United States Government Accountability Office

GAO

Report to Congressional Requesters

June 2009

ALASKA NATIVE VILLAGES

Limited Progress Has Been Made on Relocating Villages Threatened by Flooding and Erosion

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GAO-09-551

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Highlights

Highlights of GAO-09-551, a report to congressional requesters

ALASKA NATIVE VILLAGES

Limited Progress Has Been Made on Relocating Villages Threatened by Flooding and Erosion

Why GAO Did This Study

In December 2003, GAO reported that most of Alaska's more than 200 Native villages were affected to some degree by flooding and erosion (GAO-04-142). Since 2003, state officials have identified the growing impacts of climate change, increasing the urgency of federal and state efforts to identify imminently threatened villages and assess their relocation options. GAO was asked to report on (1) the flooding and erosion threats that Alaska Native villages currently face, (2) the federal programs that are available to assist villages facing potential disasters, (3) the status of village relocation efforts, and (4) how federal assistance to relocating villages is prioritized. GAO interviewed and gathered documentation from federal and state agency officials as well as regional organizations and village representatives.

What GAO Recommends

Congress may want to consider (1) directing the Corps to conduct a flooding assessment in Alaska to augment the Corps' recently completed erosion assessment; (2) amending the Housing and Community Development Act of 1974 to allow 64 additional villages to be eligible grant recipients; and (3) designating, or creating, a lead federal entity that could work in conjunction with the lead state agency to coordinate and oversee village relocation efforts. In commenting on a draft of this report, eight federal agencies and the state of Alaska generally had no comments on these three matters for congressional consideration.

View GAO-09-551 or key components.

For more information, contact Anu K. Mittal at (202) 512-3841 or mittala@gao.gov.

What GAO Found

While the flooding and erosion threats to Alaska Native villages have not been completely assessed, since 2003, federal, state, and village officials have identified 31 villages that face imminent threats. The U.S. Army Corps of Engineers' (Corps) March 2009 *Alaska Baseline Erosion Assessment* identified many villages threatened by erosion, but did not assess flooding impacts. At least 12 of the 31 threatened villages have decided to relocate—in part or entirely—or to explore relocation options.

Federal programs to assist threatened villages prepare for and recover from disasters and to protect and relocate them are limited and unavailable to some villages. The Federal Emergency Management Agency has several disaster preparedness and recovery programs, but villages often fail to qualify for them, generally because they may lack approved disaster mitigation plans or have not been declared federal disaster areas. Although there is no single comprehensive proactive federal program to assist villages with their relocation efforts, individual federal agencies can assist villages on specific projects, such as funding the construction or relocation of homes. However, 64 villages do not qualify for affordable housing and relocation assistance from the Department of Housing and Urban Development's Community Development Block Grant program because the federal law governing the program does not recognize unincorporated Alaska Native villages in Alaska's unorganized borough as eligible units of general local government.

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. Eight other villages have begun to gradually migrate to new locations over time or are evaluating options for doing so.

In the absence of a lead entity, federal agencies individually prioritize assistance to villages on the basis of their programs' criteria. These criteria do not necessarily ensure that the villages in greatest peril get the highest priority, and although the Corps has assessed erosion threats, there is no lead federal entity to prioritize and coordinate assistance using this information. In 2007, the Newtok Planning Group reported that the lack of designated federal and state lead entities to guide, coordinate, and fund assistance impeded village relocation efforts and created uncertainty regarding the fulfillment of environmental analysis requirements under the National Environmental Policy Act. In 2008, the state designated a lead agency for village relocation assistance, and federal, state, and village officials told GAO that a similar lead federal entity is needed. Lead authority could be provided to an existing agency or commission, or a new entity could be formed for this purpose.

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Abbreviations

DCCED	Alaska's Department of Commerce, Community and Economic Development
FEMA	Federal Emergency Management Agency
HUD	Department of Housing and Urban Development
NEPA	National Environmental Policy Act of 1969
NRCS	Natural Resources Conservation Service

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United States Government Accountability Office
Washington, DC 20548

June 3, 2009

The Honorable Mary Landrieu
Chairman
Subcommittee on Disaster Recovery
Committee on Homeland Security
and Governmental Affairs
United States Senate

The Honorable Mark Begich
United States Senate

In December 2003, we reported that most of Alaska's more than 200 Native villages were affected to some degree by flooding and erosion, most commonly caused by severe storm events on Alaska's coastline or by river flooding, such as during the spring breakup of river ice.[1] Flooding and erosion have caused millions of dollars of property damage in these remote villages and, in some cases, pose imminent threats to lives, homes, and infrastructure. While federal and state agencies administer programs for constructing flooding and erosion control projects in threatened villages, some villages must relocate to safer locations due to the severity of the problems. In 2003, we examined flooding problems in 9 villages and identified 4—Kivalina, Koyukuk, Newtok, and Shishmaref—that were in imminent danger and were planning to relocate to less vulnerable sites, a daunting process that was expected to take many years to complete.[2] We

[1]GAO, *Alaska Native Villages: Most Are Affected by Flooding and Erosion, but Few Qualify for Federal Assistance*, GAO-04-142 (Washington, D.C.: Dec. 12, 2003). There are 225 federally recognized Native entities within the state of Alaska eligible to receive services from the Department of the Interior's Bureau of Indian Affairs. For a complete list of all of the 562 entities recognized by the federal government, in the continental United States and in the state of Alaska, see 73 Fed. Reg. 18553 (Apr. 4, 2008). For the purposes of this report, as well as our 2003 report, we define an Alaska Native village as a village that (1) was deemed eligible as a Native village under the Alaska Native Claims Settlement Act and (2) has a corresponding Alaska Native entity that is recognized by the Bureau of Indian Affairs. On the basis of these criteria, we identified 213 Alaska Native villages. We reported that 184 of the 213 villages, or 86 percent, were affected to some extent by flooding and erosion.

[2]The Conference Report for the fiscal year 2003 Military Construction Appropriations Act directed that we include at least 6 villages in our review—Barrow, Bethel, Kaktovik, Kivalina, Point Hope, and Unalakleet. See H.R. Conf. Rep. No. 107-731, at 15 (2002). We added 3 additional villages—Koyukuk, Newtok, and Shishmaref—on the basis of discussions with congressional staff and with federal and Alaska state officials familiar with flooding and erosion problems.

found that successful relocation efforts would involve collaboration among multiple federal and state entities and the villages, and we reported on alternatives for addressing barriers that villages face in obtaining federal services to mitigate flooding and erosion threats.

Since 2003, state officials have identified the growing impacts of climate change in Alaska—which include melting polar ice, increasing storm intensity, and coastal flooding—increasing the urgency of federal and state efforts to identify imminently threatened villages and assess their relocation options. In 2004, a congressional committee directed the U.S. Army Corps of Engineers (Corps) to conduct an Alaska erosion baseline study to coordinate and plan assistance for Alaska villages with the greatest need and to provide an overall assessment on the priority of which villages should receive assistance.[3] In September 2007, Alaska's Governor established the Climate Change Sub-Cabinet to lead the preparation and implementation of an Alaska climate change strategy. Within the sub-cabinet, an Immediate Action Workgroup was created for the early assessment and development of an action plan addressing climate change impacts on coastal and other vulnerable communities in Alaska. While such efforts have begun to address the immediate needs of some of the most imminently threatened villages, many challenges remain. An October 11, 2007, congressional field hearing in Anchorage, Alaska, of the Senate Ad Hoc Subcommittee on Disaster Recovery, Committee on Homeland Security and Governmental Affairs, identified the obstacles faced by federal agencies and villages. These obstacles include the inability of many villages to meet the financial and other criteria for federal assistance, the high cost of implementing protection or relocation projects for the remote communities, and the lack of scientific erosion data for sound decision making.[4]

At your request, this report updates our 2003 report and the status of village relocation efforts. Specifically, we are reporting on (1) the flooding and erosion threats that Alaska Native villages currently face, (2) the federal programs that are available to assist villages facing potential disasters, (3) the status of village relocation efforts, and (4) how federal assistance to relocating villages is prioritized.

[3]H.R. Conf. Rep. No. 108-792, at 858 (2004).

[4]The State and Federal Response to Storm Damage and Erosion in Alaska's Coastal Villages Before the Senate Ad Hoc Subcomm. on Disaster Recovery of the Comm. on Homeland Sec. and Governmental Affairs, 110th Cong. (2007).

To determine the flooding and erosion threats that Alaska Native villages currently face and the status of village relocation efforts, we visited the villages of Alatna, Allakaket, Kivalina, Koyukuk, Shaktoolik, Shishmaref, and Unalakleet and spoke by telephone with representatives from the villages of Chefornak, Golovin, Hughes, Huslia, Newtok, Nulato, and Teller. We selected these villages on the basis of information from a variety of federal, state, and other sources. We also met with and collected information from federal agency officials of the Corps; the Department of the Interior's U.S. Fish and Wildlife Service, the Bureau of Land Management, and the National Park Service; and the Department of Agriculture's Natural Resources Conservation Service (NRCS). We met with members of the Immediate Action Workgroup of the Alaska Governor's Sub-Cabinet on Climate Change, including officials from the state Department of Commerce, Community and Economic Development (DCCED); Division of Homeland Security and Emergency Management; and Department of Environmental Conservation. We also met with officials of Alaska regional authorities, such as the Northwest Arctic Borough; regional Native organizations, such as the Tanana Chiefs Conference; and the Denali Commission. While we did not independently assess villages' flooding and erosion threats, we did attempt to identify the universe of villages exploring relocation options to address their repetitive flooding and erosion problems. We supplemented the Corps' list of imminently threatened villages with additional villages that are also exploring relocation options.

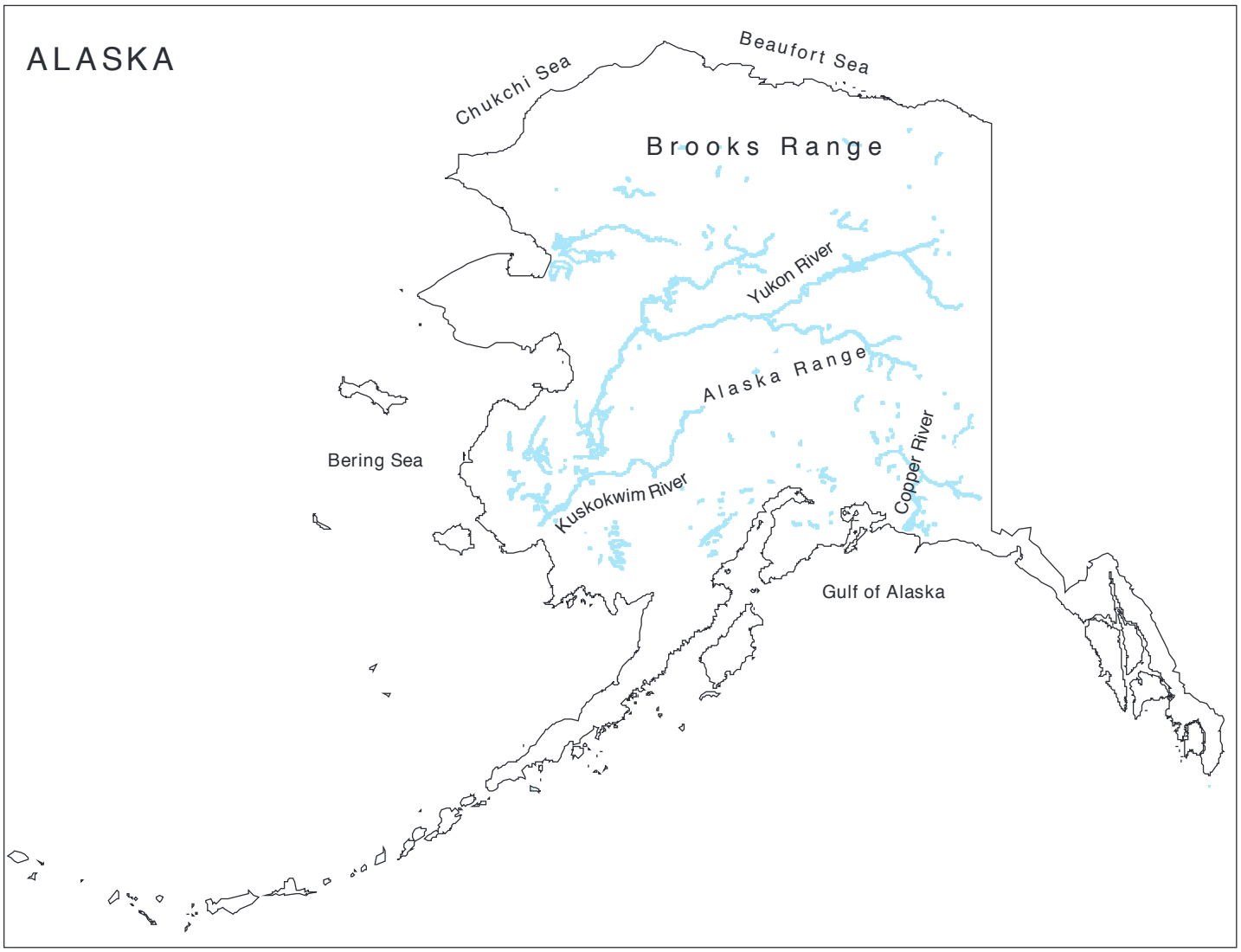
To determine the federal programs that are available to assist villages facing potential disasters, we met with officials from additional federal agencies, such as the Department of Homeland Security's Federal Emergency Management Agency (FEMA), Interior's Bureau of Indian Affairs, the Department of Health and Human Service's Indian Health Service, the Department of Housing and Urban Development (HUD), and the Department of Transportation's Federal Aviation Administration. We reviewed applicable federal laws, regulations, and guidance for these programs. We also spoke with officials from Native Corporations, such as Kawerak, Inc., and Native village representatives, to determine what federal assistance has been provided or requested. To determine how federal assistance to relocating villages is prioritized, we reviewed documentation of past, present, and planned efforts to prioritize assistance to villages by all of the federal, state, and other entities with which we met. We also asked federal agency officials to explain their prioritization processes and the challenges that they face in providing assistance to relocating villages.

