



## Environmental justice: Challenges of contaminated site cleanup in rural AK

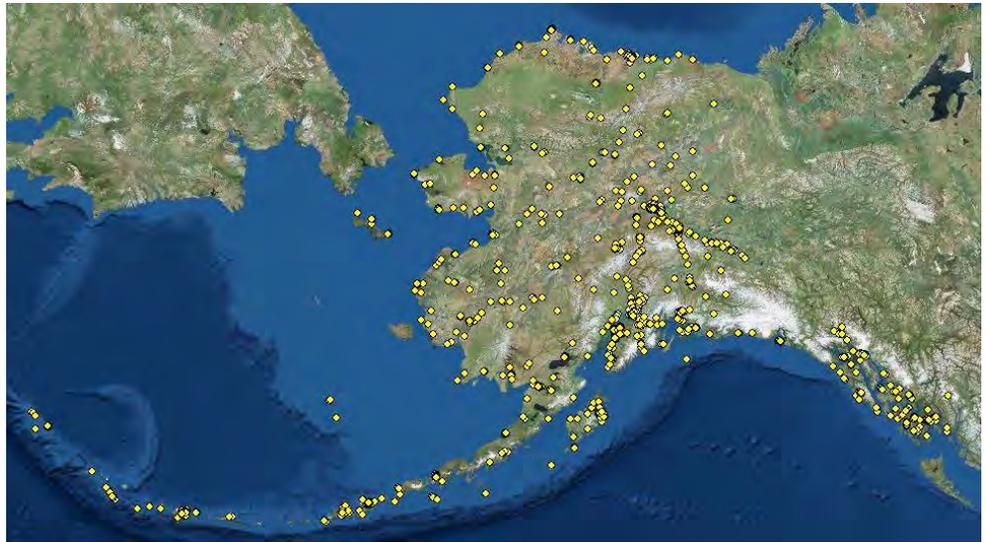
*Paula Williams and Pamela Cravez*

While working in Western Alaska a decade ago, residents of Elim, a small village near Nome on the Bering Sea, told Paula about how they had stopped fishing and hunting near an abandoned military site. When the military closed the site, they dug a big hole and buried everything. Now, the fish in the river and animals near the abandoned site “were no longer healthy and were unsafe to eat,” one resident told Paula.

At the time, efforts to clean up hazardous wastes left by the abandoned military site at Moses Point had been going on for more than 20 years. Cleanup continues today.

Rural communities in Alaska, which rely greatly upon the environment for their livelihood, are disproportionately impacted by environmental contamination. These communities also struggle more to get the resources to have contaminated sites cleaned.

Alaska is ranked third in the United States



Contaminated sites in Alaska, FY 2017. Contaminated Sites Database, Alaska Department of Environmental Conservation (<http://dec.alaska.gov/spar/csp.aspx>).

### Alaska is ranked third in the U.S. for Formerly Used Defense Sites (FUDS) properties, most of which are in remote locations.

for the number of properties eligible for cleanup under the Formerly Used Defense Sites (FUDS) program. Many of the proper-

ties were contaminated during World War II, or during the Cold War, when the long-term effects of chemicals were not understood, and the accepted means of disposal was to

Formerly Used Defense Site (FUDS) program, to provide oversight, coordination, and funding to address abandoned or uncontrolled hazardous waste from military, civilian, commercial and other sources. However, the breadth, complexity and cost of cleanup is no match for funds available, especially in rural Alaska (Hogan, Christopherson, & Rothe, 2006; EPA, 2018a; USACE, n.d. (b)).

As of the end of 2017, the U.S. Army Corps of Engineers had spent about \$980 million on FUDS investigation and cleanup work, according to John Budnik, Public Affairs Specialist with the U.S. Army Corps of Engineers — Alaska District. The estimated cost for cleanup of all remaining known FUDS projects in Alaska is \$1.4 billion. Funding for 2018 is \$35 million, according to Budnik, who provided the following accounting of FUDS properties.

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bury or abandon anything that was too expensive to transport out of Alaska.

Most of these properties are in remote locations. Cleanup projects that are begun may take many years to complete due to the complicated nature of each site, according to the U.S. Army Corps of Engineers (USACE, 2015).

