

# VILLAGE INFRASTRUCTURE PROTECTION PROGRAM

PARTNERING TO BUILD COMMUNITY RESILIENCE

20  
YEARS



OF SERVICE  
TO ALASKA

**“Rapid environmental change, such as degrading permafrost and increasing coastal erosion, is affecting critical infrastructure – buildings; roads, railways and bridges; airports, harbors and ports; and energy supply chains – and the health and well-being of Arctic residents.”**

Supporting Arctic Science; Arctic Executive Steering Committee and the US Arctic Research Commission (September 2016)



*Kivalina (2012)*

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There are billions of dollars of infrastructure at risk in rural Alaska due to a variety of threats directly related to changes in traditional weather patterns. Based on prior studies by numerous State and Federal Agencies, flooding, erosion and permafrost degradation have been identified as the three primary environmental threats that directly impact infrastructure. Protecting infrastructure is particularly important because the survival of rural communities is so very dependent on facilities such as airports, clinics, power plants, bulk-fuel tank farms, and water supply/waste disposal systems.

In 2015, the Denali Commission was tasked by the White House to coordinate assistance for rural Alaskan communities in their efforts to become more resilient with respect to the threats referenced above. That same year, The Commission directed \$2 million of the Agency's "Base" funding historically reserved for other programs such as Energy and Health Facilities, to establish a new Village Infrastructure Protection (VIP) Program. The framework for the new program was GAO Report 09-551, which identified 31 communities as imminently threatened. The GAO list was based primarily on threats due to erosion, as documented by the US Army Corps of Engineers in a March 2009 report. To date, the Commission has provided \$39.6 million of our appropriated funds for the VIP Program. This includes a one time additional \$15 million that was appropriated in FY2018 for the Newtok relocation project. We have leveraged and/or paired these funds with an additional \$55.7 million from other sources for VIP related work. The Commission is proposing another \$5 million for VIP projects and initiatives in our draft FY2020 Workplan.



*Coastal Erosion in Shishmaref (2003)*  
*Photo Credit: Curtis Nayokpuk*

**“Including costs associated with protecting, reinforcing, and relocating infrastructure, \$50 - 100 million per year represents a reasonable projection of costs to protect infrastructure threatened by erosion and move communities to safer ground.”**

## ACCOMPLISHMENTS TO DATE\*

**NEWTOK:** \$27.4 million to develop the new townsite at Mertarvik and for other relocation support services. Commission funds have been used for housing and infrastructure (roads, power plant, landfill, water plant, community building, airport) planning, design and/or construction, as well as the completion of a comprehensive Environmental Impact Statement that addresses the overall development of the new townsite.



*New Townsite at Mertarvik (2017)*

*Photo Credit: Eric Voorhees*

**KIVALINA, SHAKTOOLIK, SHISHMAREF:** \$7.0 million for detailed flood studies, protective berm designs, setting up engineering “term” contracts to advance specific resilience projects, design of new bulk fuel facilities, evacuation road match funding, salary and other support for Local Resilience Coordinators, emergency kits and drills, relocation of threatened graves, making improvements to community evacuation centers and evacuation routes, moving threatened homes, providing emergency erosion protection materials and equipment, and relocation site reconnaissance studies.

**OTHER VULNERABLE COMMUNITIES:** \$2.9 million for the following; established a Grant Writing Technical Assistance Center that focuses exclusively on infrastructure protection grants, developed/updated FEMA sanctioned Hazard Mitigation Plans, prepared Disaster Response Plans, specific projects in 15 communities to move threatened homes, raise/level buildings, renovate clinic foundations, construct a breakwater, install emergency erosion protection measures, complete a hydrological analysis, install flexible water/sewer service lines, and repair a boat launch. Other mitigation related projects being funded by the Commission include; site planning and land surveys for several villages that need to relocate parts of their community to safer ground, redesign of water distribution systems that are threatened by erosion, design of shoreline protection measures, moving critical infrastructure out of harm’s way, and the preparation of more detailed threat analyses along with the development of priority projects based on existing Hazard Mitigation Plans.

**“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.”**

United States Government Accountability Office Report 09-551 (June 2009)

*\*Issued and pending grants and cooperative agreements, including funds authorized for the VIP Program in the Agency’s approved FY 2019 workplan*



## ACCOMPLISHMENTS CONTINUED...

**STATEWIDE INITIATIVES AND COORDINATION:** \$2.2 million that established a joint Village Infrastructure Protection Program Office with the Alaska Native Tribal Health Consortium, updated the Catalog of Federal Resilience Programs for Alaskan Communities (in collaboration with the US Department of Transportation), and tasked the University of Alaska and Army Corps of Engineers to assemble statewide data on flooding, erosion and permafrost degradation into a single database and then use that data to develop a statewide threat assessment index. The Commission is also providing funds for a State project to update shoreline erosion rates in 45 coastal communities and overlay the results with information on the location of existing infrastructure such as schools, tank farms, roads, water/sewer systems, etc. And to assist communities that will eventually have to relocate, the Commission is collaborating with the US Department of the Interior on the development of a relocation guideline document.

Results from the Statewide Threat Assessment referenced above will be used to determine which locations should be added to the current GAO list of 31 imminently threatened communities in the context of flooding, erosion and permafrost degradation. State and other federal agencies will be able to use information in the Assessment to refine resilience programs, and/or prioritize applications submitted in response to funding opportunities issued under such programs. The document will also outline general next steps for communities, depending on their threat level.

## CURRENT PROGRAM FUNDING

The Commission has approximately \$14 - 16 million per year for all programs, including its legacy Energy and Bulk Fuel Programs. In recent years, our Commissioners have allocated approximately one-third of the Agency's program funds (\$5 million) for VIP related projects and initiatives. There is no formal unmet need estimate for the VIP Program, but it is certainly hundreds of millions.



**FOR MORE INFORMATION ON THE  
COMMISSION'S VILLAGE INFRASTRUCTURE  
PROTECTION PROGRAM, VISIT  
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