



*Tuluksak, AK: sewage lift station under construction
Community dumping station in the background*

Alaska Native Villages Grant Program

Collaborating with federal, state and local partners to address the basic water and sanitation needs of remote Alaskan villages since 1996.

Public Health Benefits:

Investments made in water and wastewater infrastructure have reduced waterborne diseases in rural Alaska.

Environmental Benefits:

Water and wastewater infrastructure investments protect and restore the ecosystem that supports wildlife and fish upon which many Alaska Native people rely for worship, traditions, or subsistence food sources.

Economic Benefits:

Investments in wastewater and water in rural Alaska have increased labor productivity and created jobs. These investments will also reduce health care costs, most of which is covered by the federal government in rural Alaska.

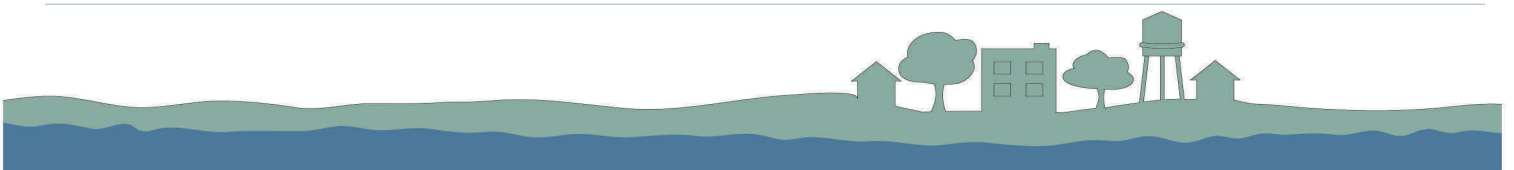
The Alaska Native Village (ANV) Grants Program supports water and wastewater construction and training and technical assistance for about 240 Alaskan Native Villages and 60 non-native underserved communities. EPA works with program partners, including the Indian Health Service (IHS) Sanitation Facilities Construction Program through the Alaska Native Tribal Health Consortium (ANTHC), the State of Alaska Department of Environmental Conservation (ADEC) and the U.S. Department of Agriculture-Rural Development (USDA-RD). For each project, a designated lead agency takes the responsibility to oversee development, design, and construction, reducing administrative requirements and expediting service delivery.

This report highlights the ANV program's accomplishments for fiscal year 2013. Over the program's 17 years, EPA has distributed over \$479 million, funded 635 projects, and supported an increase in the percent of rural Alaskan serviceable¹ homes with access to safe drinking water and wastewater service from 50% to 91%. In FY 2013, 400 additional households are scheduled to be provided with new or improved access to services. In 2013 the ANV program distributed \$9.5M for 10 different projects in rural Alaska. About 20% of

the homes served by these projects will receive access for the first time.

The ANV program funds education, training, and management programs and has provided administrative and management training for nearly 200 communities². Villages that receive this support have seen improved long-term sustainability the creation of transferable job skills in construction and utility operation and maintenance. The Remote Maintenance Worker grant program of the ADEC reports that the number of properly certified operators in Alaskan rural villages has more than doubled since 1992, and the number of non-compliant systems has decreased by close to 80% since 2006³.

While the grant program has contributed to a dramatic increase in access to safe water and wastewater service, Alaskan Native Villages and rural communities still trail the 0.6% of the non-tribal/non-native population in the U.S. that lack access to water and sanitation⁴. In rural Alaska, close to 13% of all households⁵ lack complete indoor plumbing⁶. Currently, over 4,340 of the rural Alaskan homes occupied year-round lack running water and a flushing toilet⁷. Over 1,000 homes have operation-intensive haul systems that transport wastewater to treatment works or lagoons via all-terrain vehicles⁸. Many villages face



significant challenges in keeping existing systems operational, and approximately 4,500 rural homes connected to community-wide piped systems have surpassed or are nearing the end of their design life⁸.

The lack of safe service results in extreme public health challenges. In particular, the age adjusted infectious disease hospitalization rate for Alaska natives is 8% higher than the national average, with an even higher disparity for infants^{9,10}. Although from 1998 to 2006, the rate for American Indian and Alaska Native people has decreased overall by 18%, this decline was not found to be statistically significant for the ANV region⁹. Infectious disease hospitalizations account for approximately 22% of all Alaskan Native hospitalizations⁹, where respiratory tract infections, skin infections, and infections of the kidney, urinary tract, and bladder are common.

To address these problems, EPA works to maintain and protect water infrastructure investments made in rural Alaska despite dramatically increasing construction and maintenance costs. For instance, water infrastructure in Alaska is often highly energy intensive, therefore, as energy costs increase, so do the operational costs. Given the limited income of many Alaskan villages, these increased costs are

extremely difficult to absorb. To address the energy cost issues, EPA recently funded a project to increase energy efficiency at 11 existing rural Alaskan water treatment plants.