#### ► Superfund and FUDS

In the 1980s, Congress created programs such as the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), also known as Superfund, and the

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**Environmental justice**

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- 535 Formerly Used Defense Site properties in Alaska
- 137 eligible for cleanup\*
- 73 properties closed
- 64 properties open, each with multiple projects
- 175 projects identified

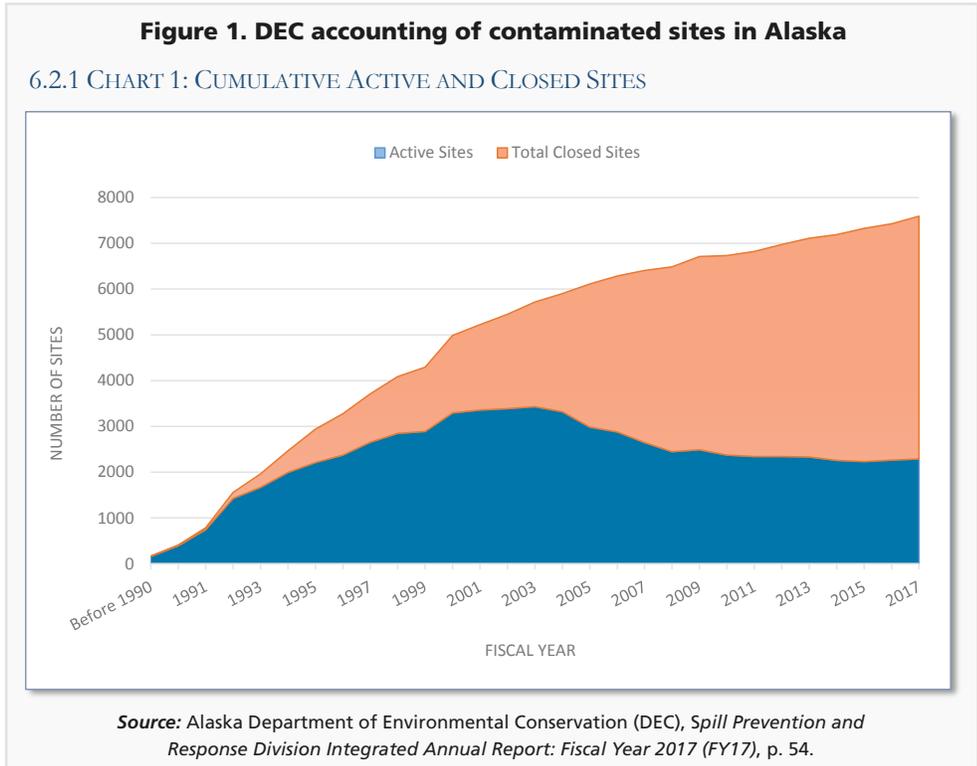
\*FUDS covers only lands that were transferred out of Department of Defense (DoD) control prior to October 17, 1985 and contamination was caused during the DoD time-frame of use. Cleanup of lands still owned by the federal government or civilian agencies that were never used by the DoD are under that agency's jurisdiction for cleanup.

**► Multiple projects and parties**

It is difficult to get a handle on the scope of contaminated sites in Alaska. The Alaska Department of Environmental Conservation (DEC) is responsible for overseeing cleanup of contaminated sites. The DEC database in-

**“[T]here is now a future and perhaps imminent risk of contaminants migrating from several contaminated source areas at Moses Point into adjacent surface water.” — DEC**

cludes Formerly Used Defense Sites as well as sites being cleaned up by other federal, state, and local agencies, private companies, nonprofits, and individuals in Alaska. However, a site may be a Superfund site, such as Adak, with 403 files. A site could also be just



one file, documenting the removal of an underground fuel tank on residential property. In addition, multiple parties may be responsible for cleanup of a site, with the site re-