We assessed the reliability of the federal and state data that we used and found them to be sufficiently reliable for the purposes of this report. We conducted this performance audit from June 2008 to June 2009, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Alaska is the largest state in the union—encompassing 586,412 square miles, it is one-fifth the size of the lower 48 contiguous states combined. The state is bounded on three sides by saltwater bodies—the Beaufort and Chukchi Seas to the north, the Bering Sea to the west, and the Gulf of Alaska to the south (see fig. 1). Measured on the most detailed maps available, including islands, Alaska has 33,904 miles of shoreline. In addition, there are more than 3,000 rivers in Alaska, including the major interior river systems of the Yukon and the Kuskokwim Rivers.

Figure 1: Map of Alaska Showing Major Rivers, Oceans, and Mountain Ranges



Source: Pitney Bowes Business Insight (map).

Despite its size, Alaska is one of the least populated states, with about 680,000 people—90,000, or about 13 percent, of which are Alaska Natives.[5] Many Alaska Natives live in places long inhabited by their ancestors in rural areas in western, northern, and interior Alaska. Alaska Natives are generally divided into six major groupings: Unangan (Aleuts), Alutiiq (Pacific Eskimos), Iñupiat (Northern Eskimos), Yup'ik (Bering Sea Eskimos), Athabascan (Interior Indians), and Tlingit and Haida (Southeast Coastal Indians).[6] Many of these Alaska Natives live in villages near the sea or river waters, which they rely on to hunt, fish, and gather wild plants for food. These subsistence activities are intricately woven into the fabric of their lives and form the foundation for continuity between generations by promoting the basic values of Alaska Native culture—generosity, respect for elders, self-esteem for the successful hunters, and community cooperation.

Typically, a coastal or river Native village has a population of a couple of hundred people and generally contains only basic infrastructure—homes; school; village store; health clinic; church; city or tribal offices; post office; and washateria that provides laundry, shower, and toilet facilities for a fee to residents of villages without running water. Most of the villages are not accessible by roads; instead, they have an airport runway adjacent or nearby that provides the only year-round access to the community. Other infrastructure in a village may consist of a bulk fuel tank farm; a power plant; a water treatment facility; a water tank; meat drying racks; a village sewage lagoon or dump site; and, for some villages, commercial structures, such as a tannery or fish processing plant. Most river villages also have a barge landing area where goods are delivered to the community during the ice-free period.

While villages on Alaska's shorelines and river banks provide Alaska Natives with access to food, transportation, and recreational and cultural benefits, these locations also present dangers to the inhabitants. In particular, these dangers include flooding—in coastal communities, from seismic activity, such as tsunamis associated with earthquakes, erosion, and surges from coastal storms, or in river communities, from heavy rainfall, snow melt, or the sudden release of water from behind breaking ice jams. According to the Alaska Division of Homeland Security and

[5]The U.S. Census Bureau defines this category as American Indian and Alaska Native.

[6]Other Alaska Native groups include the Siberian Yupik of St. Lawrence Island and the Tsimishian of southeast Alaska.

Emergency Management, since 1978, there have been 228 flooding events that have led to state disaster declarations for 119 different Alaska communities. About 40 percent of these flood disasters occurred from 2000 to 2008, with 23 occurring in 2005, the worst year on record. Figure 2 shows the 2005 state flooding disaster in Golovin, on Alaska's northwest coast.

Figure 2: Flooding in the Village of Golovin, Alaska (c. 2005)

Source: Steve Ivanoff, Transportation Planner, Kawarek, Inc.

The effects of climate change are believed by state officials to be growing in Alaska, potentially having the greatest impacts on the already vulnerable Alaska Native villages and the subsistence lifestyles of their inhabitants. Permafrost (permanently frozen subsoil), which is found over approximately 80 percent of Alaska and in northern barrier island communities, literally helps to hold the land together. Rising temperatures in recent years have led to widespread thawing of permafrost, causing village shorelines and riverbanks to slump and erode, threatening homes and infrastructure. Rising temperatures also affect the thickness, extent, and duration of sea ice that forms along the western and northern coasts. The loss of sea ice leaves shorelines more vulnerable to waves and storm surges and, coupled with the thawing permafrost along the coasts, accelerates the erosion threatening Alaska Native villages (see fig. 3). In addition, the loss of sea ice changes the habitat and accessibility of many of the marine mammals that Alaska Natives depend upon for subsistence.

As the ice melts or moves away early, walruses, seals, and polar bears move out of hunting range.

Figure 3: Melting Sea Ice Reveals Prior Control Efforts and the Advance of Erosion toward the Seawall Being Constructed in the Village of Shishmaref, Alaska, June 2008

Source: GAO.

The state of Alaska's government structure that may interact with Native villages to help them meet their needs, including making decisions about how to address flooding and erosion, may involve several distinct entities. Alaska's constitution and state laws allow for several types of regional and local government units—such as boroughs, which are units of government that are similar to the counties found in many other states. About one-third of Alaska is made up of 16 organized boroughs. The remaining two-thirds of the state is sparsely populated land that is considered a single "unorganized borough." Of 213 Alaska Native villages, 147 (or 69 percent) are located within the unorganized borough. At the village level, a federally

recognized tribal government may coexist with a city government, which may also be under a borough government. In other cases, the tribal government may be the only form of local government if the village (1) is located in the unorganized borough and (2) is not an incorporated city; however, these tribal governments are not political subdivisions of the state.[7]

Alaska's Governor and DCCED have taken the lead for the state in addressing flooding and erosion threats to Alaska Native communities. The Immediate Action Workgroup of the Governor's Sub-Cabinet on Climate Change is responsible for the early assessment and development of an action plan addressing climate change impacts on coastal and other vulnerable communities in Alaska. The workgroup is cochaired by state and federal representatives from DCCED and the Corps, and includes representatives from other key state agencies as well as the Denali Commission, a federal-state cooperative entity.[8] In April 2008, the workgroup provided its initial recommendations for actions—including relocation planning—that should be taken in the ensuing 12 to 18 months to prevent the loss of life and property in Alaska's communities at greatest peril from the effects of climate change. The workgroup updated those recommendations in March 2009. DCCED is responsible for coordinating and directing state agencies in providing relocation assistance to villages.

As we reported in 2003, there is no single federal agency responsible for managing and funding flooding and erosion programs in Alaska. Instead, the Corps and NRCS administer key programs for constructing flooding and erosion control projects to protect threatened villages from further damage, and other federal agencies operate programs that can address the consequences of flooding and erosion by, for example, repairing roads or rebuilding airport runways. In 2003, congressional committees

[7]In addition, village and regional corporations were established pursuant to the Alaska Native Claims Settlement Act as a vehicle for distributing land and monetary benefits to Alaska Natives to provide a fair and just settlement of aboriginal land claims in Alaska. See Pub. L. No. 92-203, 85 Stat. 688 (1971), codified as amended at 43 U.S.C. §§ 1601-1629h.

[8]The Denali Commission was established in 1998 and is charged with addressing the crucial needs of rural Alaska communities, particularly isolated Alaska Native villages. See Pub. L. No. 105-277, Div. C, Title III, 112 Stat. 2681-637 (1998), codified at 42 U.S.C. § 3121 Note. The membership of the commission consists of federal and state cochairs and a five-member panel from statewide organizations. The mission of the commission is to partner with tribal, federal, state, and local governments to improve the effectiveness and efficiency of government services; build and ensure the operation and maintenance of Alaska's basic infrastructure; and develop a well-trained labor force.

acknowledged the impacts on Alaskan villages due to climate change and directed the Corps to assess the erosion threat and estimate relocation costs for 7 coastal villages—Bethel, Dillingham, Kaktovik, Kivalina, Newtok, Shishmaref, and Unalakleet.[9] The Corps completed the Alaska Village Erosion Technical Assistance program assessment in April 2006, and estimated that the villages of Kivalina, Newtok, and Shishmaref have 10 years to 15 years before their current locations are lost to erosion, and that the cost to relocate these villages ranged from between $80 million and $200 million each. In 2004, a congressional committee directed the Corps to conduct an Alaska erosion baseline study.[10] In addition, the Corps was provided with authority "to carry out, at full federal expense, structural and non-structural projects for storm damage prevention and reduction, coastal erosion, and ice and glacial damage in Alaska, including relocation of affected communities and construction of replacement facilities."[11] However, this authority was repealed in March 2009.[12]

The extent to which additional villages may need to relocate as the impacts of climate change increase and of how federal agencies in collaboration with state agencies can assist the villages in their relocation efforts was discussed in an October 11, 2007, congressional field hearing.[13] Testimony was provided by representatives from the Corps; FEMA; the state of Alaska's Division of Homeland Security and Emergency Management; and the villages of Kivalina, Newtok, Shishmaref, and Unalakleet. The federal agency representatives described how their programs have provided assistance to villages and the challenges they face in prioritizing and coordinating assistance with other federal agencies, the state, and the villages. The senators at the hearing also explored with the witnesses ways to expedite assistance to villages (e.g., by waiving the National Environmental Policy Act of 1969 (NEPA) requirement for

[9]H.R. Conf. Rep. No. 108-10, at 807 (2003); S. Rep. No. 107-220, at 23–24 (2002). See also Pub. L. No. 108-137, § 112, 117 Stat. 1835-36 (2003) (requiring specific appropriated funds to be used to provide technical assistance, at full federal expense, to Alaska communities to address the serious impacts of coastal erosion).

[10]H.R. Conf. Rep. No. 108-792, at 858 (2004).

[11]Consolidated Appropriations Act, 2005, Pub. L. No. 108-447, Div. C, Title I, § 117, 118 Stat. 2944-45 (2004).

[12]Pub. L. No. 111-8, Div. C, Title I, § 117, 123 Stat. 524 (2009).

[13]The State and Federal Response to Storm Damage and Erosion in Alaska's Coastal Villages Before the Senate Ad Hoc Subcomm. on Disaster Recovery of the Comm. on Homeland Sec. and Governmental Affairs, 110th Cong. (2007).

environmental analyses of the impacts of federal projects)[14] and to improve project coordination (e.g., by appointing a coordinator for all federal agencies to work with state and local partners to assist villages needing immediate action).

Under NEPA, agencies evaluate the likely environmental effects of projects they are proposing by using an environmental assessment or, if the projects likely would significantly affect the environment, a more detailed environmental impact statement. If an agency determines that the activities of a proposed project fall within a category of activities that the agency has already determined has no significant environmental impact—called a categorical exclusion—then the agency generally need not prepare an environmental assessment or environmental impact statement. In the event that more than one federal agency is involved in the same action or involved in a group of actions directly related to each other, NEPA regulations require that a lead agency supervise the preparation of the environmental assessment or environmental impact statement. NEPA analysis can occur at both the programmatic and project levels. At the programmatic level, larger-scale, combined effects and cumulative effects can be evaluated and addressed, and overall management objectives are defined. At the project level, the analysis of the effects of a particular action, in a place, at a particular time are addressed. The Council on Environmental Quality, which oversees the implementation of NEPA and reviews and approves federal agency NEPA procedures, has issued regulations governing federal agencies' implementation of NEPA. In emergency circumstances, however, the federal agency can take action to control the immediate impact of the emergency without observing these regulations, but must consult with the council for alternative arrangements for NEPA compliance.

