosion Assessment**, the next large storm could erode away the narrow spit of land that connects Shaktoolik to the mainland, effectively cutting the community off from their source of freshwater. The 2005 fall storm left much driftwood just a few feet from the bulk fuel storage facilities. A storm greater than the 2005 storm, could damage the bulk fuel storage, causing fuel to impact the surrounding coastal environment.

Log inundation following a coastal storm in Shaktoolik

The Proposed Project

The Alaska Community Coastal Protection Project broadens and extends the scope of work of the IAWG and the ACCIMP to a longer-term collaborative, strategic planning process that will address current threats to the coastal environment by infrastructure (fuel tanks, sewage facilities) endangered by erosion, flooding and storm surge, as well as the future protection of the coastal environment through well-planned community relocation activities. An important component of this project is the provision of funding of local project coordinators to represent each community at interagency stakeholder meetings throughout the strategic planning process.

The inter-agency stakeholder groups are based on the model used by DCRA with the village of Newtok's relocation effort[10]. The development of a community relocation strategy, involving

[10] See http://www.commerce.state.ak.us/dcra/planning/Newtok_Planning_Group_Webpage.htm . Since 2006, the Division of Community & Regional Affairs has coordinated the Newtok Planning Group, an interagency coalition assisting the Village of Newtok in its relocation efforts.

[11] ***GAO-09-551 Alaska Native Villages: Limited Progress Has Been Made on Relocating Villages Threatened by Flooding and Erosion*** at http://www.gao.gov/new.items/d09551.pdf

multiple stakeholders and the coordination of complex project schedules has proven to benefit when community representatives, funding agencies and permitting agencies gather at the same table on a regular basis to coordinate plans, leverage resources and minimize conflicts. A well-planned strategic management schedule can reduce impacts to intertidal and uplands nearshore areas during the transportation of materials and equipment, as critical infrastructure is moved in each existing community, and as each community relocates to a new village site. The development of a strategic management plan will also provide an important venue through which the many stakeholders in village relocation activities can become involved in the decision-making that affects the resources of the valuable coastal area surrounding each of the three communities.

Methodology

1. Interagency Collaborative Decision-Making Structure: Using the collaborative model DCRA has established for the Newtok Planning Group, project staff will set up inter-agency stakeholder groups for the three focus communities. Through these working groups, collaborative organizational structures will be developed to focus the combined capabilities of local, regional, state, and federal stakeholders on developing a strategy for the management of coastal hazards, threatened infrastructure, and community relocation activities for each of the three subject communities. These stakeholder groups will serve as a vehicle for establishing permitting requirements and construction windows, and for coordinating resources and technical assistance from state and federal agencies, regional organizations and local governments on a community-specific basis. Agency expertise, authorities, capabilities, and funding will be identified, as well as funding and functional gaps. The comprehensive strategic management plans described in item 3, below, will be developed by a contractor through input from the participants in these stakeholder groups.

The success of this collaborative model has been recognized by the General Accountability Office in its 2009 report on Alaska Native village relocation[11], *"Of the 12 villages exploring relocation options, Newtok has made the most progress in its relocation efforts. The Newtok Planning Group, formed in 2006 by federal, state, regional, and village partners, has helped to accelerate the relocation process that the village proactively initiated in 1994. The 3 other villages that will likely need to relocate all at once—Kivalina, Shaktoolik, and Shishmaref—have yet to identify sites that federal, state, and village officials agree are safe, sustainable, and desirable for the subsistence lifestyle of the villagers."*

This collaborative model will maximize cost efficiencies and labor effectiveness, reduce conflict in community projects and reduce environmental impacts and hazards during the implementation of community action strategies.

2. Local Project Coordinator: Funding will be provided to each community to establish one full-time local project coordinator who will represent the community on addressing coastal hazards and work with project staff, agencies, and the contractor in the development of the community strategic management plans. Travel funding will be provided to each local project

[11] ***GAO-09-551 Alaska Native Villages: Limited Progress Has Been Made on Relocating Villages Threatened by Flooding and Erosion*** at http://www.gao.gov/new.items/d09551.pdf

coordinator to meet in Anchorage each quarter of the project with the interagency stakeholder group each quarter for strategic management plan development.