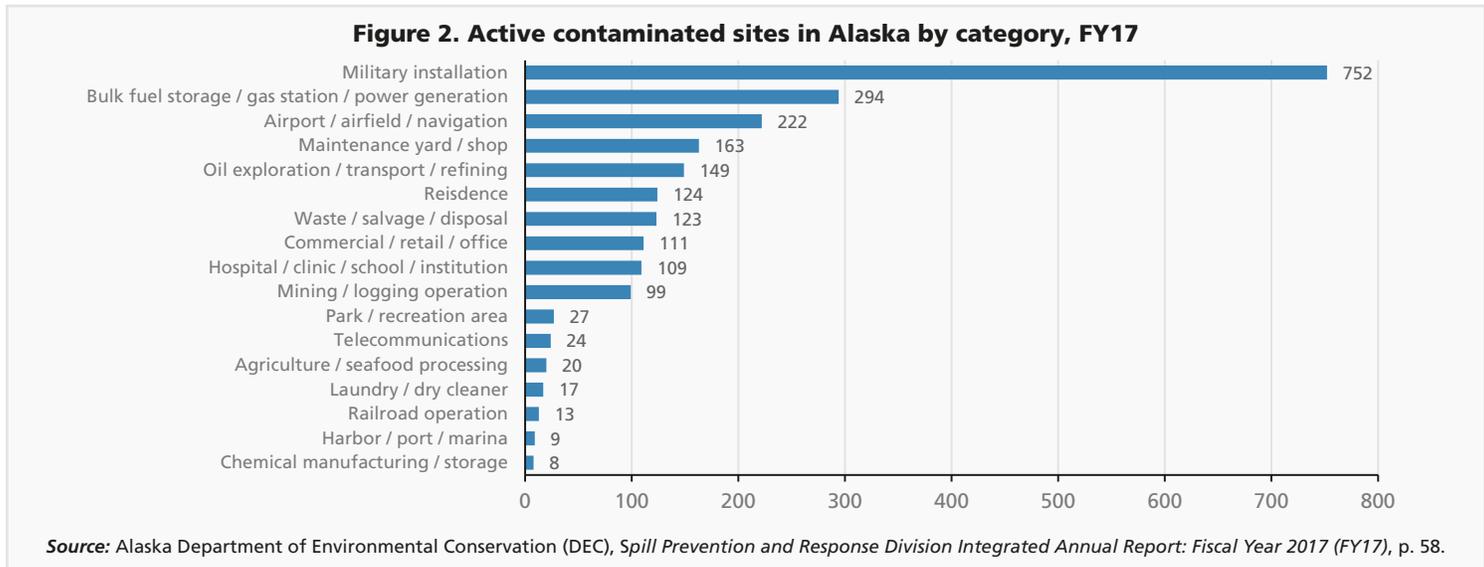
gram (FUDS). Rusted out asphalt drums had been oozing their contents onto the bank of Devil's Slough for years. Polychlorinated biphenyls (PCBs), asbestos, solvents, anti-freeze, tar waste, and soil contaminants including fuel and metals were detected. The site was closed in 2006 (DEC, 2006) per FUDS and DEC standards.

**► FUDS closure but site still open**

In 2007, Elim residents told a reporter from the *Washington Post* that they didn't believe the cleanup had been effective. Former Elim Mayor Paul Nagaruk noted that many of the elders who had lived near Moses Point, an

maintaining open until all parties have finished the cleanup to levels approved by DEC.

A good example of how difficult it is to assess the extent of contaminants is Moses Point. Cleanup at Moses Point began in 1985, under the Formerly Used Defense Sites Pro-





# Environmental justice in Alaska

The mission of the Justice Center, which publishes the *Alaska Justice Forum*, is to lead Alaskans toward a safer, healthier and more just society. Environmental justice, according to the U.S. Environmental Protection Agency, is the “fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” In this issue of the *Forum*, we look at environmental contaminants in Alaska, where they have been found, some of the programs in place to deal with them, and the lasting impact that they are having on Alaska Native communities, particularly the Alaska Native community on St. Lawrence Island.

The articles evolved from a conversation I had with Paula Williams, who served as UAA’s Sustainability Director from 2009 to 2014. Paula, a lawyer and Ph.D. scientist who now works with the Center for Resilient Communities at the University of Idaho, offered to write an article on Alaska rural justice and contaminants. When I read her article, I realized I’d given her an impossible task — to try to keep it under 2,000 words.