[14]Pub. L. No. 91-190 (1970), codified as amended at 42 U.S.C. §§ 4321-4370f.

The Flooding and Erosion Threats to Villages Have Not Been Completely Assessed, but Some Threatened Villages Are Exploring Relocation Options

While the flooding and erosion threats to Alaska Native villages have not been completely assessed, a growing number of imminently threatened villages have been identified, and some have decided to relocate or are exploring relocation options. Since our 2003 report, federal, state, and village officials have identified 31 villages that face imminent threats. At least 12 of the 31 imminently threatened villages have decided to relocate—in part or entirely—or to explore relocation options.

Thirty-one Imminently Threatened Villages Have Been Identified, but the Threat Assessment Is Incomplete

In December 2003, we reported that flooding and erosion affect 184 of 213 (or about 86 percent) Alaska Native villages to some extent, and that the villages of Kivalina, Koyukuk, Newtok, and Shishmaref were in imminent danger from flooding and erosion and were planning to relocate. Since our 2003 report, federal, state, and village officials have identified 31 villages that are imminently threatened by flooding and erosion (see table 1).

Table 1: Thirty-one Alaska Native Villages That Have Been Identified as Facing Imminent Flooding and Erosion Threats

Village	Prior GAO report, 2003	State of Alaska's Immediate Action Workgroup, 2008	Corps' Alaska Baseline Erosion Assessment, 2009	Additional villages identified by village officials and other sources, 2009
Akiak			◻	
Alakanuk			◻	
Allakaket				◻
Barrow[a]			◻	
Chefornak			◻	
Chevak			◻	
Clarks Point			◻	
Eyak (Cordova)			◻	
Deering			◻	
Dillingham			◻	
Emmonak			◻	
Golovin			◻	
Hughes				◻
Huslia			◻	
Kivalina[a]	◻	◻	◻	

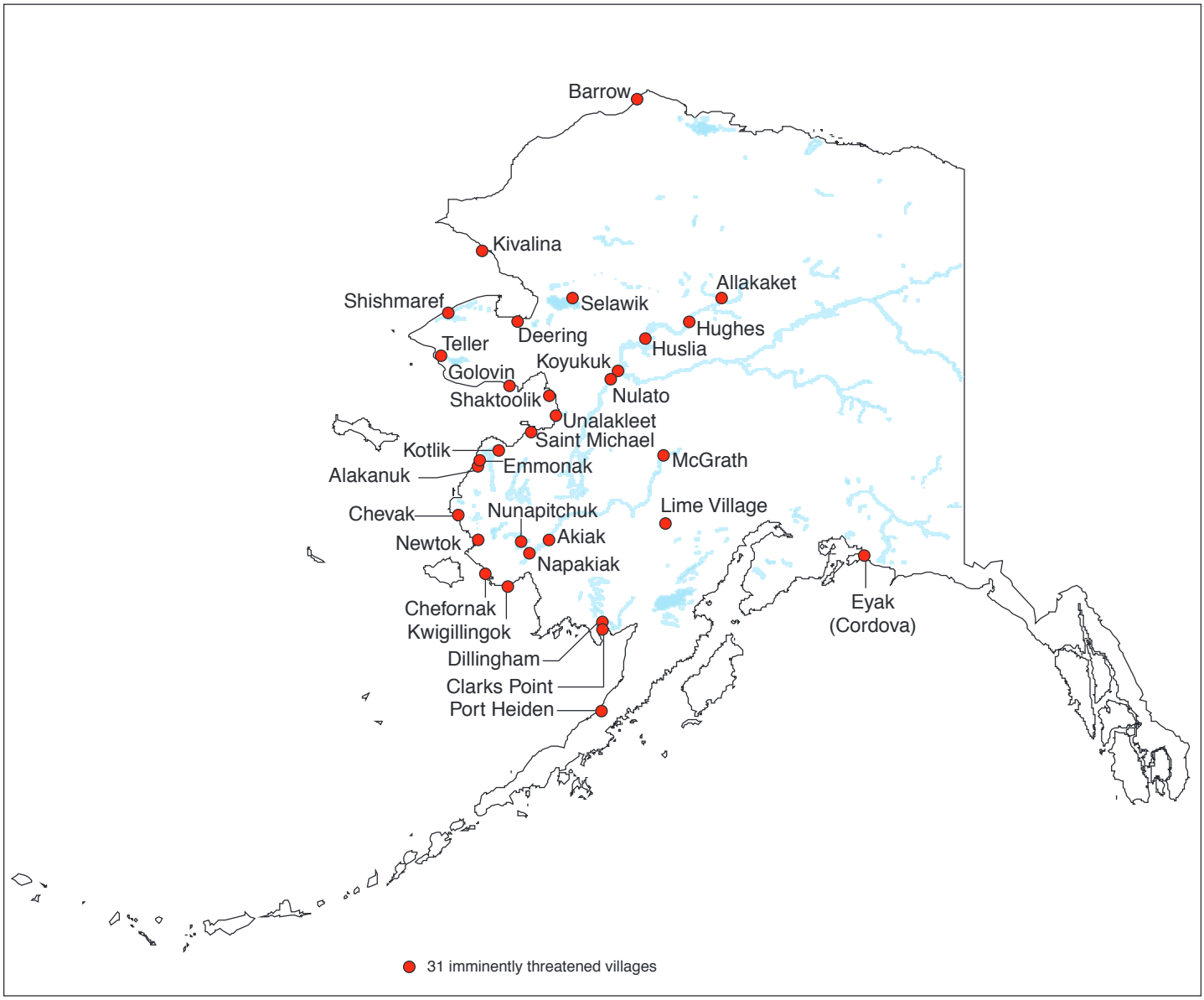
Village	Prior GAO report, 2003	State of Alaska's Immediate Action Workgroup, 2008	Corps' Alaska Baseline Erosion Assessment, 2009	Additional villages identified by village officials and other sources, 2009
Kotlik			◻	
Koyukuk[a]	◻	◻		
Kwigillingok			◻	
Lime Village			◻	
McGrath			◻	
Napakiak			◻	
Newtok[a]	◻	◻	◻	
Nulato				◻
Nunapitchuk			◻	
Port Heiden			◻	
Saint Michael			◻	
Selawik			◻	
Shaktoolik		◻	◻	
Shishmaref[a]	◻	◻	◻	
Teller				◻
Unalakleet[a]		◻	◻	

Source: GAO analysis of federal, state, and village information.

[a]One of the 9 villages covered in detail in our December 2003 report. In addition to the 6 villages noted in this table, our December 2003 report also covered the villages of Bethel, Kaktovik, and Point Hope.

The 31 imminently threatened villages are located throughout the state of Alaska's river and coastal areas (see fig. 4).

Figure 4: Locations of 31 Alaska Native Villages Imminently Threatened by Flooding and Erosion



Sources: GAO (analysis); Pitney Bowes Business Insight (map).

Twenty-six of the imminently threatened villages were identified in the Corps' *Alaska Baseline Erosion Assessment* of 178 Alaska communities that reported erosion problems, which was completed in March 2009.[15] The Corps' assessment was conducted in response to language in the Conference Report accompanying the fiscal year 2005 Consolidated Appropriations Act, which stated the following:

> "A field hearing was held in Anchorage, Alaska on June 29 and 30, 2004, on the impacts of severe erosion and flooding on Alaska Native villages. There is no Federal or State agency to coordinate and assist these communities in the relocation or in the interim provide preventative measures to slow the effects of the erosion and flooding. The conference finds there is a need for an Alaska erosion baseline study to coordinate and plan the appropriate responses and assistance for Alaska villages in the most need and to provide an overall assessment on the priority of which villages should receive assistance. Therefore, the conference has provided the $2,000,000 for this study."[16]

The Corps identified these 26 priority communities through a process of stakeholder meetings, research of prior reports, correspondence with communities, and follow-up investigations of select communities. These communities were assessed on various criteria, such as the level of threat to critical infrastructure, human health and safety, housing, and other factors.[17]

However, the Corps did not assess flooding threats because, according to Corps officials, it lacked the authority for such an assessment. While the Conference Report language that led to the Corps assessment refers to both flooding and erosion threats in the setup for the study, the specific language calling for the study refers to it as "an Alaska erosion baseline study." As a result, the Corps interpreted this language to mean that it was only authorized to conduct a baseline assessment of erosion threats. Without a comprehensive assessment of both erosion and flooding threats

[15]U.S. Army Corps of Engineers, *Alaska Baseline Erosion Assessment, Study Findings and Technical Report* (Alaska District: March 2009). Of the 178 Alaska communities identified in the Corps' report, 141 are Alaska Native villages and 124 of them were among the 184 Alaska Native villages that we identified in our 2003 report as being affected, at least to some degree, by erosion or flooding.

[16]H.R. Conf. Rep. No. 108-792, at 858 (2004).

[17]In addition to identifying 26 priority action communities with serious erosion issues that warrant immediate and substantial federal, state, or other intervention, the assessment identified 69 communities that need to monitor erosion but do not need immediate action and identified 83 communities that did not report any serious erosion problems.

that villages face, federal agencies lack the necessary information on the magnitude of the problem and on how best to prioritize and target limited resources. For example, the village of Koyukuk, which we identified as threatened in our 2003 report, was not included on the Corps' list of priority communities because it primarily suffers from repetitive flooding, rather than erosion. The Corps' erosion study recognizes the importance of assessing flooding threats and recommends seeking authority to expand the assessment scope to include flooding, so that the Corps can provide a more comprehensive assessment of the threats that Alaska Native villages face.

In addition to the 26 villages imminently threatened by erosion that the Corps identified, we included 5 additional imminently threatened villages on the basis of our current and prior work and on the work of the Alaska Governor's Sub-Cabinet on Climate Change Immediate Action Workgroup. The additional villages of Allakaket, Hughes, Koyukuk, Nulato, and Teller predominantly face flooding threats. For example, according to the Tribal Administrator of Koyukuk, the lower-lying location of much of the village makes it very susceptible to flooding from the Koyukuk and Yukon Rivers. Koyukuk was also one of the imminently threatened villages identified by the Immediate Action Workgroup's April 2008 report. Similarly, we have included the villages of Allakaket, Hughes, Nulato, and Teller on our list of imminently threatened villages on the basis of our conversations with local village or city leaders and regional tribal organizations. Specifically, officials from the Tanana Chiefs Conference, a regional nonprofit tribal organization that serves villages in the central interior region of Alaska, identified Allakaket, Hughes, and Nulato as member villages that have suffered severe or repetitive flooding or erosion impacts. Similarly, officials from Kawarek, Incorporated, and the Bering Straits Regional Housing Authority told us that the village of Teller has suffered repetitive flooding and is building new homes outside of the flood area. Local leaders confirmed the information provided to us by these regional tribal organizations.

Twelve Imminently Threatened Villages Are Exploring Relocation Options for All of, or a Portion of, Their Existing Villages

According to federal, state, and village officials, at least 12 of the 31 imminently threatened villages have decided to relocate—in part or entirely—or to explore relocation options. The villages of Kivalina, Newtok, Shaktoolik, and Shishmaref will likely need to move all at once and as soon as possible, since they continue to suffer flooding and erosion and have limited emergency evacuation options (see table 2). The remaining 8 villages that are considering relocation have the option of gradually migrating to a safer location over time because they have access

to higher ground nearby and can move existing structures to these sites or build new structures at the sites.