3. Comprehensive Strategic Management Plan: A contractor will be hired to develop a strategic management plan for each community which will provide the "blueprint" for how the community and agencies will proceed over the next ten years to address current threats to the coastal environment by infrastructure (such as fuel tanks, sewage facilities) endangered by erosion, flooding and storm surge, as well as the future protection of the coastal environment through well-planned community relocation activities. The contractor will work with project staff and the local project coordinators, and attend inter-agency meetings to develop the strategic management plans, which will include:

- The projected timelines and costs associated with projected relocation/shoreline protection and/or other community development activities
- The sequence of tasks and subtasks that must take place.
- The entities responsible for specific tasks or activities. The roles of the stakeholders will be defined and clarified. Opportunities for agency collaboration will be identified.
- The best construction windows to reduce environmental impacts to the environment
- The resources required.
- The schedule for activities. Development of a strategic management schedule for activities will be an important product. In addition to being described in the planning document narrative, the schedule will be presented as a Gantt chart.

Key Milestones

Year One:

- Assign staff to implement the project.
- Establish inter-agency planning work groups for each community. DCCED as co-chair of the IAWG will initiate invitations to state and federal agencies.
- Develop grant agreements with each community to hire a qualified local project coordinator to represent the community in working with the interagency stakeholder group.
- Develop webpage that chronicles the progress of the inter-agency meetings and strategic planning work in each community.
- Hire contractor to work with project staff, community and agencies to develop a five-year strategic management plan
    - Collection and reduction of baseline data of community and surrounding environment, including an inventory of the physical environment. Develop critical fish and wildlife construction time windows that will be incorporated into the overall schedule.
    - Identify major stakeholder issues and develop goals and objectives. A summary of this process, including the participants and findings, will be provided in the planning document.

Year Two

- Further refinement of major stakeholder issues and the development of goals and objectives of the relocation or shoreline protection process.

- Development of work breakdown structure and required resources that describes the actions required for carrying out the community planning strategy, including:
    - The sequence of tasks and subtasks.
    - The entities responsible for specific tasks or activities.
    - The resources required.
    - The schedule for activities.
- Preparation of draft and final strategic management plans.

COORDINATION EFFORTS WITH STATE/LOCAL ENTITIES ON THE PROJECT

Agency collaboration is an integral part of the ***Alaska Community Coastal Protection Project.*** There is a great unmet need for the type of technical and administrative assistance this project will provide to communities. This need has most recently been articulated by the IAWG. The project interfaces with and serves as a continuation of two existing State of Alaska efforts addressing the issues of communities impacted by climate change: the Immediate Action Workgroup and the Alaska Climate Change Impact Mitigation Program.

This project has received support from the Alaska Climate Change Subcabinet Immediate Action Workgroup and representatives of the three communities (see letters of support, Attachment A).

MEASURABLE GOALS AND OBJECTIVES

Project Goal: Development of a Comprehensive Strategic Management Plan for each community that will provide criteria and guidelines for mitigating threatened infrastructure at the current village site and for community relocation activities. Representatives of each community and members of the inter-agency stakeholder group will participate in this process. These documents are intended to strategically plan and organize sustainable activities to guide the relocation with no or minimal impacts on the surrounding natural coastal environments of the three communities.

Measurable Outcomes: Based on the recommendations of the Immediate Action Workgroup for each of the three communities, and through studies by other programs, a strategic management plan will be developed for each of the three communities which will address the five-year planning needs to address each community's recommended action, be it shoreline protection, elevation of community structures, migration from shorelines, relocation, or a combination of these actions. Each community strategic management plan will outline a work breakdown structure and required resources that describe the actions required for carrying out the community planning strategy, including:

- The sequence of tasks and subtasks.
- The entities responsible for specific tasks or activities
- The resources required.
- The schedule for activities.

PROJECT CONSISTENCY WITH CIAP AUTHORIZED USE

This project complies with CIAP Authorized Use number 1, *Projects and activities of the conservation, protection, or restoration of coastal areas, including wetlands.* This project will help protect the coastal area of Shishmaref, Kivalina and Shaktoolik. The coordination provided by the inter-agency work group and the strategic management plans will provide vital information to each community, and to funding and permitting agencies and other organizations working on the community action, on critical fish and wildlife construction time windows in order to protect and to mitigate impacts to fish, wildlife and other natural resources in the area during relocation, shoreline protection, or other activities. Transportation of construction materials and equipment in Western Alaska is limited to barge transport during the months of June through September. Because this time period also coincides with the migration of birds, fish and marine mammals that frequent this region, transportation windows will need to be closely coordinated with migratory periods so as not to impact fish and wildlife. A strategic management schedule can reduce impacts to intertidal and upland near-shore areas during the transportation of materials and equipment by coordinating when relocation and construction activities take place.