The fundamental thread in each article is that we continue to learn more about environmental contaminants in Alaska and work to address them, however the resources, laws, and remedies cannot keep up with what is known of the impact of these contaminants and what is unknown. Those impacts fall most heavily on our Alaska Native communities in rural Alaska who depend upon the environment for their livelihood. As always, you can read *Alaska Justice Forum* articles online at <http://www.uaa.alaska.edu/justice/forum>.

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important Inupiat Eskimo fishing site, had died of cancer. “Another camp nearby didn’t have access to Moses Point. They lived a lot longer and died of natural causes,” Nagaruk said (Lee, 2007).

While the FUDS cleanup has ended at Moses Point, two more cleanups are still open, one opened in 1999 another in 2010, with the Federal Aviation Administration (FAA) taking responsibility for these. The file reflects that the contaminants currently being addressed are from the WWII Army Garrison at Moses Point. The current cleanup is on land owned by the FAA and therefore the responsibility of that agency.

In 2015, DEC noted that it “believes there is now a future and perhaps imminent risk of contaminants migrating from several contaminated source areas at Moses Point into adjacent surface water.” (DEC, 2018b). As of May 31, 2018, DEC continued to have concerns about contaminants at Moses Point. The agency is working with the FAA on finalizing a cleanup plan (DEC, 2018b).

As cleanup of Moses Point continues, so too does exposure to contaminants among people, plants and animals in the area. (See “Long-term impacts of environmental contaminants are ‘generational game changer,’” p. 5).

### ► DEC closed sites vs. open sites

DEC has identified more than 7,600 contaminated sites in the state, with more added each year. Since 1990, over 5,300 sites have been closed. More than 2,200 sites remain open (DEC, 2017: 54; see Figure 1). Closed sites include those cleaned to a level

that provides for unrestricted use or closed with “institutional controls” such as deed restrictions.

One third, 33 percent, of open sites are from military installations (752) including

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**Figure 3. Progress on high priority contaminated sites in Alaska, FY17**

6.2.1 CHART 2: PROGRESS ON HIGH PRIORITY SITES

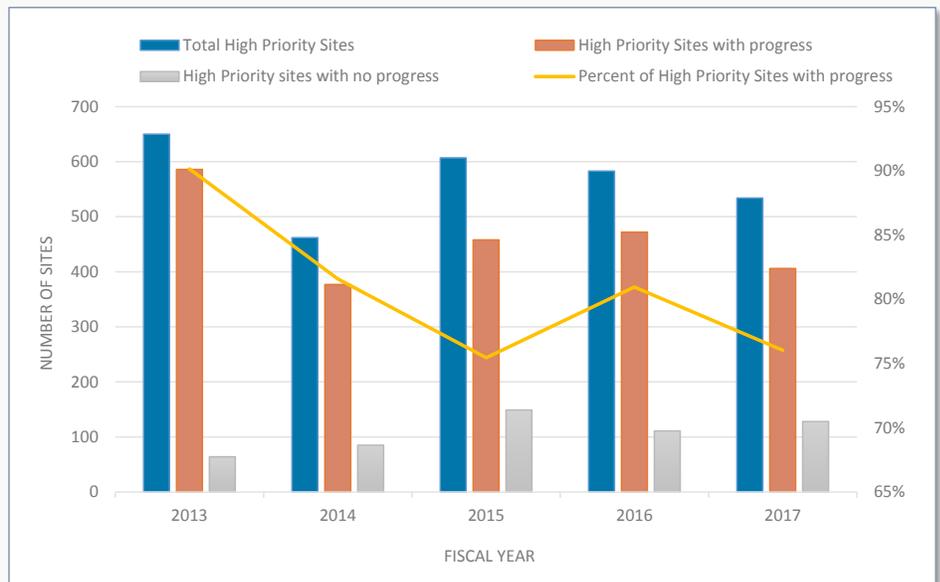


Chart two depicts the number of high priority sites over the past five years, and those which had measureable forward progress to address site risks.

Source: Alaska Department of Environmental Conservation (DEC), *Spill Prevention and Response Division Integrated Annual Report: Fiscal Year 2017 (FY17)*, p. 56.