Table 2: The Population and Likely Relocation Scenario for the 12 Alaska Native Villages That Are Exploring Relocation Options

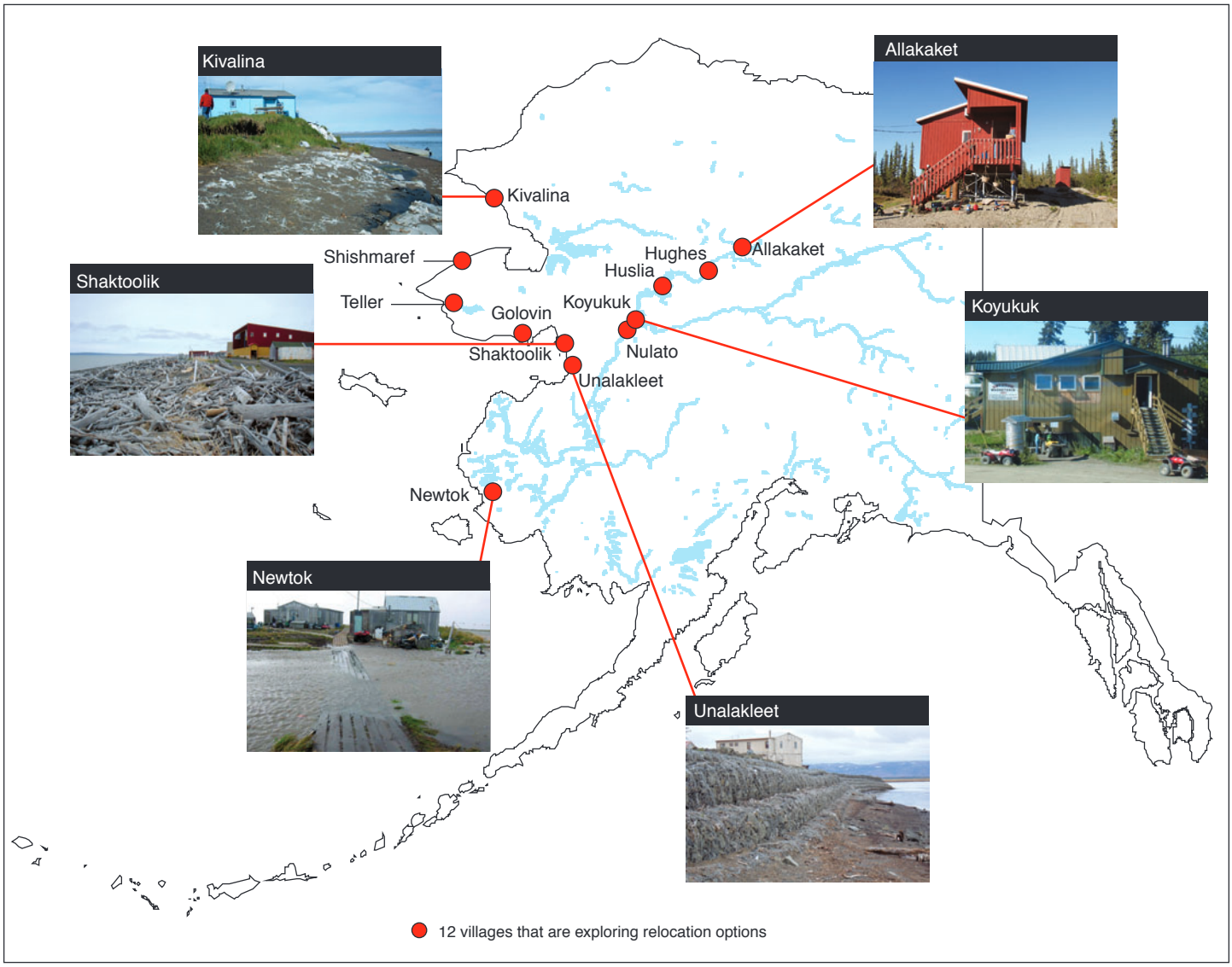
Villages, by likely relocation scenario	Population	Threat profile
Four villages that are likely to move all at once, as soon as possible		
Kivalina	398	Identified in our December 2003 report as an imminently threatened village seeking to relocate. Declared a state flood disaster area in 2006. Subsequently, in October 2007, Kivalina evacuated most of its residents when it was threatened by a sea storm with a forecasted 12- to 14-foot surge for the 10-foot elevation village. Village leaders told us that this evacuation was so dangerous that it should never be attempted again, and the villagers are considering relocation site options.
Newtok	353	Identified in our December 2003 report as an imminently threatened village seeking to relocate. Declared a state flood disaster area in 2004 and suffered additional flooding in 2005. Floodwaters from the 2005 storm completely surrounded the village, turning it into an island for several days, and the Ninglick River barge landing was destroyed in that storm, making it difficult to deliver essential supplies such as fuel to the village. Village residents have voted to relocate.
Shaktoolik	214	Declared a state flood disaster area in 2004 and 2005. The 2005 storm cut off the village evacuation route to the south, inundating the road with floodwater and turning the village into an island. Storm surge has propelled large driftwood close to village buildings, creating huge debris piles on the shoreline, and erosion is now approaching village infrastructure. Village leaders are considering relocation site options.
Shishmaref	609	Identified in our December 2003 report as an imminently threatened village seeking to relocate. Declared a state flood disaster area in 2004 and 2005. Village leaders told us that in 2005, villagers had to evacuate homes on the shoreline and move in with family or friends in the central village, and that after the storm season, homes were relocated from the shore to prevent their destruction. Village leaders are considering relocation site options.
Eight villages that are likely to gradually migrate to a safer location over time		
Allakaket	95	Declared a federal disaster area in August 1994 when Koyukuk River flooding damaged or destroyed nearly every home and public facility in the village. Villagers are concerned that many homes and most infrastructure remain in or near the floodplain.
Golovin	167	Declared a state flood disaster area in 2004 and 2005. The Corps' 2009 erosion assessment identified Golovin as a priority community for erosion issues.
Hughes	76	Declared a state river ice breakup flood disaster area in 2006. Like Allakaket, Hughes was declared a federal disaster area from the 1994 Koyukuk River flood.
Huslia	255	The Corps' 2009 erosion assessment identified Huslia as a priority community for addressing river erosion issues.
Koyukuk	89	Identified in our December 2003 report as an imminently threatened village seeking to relocate. Declared a state disaster area in 2006 when more than half the residents were evacuated due to unexpected river flooding.
Nulato	274	Declared a state river ice breakup flood disaster area in 2006.

Villages, by likely relocation scenario	Population	Threat profile
Teller	256	The village, which is surrounded by water on three sides, was declared a state sea storm disaster area in 2004.
Unalakleet	724	Declared a state flood disaster area in 2003 and 2005. Villagers told us that the 2005 storm was the most damaging, causing severe erosion to the protective seawall and flooding in the village.

Source: GAO analysis of federal, state, and village information.

The 12 villages that are exploring relocation options are located in river and coastal areas (see fig. 5).

Figure 5: Locations of 12 Alaska Native Villages That Are Exploring Relocation Options



Sources: GAO (analysis); Pitney Bowes Business Insight (map).

Federal Disaster Programs Have Provided Limited Assistance to Villages, and No Comprehensive Relocation Program Exists

Federal programs to assist threatened villages prepare for and recover from disasters and to protect and relocate them are limited and unavailable to some villages. While FEMA administers several disaster preparedness and recovery programs, villages often fail to qualify for these programs. Other federal agencies have individual programs, but there is no single comprehensive proactive federal program to assist villages with their relocation efforts.

FEMA Disaster Preparedness and Recovery Programs Have Provided Limited Assistance to Villages

FEMA, the lead federal agency for disaster preparation and recovery, has several programs that could supplement state disaster mitigation and recovery programs, but villages have had difficulty in meeting program requirements. FEMA's five disaster mitigation programs and two disaster recovery programs are summarized in table 3.

Table 3: FEMA Disaster Mitigation and Recovery Programs

Program	Description	Selected requirements
FEMA disaster mitigation programs		
Hazard Mitigation Grant Program	Provides funds to states and Indian tribal governments to assist communities in implementing long-term measures that substantially reduce the risks of future damage, hardship, loss, or suffering in an area devastated by a disaster.	• disaster mitigation plan, • federal disaster declaration, • cost-effective projects, and • cost share of 25 percent or more from the state or applicant.
Pre-Disaster Mitigation Program[a]	Provides funds to states, territories, Indian tribal governments, and communities for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. Funding these plans and projects reduces overall risks to the population and structures, while also reducing reliance on funding from actual disaster declarations.	• disaster mitigation plan, unless grant is for development of such a plan; • cost-benefit analysis and cost-effective projects; and • cost share of 25 percent or more from the state or applicant (cost share of 10 percent or more from the state or applicant for a small and impoverished community).

Program	Description	Selected requirements
Flood Mitigation Assistance Program	Provides funds to states and communities (1) for development of flood risk mitigation plans or (2) activities described in approved plans to reduce the risk of flood damage to structures covered under the National Flood Insurance Program, such as elevation, acquisition, and relocation of buildings.	• flood risk mitigation plan, unless grant is for development of such a plan; • cost-effective projects; • recipient matching requirement; and • participation in the National Flood Insurance Program.
Repetitive Flood Claims Program	Provides funds to reduce flood damages to individual properties for which one or more claim payments for losses have been made under flood insurance coverage and that will result in the greatest savings to the National Flood Insurance Program in the shortest period of time.	• local mitigation plan required at the discretion of the FEMA director, • lack of capacity to manage Flood Mitigation Assistance grant activity or inability to meet Flood Mitigation Assistance cost-share requirements, • cost-effective projects, and • participation in the National Flood Insurance Program.
Severe Repetitive Loss Pilot Program[b]	Provides funds to mitigate flood damage to residential properties covered under a National Flood Insurance Program flood insurance policy that have had either (1) four or more flood-related insurance claims payments that each exceeded $5,000 and cumulatively exceeded $20,000 or (2) at least two flood-related insurance claims payments that cumulatively exceed the value of the property. In both instances, at least two of the claims must be within 10 years of each other.	• disaster mitigation plan, • cost-effective projects, • recipient matching requirement, and • participation in the National Flood Insurance Program and the pilot program.
FEMA disaster recovery programs		
Public Assistance Program	Provides aid to state government agencies; local governments; Indian tribes, authorized tribal organizations, and Alaska Native villages; and private nonprofit organizations or institutions that provide certain services otherwise performed by a government agency. Assistance is provided for projects such as debris removal; emergency protective measures to preserve life and property; and the repair and replacement of damaged structures, such as buildings, utilities, roads and bridges, recreational facilities, and water-control facilities (e.g., dikes and levees).	• federal disaster declaration and • cost share from the state or applicant.

Program	Description	Selected requirements
Individuals and Households Program	Provides for the necessary expenses and serious needs of disaster victims that cannot be met through insurance or low-interest Small Business Administration loans. FEMA provides temporary housing assistance to individuals whose homes are unlivable because of a disaster. Other available services include unemployment compensation and crisis counseling to help relieve any grieving, stress, or mental health problems caused or aggravated by the disaster or its aftermath. FEMA can cover a percentage of the medical, dental, and funeral expenses that are incurred as a result of a disaster.	• federal disaster declaration and • temporary assistance for primary residences only.

Source: FEMA.

[a]Scheduled to expire on September 30, 2009, unless the program is reauthorized.

[b]Pilot program ends September 30, 2009.

Small and remote Alaska villages often fail to qualify for assistance under these FEMA disaster mitigation and recovery programs because (1) most villages lack approved mitigation plans, (2) few federal disaster declarations have been made for flooding and erosion problems, and (3) many villages cannot participate in the National Flood Insurance Program.

- Most villages lack approved mitigation plans: Four of FEMA's hazard mitigation grant programs require applicants to submit mitigation plans for FEMA's approval to qualify for project funding, unless the grant is intended to fund the development of such a plan. As of April 2009, only 33 Alaska Native villages had these plans in place, and, thus, they are the only villages that can apply for these mitigation programs.[18] Twelve of these villages are among the 31 imminently threatened villages identified in this report, and 5 of the villages—Golovin, Kivalina, Koyukuk, Newtok, and Unalakleet—are exploring relocation options. In addition, FEMA distributes its mitigation grants, with the exception of grants to develop hazard mitigation plans, on the basis of the cost-effectiveness of the proposed project. With low populations and high construction costs in rural Alaska, village relocation projects have low

[18]The 33 Alaska Native villages with a FEMA-approved disaster mitigation plan are Akhiok, Alakanuk, Anaktuvuk Pass, Aniak, Barrow, Bethel, Cordova, Dillingham, Emmonak, Golovin, Hooper Bay, Kaktovik, Kivalina, Kotlik, Kotzebue, Koyukuk, Larsen Bay, McGrath, Newtok, Nome, Nuiqsut, Nunam Iqua, Old Harbor, Ouzinkie, Petersburg, Point Lay, Port Lions, Red Devil, St. Paul, Sleetmute, Unalakleet, Wainwright, and Yakutat. The 12 italicized villages are among the 31 imminently threatened villages identified in this report.

benefit-to-cost ratios. As a result, the 33 villages that can apply for the mitigation grant programs to fund projects also face significant challenges to being selected for these grants, according to FEMA officials.