1. Serviceable homes are homes that can receive water and/or sewer service. Unserviceable homes, as defined by the State of Alaska, are those homes that do not want these services, the home doesn't have minimum level of infrastructure (e.g. electricity, heat, structural soundness), there is an extremely high capital cost to make the homes serviceable, and/or it is a seasonally occupied residence.
2. EPA (2012), *Alaska Native Villages Annual Report 2012*, available online at <http://water.epa.gov/type/watersheds/wastewater/upload/EPA-Alaska-Native-Villages-Annual-Report-2012.pdf>.
3. Remote Maintenance Worker Program, Annual report 2012, Page 3 and 11, available online at [http://dec.alaska.gov/water/rmw/pdfs/FY%2012%20RMW%20Annual%20Report\(text%20only\).pdf](http://dec.alaska.gov/water/rmw/pdfs/FY%2012%20RMW%20Annual%20Report(text%20only).pdf).
4. U.S. Census 2010.
5. Including Alaska Native Villages
6. Indian Health Service, Sanitation Tracking and Reporting System, November 2012 dataset. Includes serviceable and unserviceable homes.
7. Alaska Department of Environmental Conservation, Village Safe Water Program.
8. Alaska Department of Environmental Conservation - Division of Water. "Frequently Asked Questions." N.p., n.d. Web. <<http://dec.alaska.gov/water/R&D/R&DFAQs.htm>>.
9. Robert C. Holman, Anianne M Folkema, Rosalyn J. Singleton, John T. Redd, Krista Y. Christensen, Claudia A Steiner, Lawrence B Schonberger, Thomas W. Hennessy, James E. Cheek (2011), 'Disparities in Infectious Disease Hospitalizations for American Indian/Alaska Native People', *Public Health Reports*. 2011 Jul-Aug; 126(4): 508-521, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3115210/>.
10. Thomas W. Hennessy, Troy Ritter, Robert C. Holman, Dana L. Bruden, Krista L. Yorita, Lisa Bulkow, James E. Cheek, Rosalyn J. Singleton, Jeff Smith (2008), 'The Relationship Between In-Home Water Service and the Risk of Respiratory Tract, Skin, and Gastrointestinal Tract Infections Among Rural Alaska Natives', *American Journal of Public Health*, Vol. 98, No. 11.

PROJECT SUCCESSES IN 2013

City of Pilot Station, Alaska

When frozen water lines were reported by the City of Pilot Station, the Alaskan Remote Maintenance Worker program opted to intervene using pipe bursting technology to repair the lines. Pipe bursting involves inserting a new pipe into an existing buried broken pipe, eliminating the need for extensive trenching and digging. While the technology had been used successfully in the contiguous U.S. since the early 1990s, it had never been tested in arctic conditions¹. Using this technology and local labor reduced the original replacement cost estimate by more than 50%. In addition, grant funds purchased pipe bursting equipment, to be reused for similar projects at the reduced cost.

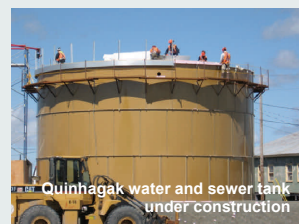


New black HDPE pipe replacing old cracked blue Polyvinyl Chloride (PVC) pipe within insulated arctic pipe

1. Arctic pipe is commonly known as a pipeline that transports water or wastewater within a larger pipe and is surrounded by insulation. (see: http://commons.wikimedia.org/wiki/File:Arctic_pipe.jpg).

Alaska Native Village of Quinhagak (Kwinhagak)

Quinhagak is a long-established Alaska Native Village, located in Southwest Alaska at the mouth of the Kanektok River in Togiak National Wildlife Refuge. The almost 700 residents of Quinhagak lacked access to safe drinking water and sewer systems. Instead, residents used 5-gallon plastic bag lined "honey buckets" to manually transport wastewater to dumpsters that were then emptied into a lagoon. As a result, the community faced increasing chronic health problems and threats to the fragile and pristine ecosystem on which the community depends on for fishing, hunting and gathering. In response to this challenge, the Quinhagak Water and Sewer project was started in 2002 using funding obtained from EPA, the State of Alaska, USDA-RD and IHS.



Administered by ADEC, the project will give 80% of the 165 occupied homes in Quinhagak access to running water and a flushing toilet by the end of 2013. The Quinhagak community has already started enjoying the benefits such as increased school attendance rates for those children in homes that are already connected to the piped systems, as reported by the local school principal.