The inter-agency working groups and the strategic management planning process will provide an important venue through which agencies and other stakeholders can become involved in the decision-making that affects the resources near the impacted communities. Permitting agencies will be able to work with funding agencies in order to develop a strategic plan that effectively carries out community relocation and construction activities while addressing environmental needs.

The strategic plans will identify the natural resources that are most at risk from the impacts of climate change within or adjacent to each of the three communities, and will identify those facilities within the communities that pose the greatest threat to the natural coastal environment as they are further impacted by climate change. Erosion of a community landfill, sewage lagoon or fuel tank farm can result in pollutants such as raw sewage, oil, gasoline, and household hazardous wastes being released into anadromous fish streams or coastal waters that serve as critical migration corridors to marine mammals, adversely impacting fish and wildlife. Each community strategic management plan will identify means to minimize the potential for damage to threatened facilities in order to protect the coastal area and fish and wildlife of each community.

COORDINATION WITH FEDERAL RESOURCES OR PROGRAMS

As part of the inter-agency work groups facilitated through this project, project staff and communities will be working with personnel from the U.S. Army Corps of Engineers; U.S. Departments of Agriculture, (Rural Development and Natural Resources Conservation Service); Housing and Urban Development; Interior, (Bureau of Indian Affairs); Transportation, (Federal Aviation Administration); and the Environmental Protection Agency.

The potential benefits of this project reach far beyond the individual communities being served. The State of Alaska is just beginning to develop a process for assisting communities imperiled by erosion, flooding, storm surge and thawing permafrost. It is clear that the efforts of federal, state and local partners are needed to address the environmental community impacts of these

natural hazards. The collaborative planning model utilized by the ***Alaska Community Coastal Protection Project*** may serve as a prototype for assisting other rural Alaska villages threatened by these natural hazards. The model may also be highly effective for coordinating and delivering assistance to communities outside Alaska who are dealing with similar natural hazards. This model maximizes cost-sharing and leveraging of resources among federal, state and local agencies and minimizes conflicts in relocation and construction activities which in turn, will reduce impacts to the natural coastal environment.

COST SHARING OR MATCHING OF FUNDS

CIAP funds for this project will not be used for cost sharing or matching purposes for any other project.

Attachment A: Letters of Support

Memorandum

To: Coastal Impact Assistance Project Review Committee

From: Michael Black, State Co-Chair, Immediate Action Workgroup, Alaska Climate Change sub-Cabinet/ Deputy Commissioner, Department of Commerce, Community and Economic Development
Patricia Opheen, Federal Co-Chair, Immediate Action Workgroup, Alaska Climate Change sub-Cabinet/Chief of Engineering – Alaska District U.S. Army Corps of Engineers

Date: June 18, 2010

Re: CIAP Proposal for Alaska Community Coastal Protection Project

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On behalf of the Immediate Action Workgroup (a federal-state collaborative working group addressing the needs of imperiled communities) we would like to express our support for the proposed Alaska Community Coastal Protection Project. The project is important to our mission since it will be critical to developing strategies to protect the natural coastal areas surrounding the communities of Shishmaref, Kivalina and Shaktoolik, all considered to be imperiled. All of these communities are considering the relocation of all or portions of the existing community.

The work proposed through the Alaska Community Coastal Protection Project is a logical continuation of the immediate actions carried out by the Immediate Action Workgroup (IAW) in these communities. The establishment of inter-agency working groups for each community, the funding of community project coordinators and the development of strategic management plans for each community's recommended action will be of lasting benefit to these vulnerable communities.

The proposed project will reduce impacts to the environment as a result of good coordination, communication and planning, mitigate issues and costs for state and federal agencies, and provide Shishmaref, Kivalina and Shaktoolik with the necessary technical assistance to carry out the community action plan to address the impacts of coastal hazards.

We support this project as a valuable investment in the future of Alaska's rural communities.