- Few federal disaster declarations for flooding and erosion problems: Eligibility for FEMA's two disaster recovery programs and the Hazard Mitigation Grant Program is generally limited to areas that have been declared federal disasters, but since many of the villages are facing gradual erosion problems and have not received a declared disaster designation, they do not qualify for these programs.[19] Since 1953, Alaska has had 32 federal disaster declarations. While none of these federal disaster declarations were for erosion issues, 15 were for flooding. However, only 4 Alaska Native villages—Alatna, Alakanuk, Allakaket, and Shishmaref—received funding from FEMA's Hazard Mitigation Grant Program for relocation activities associated with the 15 flooding disaster declarations. After a 1994 flood, Alatna received $6,322,495 to relocate the entire village to higher ground, and Allakaket received $919,191 to build 13 temporary homes and extend its road, power, and telephone services to higher ground. Alakanuk received $208,898 to relocate and elevate 15 homes and 1 city building after a 2002 flood. Most recently, Shishmaref received $21,485 to relocate 1 cottage after a 2004 flood.

- Many villages cannot participate in the National Flood Insurance Program: FEMA's Flood Mitigation Assistance Program, Repetitive Flood Claims Program, and Severe Repetitive Loss Pilot Program require participation in FEMA's National Flood Insurance Program.[20]

[19]The Stafford Act establishes the process for states to request a presidential disaster declaration. See Pub. L. No. 93-288 (1974), codified as amended at 42 U.S.C. §§ 5121-5206. The Stafford Act requires the governor of the affected state to request a declaration by the President. In this request, the governor must affirm that the situation is of such severity and magnitude that effective response is beyond the capabilities of the state and the affected local governments, and that federal assistance is necessary. See 42 U.S.C. § 5170. FEMA is responsible for recommending to the President whether to declare a disaster and trigger the availability of funds as provided for in the Stafford Act. See 44 C.F.R. § 206.36. According to FEMA officials, it is usual for Hazard Mitigation Grant Program eligibility to be granted statewide, not just in affected areas.

[20]The National Flood Insurance Program was established in the National Flood Insurance Act of 1968 to provide policyholders with some insurance coverage for flood damage, as an alternative to disaster assistance, and to try to reduce the escalating costs of repairing flood damage. To participate in the National Flood Insurance Program, communities agree to enforce regulations for land use and new construction in high-risk flood zones. The National Flood Insurance Act of 1968, as amended, is codified at 42 U.S.C. §§ 4001-4129.

No village in the unincorporated borough qualifies for this program, unless it is an incorporated city. FEMA's former Administrator of Region X also testified in 2007 that FEMA's mitigation programs have insufficient funds to comprehensively address the Alaska Native villages' erosion problem.

No Comprehensive Federal Relocation Program Exists, but Individual Agencies Are Providing Some Relocation Assistance, and Other Flooding and Erosion Mitigation Activities Are Ongoing

While no comprehensive proactive federal relocation program exists to assist villages with their relocation efforts, individual agencies are providing some relocation assistance. Since our 2003 report, section 117 of the fiscal year 2005 Consolidated Appropriations Act was enacted to provide the Corps with new discretionary authority regarding relocation activities. Specifically, section 117 stated the following:

"Notwithstanding any other provisions of law, the Secretary of the Army is authorized to carry out, at full Federal expense, structural and non-structural projects for storm damage prevention and reduction, coastal erosion, and ice and glacial damage in Alaska, including relocation of affected communities and construction of replacement facilities."[21]

Despite this new authority, which was subsequently repealed in March 2009,[22] the Corps' role in village relocation efforts has generally remained unchanged since our 2003 report and has been limited to evaluating potential relocation sites for Kivalina, Koyukuk, and Shishmaref and to designing an evacuation center and road for Newtok. Other individual agencies have been providing planning assistance for Newtok's relocation.

While the Corps had discretionary authority under section 117 to carry out, at full federal expense, projects to address storm damage and erosion, this authority was applied to few villages. Referring to this authority, in fiscal year 2006, a congressional committee directed $2.4 million of the Corps' appropriation to the Alaska coastal erosion projects. The 9 villages eligible to receive these funds were the same 9 villages covered in our 2003 report—Barrow, Bethel, Kaktovik, Kivalina, Koyukuk, Newtok, Point Hope, Shishmaref, and Unalakeet.[23] An additional $10 million was directed to Alaska coastal erosion projects in fiscal years 2007 and 2008 ($5 million

[21]Consolidated Appropriations Act, 2005, Pub. L. No. 108-447, Div. C, Title I, § 117, 118 Stat. 2944-45 (2004).

[22]Pub. L. No. 111-8, Div. C, Title I, § 117, 123 Stat. 524 (2009).

[23]S. Rep. No. 109-84, at 41 (2005).

per year).[24] These funds have been used to construct shoreline barriers in Kivalina, Shishmaref, and Unalakleet to provide temporary erosion protection. Assistance with relocation activities has consisted of evaluating potential relocation sites for Kivalina, Koyukuk, and Shishmaref, and designing an evacuation center and road for Newtok. None of these funds have been used in Barrow, Bethel, or Kaktovik, and funding for Point Hope has been limited to the initiation of studies. Also in fiscal year 2008, the Corps elected to assist the city of McGrath with an erosion control project and the city of Yakutat with a flood damage reduction study at full federal expense. Table 4 describes the Corps projects added since 2003 to assist villages affected by flooding and erosion.

Table 4: Corps Projects to Assist Alaska Native Villages Affected by Flooding and Erosion

Project	Description	Status
Alaska Coastal Erosion	Funding for storm damage, erosion, and relocation projects in Barrow, Bethel, Kaktovik, Kivalina, Koyukuk, Newtok, Point Hope, Shishmaref, and Unalakeet. Prior to March 2009, the Corps, at its discretion, could assume the full cost of each project.	Constructing shoreline protection in Kivalina, Shishmaref, and Unalakleet. Evaluating relocation sites for Kivalina, Koyukuk, and Shishmaref. Designing evacuation road and center for Newtok.
Alaska Villages Erosion Technical Assistance	A report to Congress on the impacts of coastal erosion for Bethel, Dillingham, Kaktovik, Kivalina, Newtok, Shishmaref, and Unalakleet.	Report submitted to Congress in 2006.
Alaska Baseline Erosion Assessment	An erosion study to coordinate and plan the appropriate responses and assistance for Alaska villages in the most need and to provide an overall assessment on the priority of which villages should receive assistance.	Report released in March 2009.
Flood Control and Coastal Emergencies	Provided technical assistance, equipment, and 10,766 sandbags to Kivalina after flooding in 2006.	Project completed in December 2007.
Specifically Authorized Construction	Construction of shoreline barriers in Bethel and Dillingham.	Constructing barrier in Bethel. Designing barrier in Dillingham.

Source: Corps.

With a few exceptions, the list of other federal programs that could assist villages with flooding and erosion issues has mostly remained the same as it was when we reported in 2003 (see app. I). Two notable changes have

[24]S. Rep. No. 109-274, at 52 (2006) ($5 million for Alaska coastal erosion projects in 6 eligible villages—Kivalina, Koyukuk, Newtok, Point Hope, Shishmaref, and Unalakleet); S. Rep. No. 110-127 at 52 (2007) ($5 million for Alaska coastal erosion projects in 9 eligible villages—Barrow, Bethel, Kaktovik, Kivalina, Koyukuk, Newtok, Point Hope, Shishmaref, and Unalakleet).

occurred since our 2003 report. First, NRCS in 2005 amended its Emergency Watershed Protection Program's regulations to allow the purchase of floodplain easements on nonagricultural land as an emergency measure.[25] Structures located within the easement may be demolished or relocated outside of the floodplain. As a result of this amendment, NRCS has funded the purchase of floodplain easements from 2 Alaska Native villages—Evansville and McGrath. In Evansville, NRCS plans to decommission one building and relocate another building out of the floodplain, and in McGrath, the service plans to remove structures. Also, NRCS's Watershed Protection and Flood Prevention Program has received no funding appropriations in the last 2 years and, thus, has been mostly inactive, according to agency officials.

Second, an issue has arisen since our last report regarding the distribution of funds under HUD's Community Development Block Grant program, which provides funding for housing, economic development, and other community development activities, including affordable housing and relocation assistance for displaced persons.[26] On the basis of a March 2007 determination by HUD, a number of Alaska Native villages have been deemed ineligible to receive funds under this program because the federal law governing the program does not take into account Alaska's unique state government structure. Generally, these block grant funds are distributed by the state to "units of general local government" that are political subdivisions of the state.[27] However, 64 Alaska Native villages, including 3 imminently threatened villages (Kwigillingok, Lime Village, and Newtok), located in the state of Alaska's unorganized borough do not have an incorporated municipal government. As a result, there is no unit of local government within the state government structure to receive these block grant funds. In an attempt to remedy this problem, in September 2006, the state requested to serve as the recipient on behalf of the unincorporated villages in the unorganized borough. However, in March 2007, HUD determined that the state was ineligible to receive grants on these villages' behalf because the state was not a unit of general local government, and this would entail the state distributing the grants to itself. The 64 unincorporated villages in the unorganized borough are at a

[25]70 Fed. Reg. 16921, 16929 (Apr. 4, 2005).

[26]Housing and Community Development Act of 1974, Pub. L. No. 93-383, 88 Stat. 633 (1974) (codified in scattered sections of Titles 12 and 42 of the U.S. Code).

[27]42 U.S.C. § 5302(a)(1).

competitive disadvantage for funding because they are ineligible to receive HUD Community Development Block Grant funds through the state. While these villages do not have a local unit of state government, they do have tribal governments, and the tribal governments or their designated tribal organizations do receive funds under HUD's Indian Community Development Block Grant. Unlike the two-thirds of the Alaska Native villages that are eligible for both the regular Community Development Block Grant program and the Indian Community Development Block Grant program, these 64 villages currently face more limited funding options to address some of the impacts of flooding and erosion in their communities.

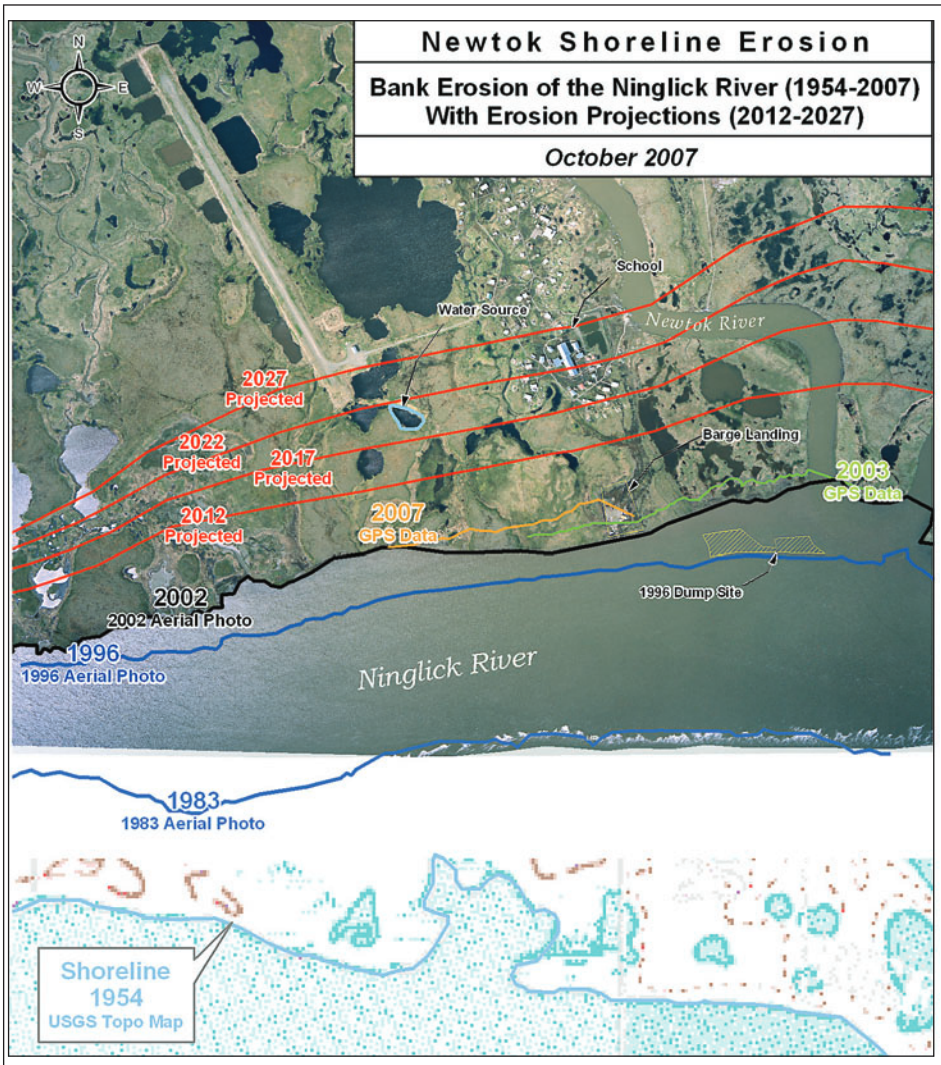
Most of the 12 Villages Exploring Relocation Options Have Made Limited Progress

Of the 12 villages exploring relocation options, only Newtok has made significant progress among the 4 villages that will likely need to relocate all at once. Varying levels of progress have been made by the 8 villages that are gradually migrating to new locations over time.