## Environmental justice

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abandoned and active. Other top active sites are from bulk fuel storage and gas stations, airport and airfield, maintenance facilities, and oil exploration, transport and refining (Figure 2). It is difficult to do a direct com-

Many of these sites are in rural Alaska where transportation challenges, sparse population, and short summer work season hinder cleanup.

### ► Assessing risk

With so many projects, it is necessary to prioritize work, according to USACE's Geist.

**Closed sites include those cleaned to a level that provides for unrestricted use or closed with "institutional controls" such as deed restrictions.**

parison of FUDS properties and DEC sites. Properties, projects, and sites have different names in different databases.

Once a year, USACE FUDS project personnel meet with the DEC to jointly prioritize projects. Projects are ranked high, medium, and low for the risk they pose to human health

and the environment. Resources are focused on sites ranked as high priority. There are more than 500 high priority sites (Figure 3).

It is difficult for DEC to provide an estimate of what it would take to cleanup all known sites in Alaska since there are so many variables involved in cleanups and the scope of known contaminated sites continues to grow.

*Find full citations online.*

*Paula Williams, J.D., Ph.D., currently works for the Center for Resilient Communities at the University of Idaho. Paula does research in Social Psychology, Systems Biology and Social Theory.*

*Pamela Cravez, J.D., M.F.A., is editor of the Alaska Justice Forum.*

## Cleanup in rural Alaska is expensive and complicated

Laws governing environmental cleanup have three stages: Identification, assessment, and remediation. When comparing similar sites in remote and urban areas, each step is more expensive and complicated if the site is remote.

"If funds are available, the cleanup usually happens quickly — if they are not, it delays how quickly cleanup happens," according to Lisa Griswold, Environmental Specialist with the Alaska Department of Environmental Conservation (DEC).

The cost of cleanup can impact the timeline and thoroughness of cleanup as well. It is usually more expensive to clean a site to a level needed for unrestricted use than a level with institutional controls that limit future exposure to residual contaminants.

Remoteness is a big factor, Griswold said.

On-site treatment may be feasible for some contaminants, but certain hazardous wastes cannot go to a landfill in Alaska, according to Griswold. Not only is it expensive to transport contaminants out of rural Alaska, it is expensive to transport remediation specialists, equipment and supplies into remote locations.

### ► Liability and costs of cleanup

The owner or occupant of land on which contamination occurs is strictly liable for release of hazardous substances (AS §46.03.822). Current owners/operators, along with past owners/operators, can be held liable, either separately or together.

Small rural communities typically have fewer financial and human resources to address remediation issues. If the contamination is caused by a local business, the community may be reluctant to bring the problem to the attention of regulatory agencies. The concern may be that costs to the owner could close the business or reduce the number of community members that it employs.

Some of the land conveyed to Alaska Native corporations as part of the Alaska Native Claims Settlement Act (ANCSA) was contami-

nated before transfer. It is only within the past year that Alaska Native corporations were exempted from liability for contamination on these lands.

### ► Financing assessment and remediation

If a responsible party cannot be located or afford to pay for the cleanup, DEC may, under certain circumstances, step in and provide funding, according to Griswold.

"We need to show there is a real threat to health or the environment. Either an ongoing release, current exposure, or a threatened release," Griswold said.

### ► Federal funds

The EPA's Brownfield Program provides some funds to support redevelopment or reuse of property which may be complicated by the presence of contaminants. Although Congress increased the limits on certain categories of funds for cleanup this year, no extra money has been given to the program to support the increases. "The largest projects in a given year are usually not more than \$100,000," according to Griswold (EPA, 2018c). (See "Expanded Brownfields Program supports redevelopment in Alaska," p. 7.)

The Department of Defense established the Native American Lands Environmental Mitigation Program (NALEMP) to address contamination and adverse impacts to tribal lands or trust resources from past military activities (USACE, n.d. (a)). Entities eligible for help include Native Corporations, federally recognized tribes, and local governments.

While guidance and funds are available to address remediation of contaminated sites in Alaska, funding falls far short of the need.