Steve Ivanoff
P.O. Box 235
Unalakleet, Alaska 99684
(907)624-3299 or 3093: Fax (907)624-3095

I am a village transportation planner for our regional non-profit corporation, Kawerak Inc., working with flood and erosion impacted communities.
Shaktoolik is one community I have been tasked to work with given the dire situation the village if facing from storms that are becoming more frequent in this last decade.
I have traveled extensively to many Alaska communities and am very familiar with other villages in Western Alaska that have also become vulnerable.
Shaktoolik is as vulnerable as any community given their inability to access higher ground in an intense storm. In these fall storms the peninsula that the village is located on becomes an island causing stress and legitimate concern.
The flood of November '09 was the most intense storm our area has experienced in several decades but the slush and ice prevented a possible catastrophic situation for them. The stars weren't aligned for a flood given the tide for that November 9th day was the lowest of the month and the flood occurred at least 10 hours prior to the peak tide of the day. Had the stars been aligned for an intense flood their members of the community would have been at substantial risk given the 65 mph winds that occurred.
With this said I support the proposal submitted by the DCRA for the Alaska Community Coastal Protection Project that would assist these communities in creating solutions for their safety.
Every American, and Alaskan should not have to fear for their safety as is currently the case with the residents of the villages in this proposal.

Thank you much for your consideration and time,

Steve Ivanoff

City of Shishmaref
P.O. Box 83
Shishmaref, Ak 99772
Phone: (907) 649-3781/4811
Fax: (907) 649-2131
Email: shhcityclerk@yahoo.com

June 21, 2010

The City of Shishmaref would like to express its support for the proposed Alaska Community Coastal Protection Project.

The community of Shishmaref has determined that the threat to life and property from reoccurring beachfront erosion requires immediate action. The loss of land through erosion action and increasing risk to property and lives has caused a dangerous situation for the community of Shishmaref. The community has determined that staying on the island to face the ever-present threat from ocean-based storms in unacceptable. The only viable solution is to relocate the community off the island to a nearby mainland location that is accessible to the sea, suitable for the subsistence lifestyle of the community, and preserves the culture and integrity of the community.

The work proposed through the Alaska Community Coastal Protection Project will help us in our relocation effort. The establishment of an inter-agency working group for Shishmaref, the funding of a community project coordinator and the development of a strategic management plan for the relocation effort will be of lasting benefit to Shishmaref.

The proposed project will reduce impacts to the environment as a result of good coordination, communication and planning, mitigate issues and costs for state and federal agencies, and provide Shishmaref with the necessary technical assistance to carry out the strategic management plan to address the impacts of coastal hazards.

We support this project as a valued investment in the future of Shishmaref.

Sincerely,

Jennifer Denis

City Council

Cc; files

KIVALINA CITY COUNCIL

P.O. Box 50079
Kivalina, Alaska 99750

Phone: (907) 645-2137
(907) 645-2140
FAX: (907) 645-2175
email: kccadmin@inutek.net
kivalinacity@yahoo.com

To: Minerals Management Service
Alaska OCS Program
3801 Centerpoint Drive, Suite 500
Anchorage, Alaska 99503
Attn: ClAP Review Committee

The Kivalina City Council would like to express its support for the proposed Alaska Community Coastal Protection Project.

The work proposed through the Alaska Community Coastal Protection Project will help us in our effort to address threats to our community due to storm surge and erosion. The establishment of an inter-agency working group for Kivalina, the funding of a community project coordinator and the development of a strategic management plan for the relocation effort will be of lasting benefit to Kivalina.

The proposed project will reduce impacts to the environment as a result of good coordination, communication and planning, mitigate issues and costs for state and federal agencies, and provide Kivalina with the necessary technical assistance to carry out the strategic management plan to address the impacts of coastal hazards.

We support this project as a valuable investment in the future of Kivalina.

Sincerely,

Janet Mitchell
City Administrator

Cc: Kivalina City Council
Files

KAWERAK, INC. ○ P.O. Box 948 ○ Nome, AK 99762

TEL: (907) 443-5231 • FAX: (907) 443-4452

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STEBBINS
ST. MICHAEL
TELLER
UNALAKLEET
WALES
WHITE MOUNTAIN

June 24, 2010

Minerals Management Service
Alaska OCS Program
3801 Centerpoint Drive, Suite 500
Anchorage, Alaska 99503
Attn.: CIAP Review Committee

Re: Letter of Support for: AK DCED Project Proposals for Shaktoolik & Shishmaref

Kawerak, Inc. is writing to express support for State of Alaska DCED Project Proposals for Shaktoolik and Shishmaref to the Coastal Impact Assistance Program. Both communities are recognized by the Immediate Action Workgroup as imminently threatened coastal communities from storm surges flooding and erosion issues.

This funding will provide the planning and technical assistance needed to move their projects in addressing coastal hazards, work with project staff, agencies, and organizations in representing the communities of Shaktoolik and Shishmaref in the development of their community strategic management plans.

Thank you.

Loretta Bullard, President