Newtok Has Made the Most Progress of the 4 Villages That Will Likely Relocate All at Once

Newtok officials began evaluating the village's erosion problems on the banks of the Ninglick River in 1983, when they hired a consultant to assess the erosion problem and evaluate options for erosion control. The assessment found that unchecked erosion would endanger community structures within 25 years to 30 years, and that providing full protection to stop erosion over the length of the riverbank would be prohibitively expensive. Figure 6 shows the most recent update of projected erosion. On the basis of this information, the Newtok Traditional Council determined that the village must relocate.

Figure 6: Shoreline Erosion Map for the Village of Newtok, Alaska, October 2007



Historic shorelines digitized from U.S. Geological Survey topographic maps and digital aerial photos. Projected shorelines are from statistically derived averages and have not been calculated based on actual Ninglick River data. Therefore, conservative erosion rate values were used for these projections, ranging from 36 feet per year (ft/yr) (west/downstream) to 83 ft/yr (east/upstream). Actual observations by residents and raw, non-averaged data indicate periods of much higher erosion rates. July 2003 shoreline represents a rate of 110 ft/yr.

Source: Newtok Planning Group (map and text).

In 1994, the council started the relocation planning process by analyzing six potential village relocation sites. In 1996, the village residents were surveyed and they selected a relocation site known as Mertarvik, located on the north end of Nelson Island approximately 9 miles southeast of Newtok. In 2000, the council hired a planning consultant to assist in the development of relocation plans, and the site layout and transportation plan for the selected relocation site was completed in 2001. In 2002, the

Corps assessed the site and confirmed that it was feasible for community development. In 2003, Congress approved a land exchange between the Newtok Native Corporation and Interior's U.S. Fish and Wildlife Service to provide the relocation site, which is within the Yukon Delta National Wildlife Refuge.[28]

According to village, federal, and state officials, the commitment of the village residents to relocate and the proactive approach of the village have been major contributors to the progress made by Newtok. For example, subsequent to the initial site selection survey, the village conducted two additional surveys, most recently confirming in 2003 that 92 percent of the villagers favored the selected site. The results and methodology of this survey are documented in the January 2004 Newtok Background for Relocation Report prepared for the Newtok Traditional Council. The council hired a consultant to produce the report specifically to provide background documentation to government agencies and officials to justify the relocation effort and support future requests for government assistance in the process. To meet these objectives, the consultant summarized previous studies, mapped the historic advance of the river erosion, reported impacts on the village and resident perspectives, and documented the proactive approach of the village in response to the problem. The council submitted this report to initiate a dialogue with agencies, obtain their advice and assistance, and determine how their needs fit with existing government programs. In April 2006, the Corps estimated that the cost to relocate Newtok could range from $80 million to $130 million.[29]

In May 2006, representatives from state, federal, and nongovernmental organizations formed the Newtok Planning Group. The purpose of the group is to identify agency resources and to establish an overall strategy to assist Newtok in its relocation efforts, addressing both the short-term needs in the existing village and the critical infrastructure at the new village as well as long-term relocation planning. The group is composed of the Newtok Traditional Council; the Newtok Native Corporation; nine Alaska state departments and offices; nine federal departments,

[28]Pub. L. No. 108-129, 117 Stat. 1358 (2003).

[29]U.S. Army Corps of Engineers, Alaska Village Erosion Technical Assistance Program: An Examination of Erosion Issues in the Communities of Bethel, Dillingham, Kaktovik, Kivalina, Newtok, Shishmaref, and Unalakleet (Alaska District: April 2006).

commissions, and offices; and five Alaska regional organizations.[30] Since 2006, the collaborative efforts of the Newtok Planning Group have resulted in significant progress toward the relocation of Newtok, including the following:

- The completion of a community layout plan to guide the efficient and orderly development of the new village with a grant funded by the Denali Commission.
- The completion of a preliminary layout of water and sewer infrastructure by the Alaska Department of Environmental Conservation's Village Safe Water Program as well as ongoing water source investigations.
- The completion of geotechnical studies of the new site by the Corps in collaboration with state agencies.
- The completion of a housing market survey to determine the housing needs and desires of the community and submission of a grant proposal to the Rural Alaska Community Action Program, Inc., for a demonstration project for affordable, sustainable housing at the new site incorporating design concepts from the University of Alaska, Fairbanks, Cold Climate Housing Research Center.[31]
- Three homes have been constructed by Newtok residents at a temporary site, through grants from Interior's Bureau of Indian Affairs Housing Improvement Program. These homes will eventually be moved to the new village.

[30]State participants include DCCED and the Alaska Departments of Environmental Conservation, Transportation and Public Facilities, Military and Veteran Affairs, Natural Resources, Education and Early Development, and Health and Social Services as well as the Alaska Industrial Development and Export Authority and the Governor's Office. Federal participants include HUD and the Departments of Commerce, Agriculture, the Interior, and Transportation as well as the Corps, the Environmental Protection Agency, the Denali Commission, and Senator Murkowski's office.

[31]The Rural Alaska Community Action Program, Inc., is a private, statewide, nonprofit organization working to improve the quality of life for low-income Alaskans. Established in 1965 and governed by a 24-member Board of Directors representing every region of the state, the Rural Alaska Community Action Program provides resources and services to enhance child and family development, improve housing, save energy, develop leadership, promote environmental conservation, prevent substance abuse, and foster independent living.

- Reconnaissance for the placement of a new airport by the Alaska Department of Transportation in collaboration with the Federal Aviation Administration.

- The design and planned construction of a barge ramp, dock, and staging area at the new village site to be completed in July 2009, with grant funding from the Department of Commerce's Economic Development Administration and state matching funds.

- The completion by the Corps in July 2008 of a project-level environmental assessment for the construction of an evacuation center and associated features, such as an access road, at the new site. The Department of Defense's Innovative Readiness Training Program, which partners military services with communities in need to provide assistance and increase military readiness, has made a 5-year commitment of troops and equipment to begin construction in 2010.

While the efforts of the Newtok Planning Group have accelerated the village relocation, certain challenges may prevent the relocation from proceeding as rapidly as possible in the future. A primary matter of concern is how to address NEPA requirements, which require federal agencies to review the likely environmental effects of major federal actions. If more than one federal agency is involved in the same action or group of actions directly related to each other, NEPA regulations require a lead agency to supervise the NEPA evaluation. Currently, the Corps is the lead agency for funding and planning the design and construction of the evacuation center to be built at the new village site, but there is no designated lead federal agency for the overall relocation of the village. The Corps issued an environmental assessment that found no significant impacts in July 2008. However, the Corps assessed only the environmental effects of the evacuation center and associated project features, including an access road from the barge landing, a sewage lagoon and landfill, a quarry site, and connecting roads. Participants in the Newtok Planning Group are concerned that until a federal lead agency is identified for funding, planning, designing, or constructing all of the other components of the village relocation, the NEPA requirements for these other relocation components will remain unfulfilled.

Kivalina, Shaktoolik, and Shishmaref—the other 3 threatened villages that will likely need to move all at once due to the imminent threat—are significantly behind Newtok in their efforts to relocate. Specifically, none of these villages have yet identified relocation sites that federal, state, and

village officials agree are safe, sustainable, and desirable for the subsistence lifestyle of the villagers (see table 5).

Table 5: Status of Relocation Efforts for the Villages of Kivalina, Shaktoolik, and Shishmaref

Village	Status
Kivalina	Villagers have been discussing relocation since 1991 and have identified a preferred location by vote. The Corps' June 2006 Relocation Planning Project Master Plan for Kivalina assessed six alternative relocation sites, finding that the village-preferred site is unsuitable for development and prone to flooding and erosion. Village officials disagree with the Corps' findings and told us that the alternative site recommended by the Corps is unacceptable because its distance from the coast would disrupt subsistence activities and make supply delivery difficult and costly for the village. The village has requested a third-party reassessment of the Corps' report, and the Immediate Action Workgroup has recommended that a state agency lead the review. In April 2006, the Corps estimated that the cost to relocate Kivalina could range from $95 million to $125 million.
Shaktoolik	Village officials have identified a potential relocation site in the vicinity of Christmas Mountain, approximately 8.5 miles northeast of the existing village. The village intends to first use this site for emergency evacuation while it develops a relocation plan. The Alaska Department of Transportation, the regional nonprofit corporation Kawerak, and others are collaborating to assist the village in determining the feasibility of building an evacuation road from the existing village to the potential new site. The potential site needs to be assessed to determine if it is safe and suitable for village relocation, and a land exchange may be necessary if some, or all, of the site includes federal lands. The Corps has not estimated the cost to relocate Shaktoolik.
Shishmaref	Most recently, village officials have been considering relocation options through its Shishmaref Erosion and Relocation Coalition, which was formed in 2001 to represent the community in relocation activities. In 2002, NRCS identified 5 recommended relocation sites on the basis of its study of 11 potential sites identified by the Coalition. The community selected Tin Creek as its preferred site, in the vicinity of Ear Mountain about 15 miles south of the existing village. The Alaska Department of Transportation is assessing the suitability of the Tin Creek site and two others, initiating reconnaissance of a relocation road to that area, and developing a new airport master plan. In April 2006, the Corps estimated that the cost to relocate Shishmaref could range from $100 million to $200 million.

Source: GAO analysis of federal, state, and village information.

According to officials from these three villages, reaching consensus to relocate has been difficult. None of the decisions to relocate have been unanimous, even in the case of Newtok, with some residents preferring alternative locations, preferring different solutions, or preferring to remain in place. In addition, villagers fear that making the decision to relocate could hurt their ability to address immediate needs at the existing site, such as maintaining or replacing aging infrastructure. For example, the Newtok Planning Group found that the decision to relocate, combined with the imminent threat of flooding and erosion, rendered Newtok ineligible for capital funding for improvements to existing infrastructure, such as water and sewer, bulk fuel tanks, and power plants, to meet needs at the current village until the relocation was complete. Investment guidance for state agencies discourages investments where there is an imminent environmental threat, but also gives priority to the infrastructure needs of existing communities over new communities, creating a reluctance both to invest in a threatened community as well as to invest in

a future village site. Officials in Kivalina, Shaktoolik, and Shishmaref also told us that they believed that the decision to relocate had caused federal and state agencies to lower their villages' priority for funding of needed infrastructure projects in the existing village or has caused delays in ongoing projects. The Immediate Action Workgroup has recommended changes to state investment guidelines to address these issues.

While relocation sites are being identified and evaluated, protection projects to prevent further flooding and erosion are also under way for Kivalina and Shishmaref. However, some officials fear such actions could slow the momentum toward relocating by creating a false sense of safety at the existing villages. In 2008, Corps contractors constructed 400 feet of a planned 2,000-foot seawall in Kivalina, and constructed 625 feet of a planned 1,900-foot seawall in Shishmaref (see fig. 7). According to federal and state officials, these seawalls could protect the villages for at least 15 years, and up to 25 years if properly maintained. However, DCCED officials told us that they are concerned that such protective measures may reduce the urgency among village leaders to make relocation decisions and may prolong their stay in perilous conditions. Officials from Shishmaref agreed and told us that any work done to protect the existing village could prolong the relocation effort by reducing the urgency to move, and they are concerned that the move will only become more costly and difficult to fund the longer they wait. However, officials from both villages told us that they are committed to moving expeditiously to relocate once new sites are selected.

Figure 7: Protection Projects for the Villages of Kivalina and Shishmaref, Alaska, Summer 2008

Source: GAO.

Unloading rocks for Kivalina's seawall

Source: GAO.

Shishmaref seawall construction

On the basis of the recommendations of the Immediate Action Workgroup, state agencies are taking additional actions to prepare villages for disasters while accelerating the relocation process. The Alaska Division of Homeland Security and Emergency Management has taken the lead in implementing the workgroup's recommendation that a suite of emergency plans, training, and drills be developed for 6 villages—the 4 villages likely to relocate all at once as well as the villages of Koyukuk and Unalakleet. State contractors are first helping the villages to produce hazard assessments and mitigation plans, which will allow them to qualify for FEMA hazard mitigation program funds, followed by emergency operations and evacuation plans. The plans, training, and drills are scheduled for completion by the end of 2009. In addition, to implement the workgroup's recommendation for relocation planning, DCCED is administering the Alaska Climate Change Impact Mitigation Program. This program may award grants of up to $150,000 to 4 of the 6 villages and grants of up to $50,000 to other communities for relocation planning—for example, to hire professional consultants to assist them.

Eight Other Villages Are Gradually Migrating to New Locations Over Time or Are Considering Options for Doing So

Eight of the threatened villages are gradually migrating to a new location over time or considering doing so, although the extent of progress among the villages varies. Four villages—Allakaket, Huslia, Nulato, and Teller—have moved existing structures or have built new structures in nearby elevated sites away from the flooding and erosion threat (see table 6).

Table 6: Status of 4 Alaska Native Villages That Have Gradually Moved or Built Structures on Nearby Elevated Sites

Village	Status
Allakaket	Following the 1994 flood disaster, Allakaket developed a comprehensive plan with the assistance of federal and state agencies for gradually relocating the village to a nearby elevated site. Allakaket relocated 15 newer HUD homes to the site immediately after the disaster, and has since added a second subdivision of HUD homes. Officials plan to gradually migrate the entire village to the elevated site by building all new homes and infrastructure there, and are currently seeking grant funds for a new health clinic. Meanwhile, the school and many homes—including deteriorating temporary dwellings built for the displaced villagers—remain within the floodplain, and village infrastructure is situated between the old site and the new site.
Huslia	Villagers are addressing flooding and erosion by moving or replacing individual structures away from the erosion threat as it approaches. According to a village official, Huslia obtained funding from the state legislature to move infrastructure, such as the power plant and fuel depot, away from the river; however, sewer and water pipes are now being exposed and infrastructure, such the water main, is endangered by the encroaching erosion. Individuals are making decisions to abandon existing homes and build new homes away from the threatened area, or are moving existing homes, depending on their individual circumstances.
Nulato	The village established a new site after flooding in the 1980s, and the village has since been migrating to that location. However, some structures, including the school and homes as well as infrastructure, such as the fuel depot and well head, remain in the floodplain and are susceptible to recurrent flooding. The village intends to eventually consolidate all of the community in the new site but does not have a formal plan for doing so.
Teller	New homes are being built at a higher elevation site approximately 2 miles away from the existing village. According to a village official, the site is currently composed of 33 homes that have power but no water or sewer service. While there is no formal relocation plan in place, the official stated that many villagers would likely relocate if they knew how to obtain the funding and assistance to do so.

Source: GAO analysis of federal, state, and village information.

Four other villages—Golovin, Hughes, Koyukuk, and Unalakleet—have identified readily accessible elevated sites, and are in the process of identifying options for establishing infrastructure in these sites to support and encourage gradual relocation (see table 7).

Table 7: Status of 4 Alaska Native Villages That Are Considering Options for Gradually Relocating to Nearby Elevated Sites

Village	Status
Golovin	Villagers have access to elevated land nearby, but there is currently no infrastructure in that location. Golovin's lead official for addressing flooding and erosion stated that the first priority is to protect the relatively new infrastructure that is within the floodplain, but cannot be relocated. In the meantime, community planners agree that future infrastructure and homes should be built outside of the floodplain, resulting in a gradual migration out of the threatened area.
Hughes	Like Allakaket, Hughes developed a comprehensive plan with the assistance of federal and state agencies for gradually relocating after the flood disaster of 1994. A village official stated that higher land is accessible by road nearby, but because of the lack of infrastructure, few homes have been built there and most village structures remain in the floodplain area. The village plans to gradually migrate to the higher land by building new structures outside of the floodplain, but lacks funding to relocate existing homes and infrastructure.
Koyukuk	The Corps is collaborating with the village to assess relocation options, including staying in place, relocating all at once, or relocating over time. According to the officials, the rights to a potential relocation site on a high ridge overlooking the river could be obtained from the regional Native Corporation, and an access road to the ridge is scheduled for improvement by the Alaska Department of Transportation in 2009.
Unalakleet	The village has rights to land on a nearby hillside and access via an evacuation road that was elevated by the Alaska Department of Transportation in 2007. Village leaders estimate that it would cost $8.8 million to develop a 37-home subdivision with water, sewer, streets, and prepared home sites that could eventually expand to include 300 homes. They do not have funding for development, and until infrastructure is in place, there is little incentive for people to relocate. In the meantime, the Corps, Alaska Department of Transportation, and Kawarek are each planning projects to reinforce an existing seawall and provide new protection to vulnerable areas of the shoreline for the existing village site.

Source: GAO analysis of federal, state, and village information.

Lacking a Lead Federal Entity to Prioritize and Coordinate Assistance, Individual Agency Efforts May Not Adequately Address the Growing Threat to Relocating Villages

In the absence of a lead entity, federal agencies individually prioritize assistance to villages on the basis of their programs' criteria, which do not necessarily ensure that the villages in the greatest peril get the highest priority for assistance. The lack of a lead federal entity has impeded village relocation efforts, including the fulfillment of the environmental analysis requirements under NEPA.

Federal Agencies Use a Variety of Criteria to Provide Relocation Assistance, Which May Not Ensure That Villages in the Greatest Peril Get the Highest Priority

Federal agencies generally prioritize assistance to relocating villages collaboratively with state agencies and villages on the basis of the applicable criteria for the programs they administer. Some examples of the criteria federal agencies use include the following:

- *Congressional direction*: In section 117 of the fiscal year 2005 Consolidated Appropriations Act, the Corps was authorized to address storm damage and erosion issues in Alaska communities at full federal expense. In fiscal years 2006 and 2007, a congressional committee referred to this authority and directed appropriations to certain specific villages for Alaska coastal erosion projects. Although section 117 was repealed in March 2009, a congressional committee directed $3.328 million to the same 9 villages covered in our 2003 report for Alaska coastal erosion projects in fiscal year 2009.

- *Cost-sharing*: Several agencies use cost-sharing to prioritize assistance to relocating villages. The Corps' Continuing Authorities Program generally requires villages to fund between 25 percent and 50 percent of project costs. Similarly, FEMA's Hazard Mitigation Grant Program and Pre-Disaster Mitigation Program require a cost share of 10 percent to 25 percent, and its Flood Mitigation Assistance Program and Severe Repetitive Loss Pilot Program have a recipient matching requirement. The NRCS Emergency Watershed Protection program also typically requires a 25 percent cost share for the cost of emergency measures, with certain exceptions.

- *Cost-effectiveness*: FEMA's mitigation grant programs require applicants to prepare a cost-benefit analysis that includes flood hazard information and flood history for the project area, the property inventory, and the estimated project costs; the Corps' Continuing Authorities Program gives priority to projects that provide benefits greater than their estimated costs; and the NRCS Emergency Watershed Protection program requires applicants to prepare a cost-benefit analysis, which can include social or environmental factors—such as protecting the subsistence lifestyle of an Alaska Native village.

- *Village needs*: NRCS prioritizes Emergency Watershed Protection program funding on the basis of a damage survey to determine the village need for assistance; FEMA's Hazard Mitigation Grant Program provides assistance only if an effective response is beyond the capabilities of the state and the affected local governments with a federal disaster declaration; and HUD's Imminent Threats Grants Program prioritizes funding for housing assistance to villages with imminent threats to health or safety.

- Village commitment: The Department of Transportation's Federal Aviation Administration gives priority for funding a new airport to villages that are committed to relocating once the new airport is constructed, because it is not cost-effective to keep two airports open simultaneously; and Interior's U.S. Fish and Wildlife Service will make every effort to accomplish a land exchange—a time-consuming and costly activity—for those villages located within refuge boundaries that need to relocate.[32]

Although state agencies and villages have been able to obtain federal assistance for some projects in relocating villages under these criteria, assistance may not necessarily go to the highest priority villages. For example, as we reported in 2003, villages have difficulty in meeting the cost-sharing criteria for federal agency protection or relocation projects. To help the most threatened villages overcome this problem, the state of Alaska appropriated funds to augment federal erosion control and mitigation project capital costs by 35 percent—as suggested by the Corps—to ensure that federal funds would be allocated to Alaska. As a result, even though the Corps had the authority under section 117 to conduct the projects at full federal cost, the state designated most of its fiscal year 2009 $12.6 million erosion control appropriation to serve as a nonfederal cost share for the Corps' Alaska coastal erosion projects in 5 villages. However, the state could not use such leverage to assist Shaktoolik—1 of the 6 top priority villages identified by the Immediate Action Workgroup in 2008—because it was not among the 9 villages eligible for assistance under the program. In addition, as discussed in our 2003 report, even the most imminently threatened Alaska Native villages have difficulty in qualifying under cost-effectiveness criteria because the value of their infrastructure is usually less than the cost of proposed erosion or flood control projects. This problem is exacerbated by the high cost of construction in remote villages where labor, equipment, and materials have to be brought in from distant locations. Finally, few villages meet emergency needs criteria, particularly in dealing with erosion, which

[32]According to an agency official, 96 Alaska Native villages are located within the exterior boundaries of U.S. Fish and Wildlife Service-managed National Wildlife Refuges, potentially creating a significant administrative burden for the agency if more villages decide to relocate. In some cases, the village corporations established under the Alaska Native Claims Settlement Act may have land that may be suitable for relocation purposes; however, in other cases, a land exchange with the U.S. Fish and Wildlife Service may be necessary. For example, Newtok, which is located within the Yukon Delta National Wildlife Refuge, did a land exchange with the U.S. Fish and Wildlife Service to obtain its new village site.

is a gradual process that does damage over time, and, as we have previously stated in this report, some villages have found it challenging to identify suitable relocation sites that the entire village population can commit to accepting.

Moreover, federal agencies have not had the necessary information or guidance that would allow them to prioritize assistance on the basis of the level of threat, until just recently. As we have previously discussed in this report, in March 2009, the Corps completed its *Alaska Baseline Erosion Assessment*, identifying 26 communities that it recommends for immediate and substantial action to manage erosion issues. While the Corps plans to use the assessment to prioritize its future assistance to villages, it does not have the authority to require other agencies to prioritize assistance on the basis of its assessment. Furthermore, there is no federal lead agency for relocating villages with the authority to provide overall guidance and coordination in prioritizing assistance to the most threatened villages.

The Lack of a Lead Federal Entity Has Become an Impediment to Village Relocation Efforts

Since our 2003 report, no lead federal entity has emerged to coordinate and help prioritize federal assistance to relocating villages, and the lack of a lead entity has become an impediment to village relocation efforts. For example, although Newtok has made significant relocation progress, in October 2007, the Newtok Planning Group identified key challenges to further progress, with several directly related to the need for a lead federal—and state—agency. First, there was no designated lead agency for state or federal efforts to coordinate and leverage relocation assistance, which the group considers essential to the orderly and efficient use of resources between agencies. Second, lacking lead agencies with a mandate for relocating villages, there was no relocation strategy to guide and define the roles of participants in the process. Third, lacking a dedicated funding source, relocation efforts were limited to a patchwork of agency funding and grants, which was time-consuming and difficult to coordinate, and not available on an expedited basis to address critical needs at both the existing and new sites. While these challenges were specific to Newtok's relocation experience, the Newtok Planning Group asserted that these challenges would be applicable to other village relocation efforts.

Moreover, a key issue for Newtok that directly related to the lack of a lead federal agency is that further progress in the village relocation effort is dependent on pending projects undergoing NEPA analysis. The Newtok Planning Group reported that the responsibility for fulfilling NEPA requirements is uncertain without a lead federal agency, presenting a

significant challenge to the expeditious planning and development of the new community. In our discussions with agency officials involved in or potentially involved in village relocation efforts, some said that there is a reluctance among federal agencies to initiate a project at a new village site because doing so could potentially make them responsible for taking the lead in preparing a programmatic environmental analysis for the entire village relocation—not just for their specific project. Agency officials told us that preparing a programmatic environmental analysis entails significant cost and effort, such as coordinating with other agencies, performing a detailed review of project alternatives, acquiring permits, and conducting public outreach. If no agency takes lead responsibility for a programmatic environmental analysis, it is likely that each agency will conduct individual project environmental analyses, as the Corps has done by completing an environmental assessment specifically for the Newtok evacuation center. According to a Corps program manager, this would be inefficient, repetitive, and costly.[33] Whether Newtok must wait for a lead federal agency to step forward or for each agency to independently assess the environmental effects of their projects, any delay in the relocation process increases costs because of inflation and the inefficiency of the uncoordinated process.

Because of the concerns raised by the Newtok Planning Group regarding the lack of federal and state lead agencies, the state designated DCCED as the lead state coordinating agency for all village relocation assistance in 2008. Since then, DCCED and the Immediate Action Workgroup have been instrumental in coordinating and prioritizing activities at the state level and in preparing a budget justification for the state legislature that resulted in an appropriation of $12.6 million for fiscal year 2009, and in a recommendation for nearly $9 million in appropriations for 2010. Furthermore, to ensure continued success in leveraging the state's resources through coordination and collaboration with other state and federal agencies—as well as regional and community organizations—the Immediate Action Workgroup recommended in March 2009 that its ad hoc collaborative approach should be replaced with a formal, standing committee or workgroup embedded in the state's administrative operations.

[33]The Council on Environmental Quality's NEPA regulations authorize, but do not require, agencies to cover general matters in broader environmental impact statements, with subsequent site-specific tiered statements or environmental analyses that incorporate these general discussions while concentrating on the issues specific to the project. See 40 C.F.R. § 1508.28.

Confirming the concerns of the Newtok Planning Group, federal, state, and village officials with whom we spoke told us that a lead federal entity is needed to coordinate village relocation efforts. Federal officials identified an overall lack of leadership and the absence of an entity with the authority to take charge and direct the actions of other agencies as key challenges to the relocation of threatened villages. According to state officials, the lack of a single federal agency with a budget and mission dedicated to assisting villages has forced the state and villages to take the less efficient, time-consuming approach of cobbling together assistance from numerous federal agencies with varying missions. Some village leaders told us that providing them with assistance does not appear to be a priority for federal agencies, and that there is no clear leader among the agencies for them to go to for relocation assistance. To address these concerns, a lead federal entity could identify the most threatened villages, prioritize federal investments and provide guidance to other agencies, assist Congress on new legislation or revisions to existing law that could benefit relocating villages, and be the go-to agency to assist and guide villages throughout the relocation process. Guidance for the villages is important, because both the Immediate Action Workgroup and the Newtok Planning Group found that threatened villages may lack the capacity and resources to obtain and administer government funding for relocation, particularly in times of crisis.

The village of Allakaket provides an example of a village that, lacking guidance and coordinating assistance from a lead entity, has been unable to complete its relocation, even though it has had a comprehensive relocation plan in place for over a decade. After it was flooded in 1994 and almost completely destroyed, 15 HUD homes were moved out of the floodplain to a ridge south of Allakaket, but many homes and infrastructure components were rebuilt or replaced in or near the floodplain. In August 1995, FEMA and the Alaska Division of Emergency Services provided a comprehensive plan to the people of Allakaket to use as guidance for completing the relocation process over a 20-year period. Subsequently, without a lead federal or state entity for providing relocation assistance and lacking the internal capacity and resources to sustain the relocation process, Allakaket has made minimal progress over the last 14 years. Allakaket officials and residents believe that the federal and state governments have not fulfilled their obligations to help them relocate, and they are concerned, for example, that 19 emergency homes for residents who had lost their homes in the 1994 flood are now dilapidated, deteriorating, and overcrowded, but remain in use by residents within the floodplain.

The two entities suggested to lead federal relocation efforts by those with whom we spoke were the Corps—which has extensive involvement in village protection projects and conducted the *Alaska Baseline Erosion Assessment*—and the Denali Commission—the existing federal-state body for coordinating assistance to rural Alaska. However, Corps officials commented that they should not necessarily be the lead in every relocation case because there are a number of other federal agencies with key responsibilities for important relocation assistance, such as providing housing, transportation, health, and education services. Denali Commission officials stated that significant staffing and funding increases would be needed for the commission to take the lead role for village relocations in addition to its existing responsibilities. Alternatively, a new entity could be formed to lead, oversee, and coordinate village relocation efforts.

Conclusions

Congress and the state of Alaska have made a commitment to assist Alaska Native villages that are threatened by flooding and erosion. While some progress has been made to determine the scope of the problem since our 2003 report, the full extent of the threat to villages remains unknown. Because the Corps' *Alaska Baseline Erosion Assessment* did not consider flooding, the status of the threat to many villages cannot be properly taken into account by federal and state officials when planning and prioritizing assistance to villages, thereby creating the potential that villages may not receive the assistance they need due to a lack of complete information for decision makers.

Because of Alaska's unique structure of organized boroughs and an unorganized borough, unincorporated Native villages in the unorganized borough do not qualify for federal housing funds from HUD's Community Development Block Grant program. The disqualification of the villages in this borough is not because they lack the need for these funds, but because there is no local government that is a political subdivision of the state to receive the funds. The exclusion of Native villages from this existing federal program contributes to the difficulties they face in obtaining resources for relocation.

Even in the cases where the imminent flooding or erosion threat is clear, the efforts of federal and state programs to provide assistance, thus far, have resulted in little progress toward relocation. Collaborating together, the federal government and the state government have an opportunity to address these threats in a thoughtful, reasonable, and environmentally sound manner. As time passes without significant progress being made on

these village relocations, the potential for disaster increases, as does the ultimate cost of moving the villages out of harm's way. The paradox is that funding would be made available to respond to a disaster, but no comprehensive program exists to proactively assist these villages to prevent an impending disaster. Responding to these disasters in an emergency situation may result in rushed decisions and solutions that are not optimal and less environmentally sound. Moreover, the lack of a lead federal entity for providing relocation assistance has emerged as an impediment to village relocation efforts. A lead entity would be able to ensure compliance with NEPA and to ensure the efficient development and setting of priorities across agencies and better coordination among all levels of government.

Matters for Congressional Consideration

To obtain a more complete understanding of the flooding threats facing Alaska Native villages, Congress may want to consider directing the U.S. Army Corps of Engineers to conduct an Alaska Baseline Flooding Assessment to augment the Corps' recently completed *Alaska Baseline Erosion Assessment*.

To provide the state of Alaska with additional flexibility in its distribution of HUD Community Development Block Grant funds, Congress may want to consider amending the Housing and Community Development Act of 1974 to acknowledge the unique governmental structure in the state of Alaska and enable the 64 unincorporated Alaska Native villages in Alaska's unorganized borough to be eligible grant recipients for HUD Community Development Block Grant funds distributed through the state.

Determining the means and extent of federal assistance to relocating Alaska Native villages is a policy decision that rests with Congress. We have provided information indicating that establishing a lead federal entity for prioritizing and guiding federal assistance to relocating villages may have benefits to the villages, to federal and state agencies, and to Congress. In its deliberations regarding assistance to relocating villages, Congress may want to consider designating, or creating, a lead federal entity that could work in conjunction with the lead state agency to coordinate and oversee village relocation efforts.

Agency Comments

We provided a copy of our draft report to the Departments of Agriculture, Defense, Health and Human Services, Homeland Security, Housing and Urban Development, the Interior, and Transportation; the Denali Commission; and the state of Alaska. In its written response, the Denali Commission agreed with each of our matters for Congressional consideration and stated that it is prepared to assist in future relocation and erosion efforts to the extent that Congress deems appropriate and necessary. The Denali Commission's comments are presented in appendix II. The Departments of Defense, Housing and Urban Development, and the Interior provided technical comments, which we incorporated into the report as appropriate. The Departments of Agriculture, Health and Human Services, Homeland Security, and Transportation, and the state of Alaska did not provide comments.

We are sending copies of this report to the appropriate congressional committees; the Secretaries of Agriculture, Defense, Health and Human Services, Homeland Security, Housing and Urban Development, the Interior, and Transportation; the federal and state cochairs of the Denali Commission; the Governor of the state of Alaska; and other interested parties. In addition, this report will be available at no charge on the GAO Web site at http://www.gao.gov.

If you or your staff members have any questions about this report, please contact me at (202) 512-3841 or mittala@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix III.

Anu K. Mittal
Director, Natural Resources and Environment

Appendix I: Additional Key Federal Programs That Can Address Flooding and Erosion Problems

Agency/Program	Description
U.S. Army Corps of Engineers (Corps)	
Corps/Section 14 of the Flood Control Act of 1946	Provides emergency streambank and shoreline erosion protection for public facilities.
Corps/Section 205 of the Flood Control Act of 1948	Authorizes flood control projects.
Corps/Section 208 of the Flood Control Act of 1954	Authorizes flood control activities.
Corps/Section 103 of the River and Harbor Act of 1962	Protects shores of publicly owned property from hurricane and storm damage.
Corps/Section 111 of the River and Harbor Act of 1968	Mitigates shoreline erosion damage caused by federal navigation projects.
Department of Agriculture's Natural Resources Conservation Service (NRCS)	
NRCS/Watershed Protection and Flood Prevention Program	Provides funding for projects that control erosion and prevent flooding. Limited to watersheds that are less than 250,000 acres.
NRCS/Emergency Watershed Protection Program	Provides assistance where there is some imminent threat—usually from erosion caused by river flooding.
NRCS/Conservation Technical Assistance Program	Provides technical assistance to communities and individuals to solve natural resource problems, including reducing erosion, improving air and water quality, and maintaining or restoring wetlands and habitat.
Other	
Department of Commerce's Economic Development Administration/Economic Adjustment Program	Provides assistance to protect and develop the economies of communities. This assistance could involve building erosion or flood control structures to protect village commercial structures, such as canneries.
Department of Housing and Urban Development (HUD)/ Community Development Block Grants Program	Provides grants to Indian tribes and Alaska Native villages to develop economic opportunities and build decent housing for low- and moderate-income residents.
HUD/Native American Housing Assistance Self-Determination Act of 1996	Provides grants and technical assistance to Indian tribes and Alaska Native villages to develop affordable housing for low-income families. The funds may also be used to move homes that are threatened by flooding and erosion.
HUD/Imminent Threats Grants Program	Provides funding to alleviate or remove imminent threats to health or safety for nonrecurring events.
Department of the Interior's Bureau of Indian Affairs/ Road Maintenance Program	Provides funding for maintaining and repairing roads, culverts, and airstrips to provide a foundation for economic development.
Department of the Interior's Bureau of Indian Affairs/ Housing Improvement Program	Provides grants and technical assistance to replace substandard housing, including housing that is threatened, damaged, or lost due to erosion or flooding.
Department of Transportation/Federal Aviation Administration/Alaska Region Airports Division	Provides funding to improve airport infrastructure—including those threatened by flooding and erosion. May fund relocation of an airport if necessitated by community relocation, providing the airport meets criteria for funding—airport is in the National Plan of Integrated Airport System and meets agency design standards. However, the villages first need to be relocated before the new airport is built.

Agency/Program	Description
Department of Transportation/Federal Highway Administration	Provides funding through the state of Alaska for roads, pedestrian facilities, and snowmobile trails. Funding may be available to assist villages with improving or repairing roads/boardwalks.

Source: GAO, Alaska Native Villages: Most Are Affected by Flooding and Erosion, but Few Qualify for Federal Assistance, GAO-04-142 (Washington, D.C.: Dec. 12, 2003).

Appendix II: Comments from the Denali Commission

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April 30, 2009

Anu Mittal
Director, Natural Resources and Environment
Government Accounting Office
441 G Street NW, Room 2T31
Washington, DC 20548

RE: GAO-09-551 Relocation of Alaska Native Villages

Dear Ms. Mittal;

This letter is written in response to GAO report 09-551: *Relocation of Alaska Native Villages*, and is submitted as formal public comment on behalf of the Denali Commission (Commission) an independent federal agency in Alaska.

The Commission concurs with each of the GAO's highlighted recommendations to Congress which include:

- Directing the Corps to conduct flood assessment in Alaska to augment the Corps' recently completed erosion assessment;
- Amending the Housing and Community Development Act of 1974 to allow 64 additional villages to be eligible recipients; and
- Designating or creating a lead federal entity that could work in conjunction with the lead state agency to coordinate and oversee village relocation efforts.

Further, the Commission concurs with GAO's assertions that a lack of a lead federal entity has resulted in individual prioritization and relocation efforts which have not resulted in assuring that villages in the greatest peril receive the highest priority for relocation and flooding.

The Commission has a well-documented ten year history in infrastructure development and governmental coordination in Alaska. We are prepared to assist in future relocation and erosion efforts to the degree deemed appropriate and necessary by Congress. In the interim, the Commission will continue to evaluate and carefully consider facility and infrastructure requests that are forwarded to the agency from communities identified by the GAO study.

Respectfully,

George Cannelos
Federal Co-Chair

cc: Denali Commissioners

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Anu K. Mittal, (202) 512-3841 or mittala@gao.gov

Staff Acknowledgments

In addition to the contact named above, Jeffery D. Malcolm, Assistant Director; Allen T. Chan; Brad C. Dobbins; Alison D. O'Neill; and Jeanette M. Soares made key contributions to this report.

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