*Find full citations online.*

# Long-term impacts of environmental contaminants are 'generational game changer'

In the early 1960s, Annie Alowa, from the Yup'ik village of Savoonga on St. Lawrence Island, worked at the U.S. Air Force base at Northeast Cape on the island. Alowa also worked as a health aide.

Alowa began to see changes in the health challenges in her community after 1972, when the base on Northeast Cape closed after 20 years of operation. She saw cancers she had not seen before, lower birth-weight babies, and higher numbers of miscarriages. Those becoming ill depended upon berries, fish, and wildlife from the land and water. Alowa did not know the extent of the disposal of waste at Northeast Cape since the military did not make public the hazardous contaminants including miles of wire, transformers, fuels, heavy metals, asbestos, solvents, and polychlorinated biphenyls (PCBs) that it left behind in the nine-square mile area. But she suspected it was having an impact on the health of her community.

In 1998, Alowa, along with Pamela Miller, the founder of Alaska Community Action on Toxics (ACAT), met with the colonel of the U.S. Army Corps of Engineers (USACE)



Annie Alowa at a contaminated site on St. Lawrence Island. Alowa led the effort to get the U.S. Army Corps of Engineers to clean up Northeast Cape. She died from liver cancer in 1999. In 2016 she was inducted into the Alaska Women's Hall of Fame. Photo courtesy Alaska Community Action on Toxics.

"We found that all people of St. Lawrence Island were experiencing elevated levels of PCBs," Miller said. These were seven to nine times higher than a person in the lower 48, and those who were closely associated with Northeast Cape had even higher levels, according to Miller. PCBs are known carcinogens and have been shown to affect reproductive systems.

velop lasting impacts to their mental and physical development due to exposure to contaminants.

Not all people are impacted by environmental contaminants equally. "[F]ar too often minority and low-income communities and indigenous people are most vulnerable to environmental and public health challenges," according to Gina McCarthy, EPA administrator from 2013 to 2017.

**"Our traditional foods are killing our people....But without our traditional foods, we die as a culture." — Vi Waghiyi**

in Alaska and asked that the Corps clean up Northeast Cape. When the colonel dismissed her concerns, Alowa and Miller began a campaign to get Northeast Cape to the top of the priority list for cleanup. The USACE has spent \$125 million on cleanup.

In 1999, Annie Alowa died from liver cancer.

## ► Unequal impacts

Since 1999, ACAT and Miller have been conducting community-based research — working with St. Lawrence Island community members and scientists from multiple universities to assess the impact that contaminants from the disposal of hazardous waste at Northeast Cape.

In 2003, the Alaska Division of Public Health (ADPH) looked at ACAT data regarding higher levels of PCBs and concluded that "concentrations detected in St. Lawrence Island village residents are similar to other Alaska Native populations that have been assessed as well as to other arctic populations" (ADPH, 2003: 1). ADPH supported cleanup of Northeast Cape, but found that the known benefits of a diet rich in fish and marine mammals far outweighed "potential adverse health effects from contaminants found in those foods" (p. 1).

Environmental contaminants are a "generational game changer," according to Brian Bienkowski, editor of *Environmental Health News*. Those most vulnerable are unborn children and young children who can de-

## ► Corps is not a health agency

"We're not a health agency," Lisa Geist, Acting Formerly Used Defense Sites Program Manager for the Army Corps of Engineers in Alaska said. "We can't evaluate direct health impacts, that's for other agencies."

The Corps finished remediation at Northeast Cape and is now in the long-term management stage, doing periodic sampling and reviews, according to Geist. "We've been very successful out there. We've had a lot of interest from the local community and local tribes because they would have liked us to do more," she added. "Not everyone is happy with what we do. People want it to go to zero and we're not able to do that."

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## Game changer

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### ► Health evaluation requested

The Agency for Toxic Substances and Disease Registry (ATSDR) evaluates public health issues related to the National Priorities List sites and may conduct public health assessments when petitioned.

The Native Village of Savoonga requested a public health assessment and recommendations for actions needed to reduce exposure to chemicals at Northeast Cape. Residents continue to use the site as a seasonal fishing camp and would like to re-establish the Native Village of Northeast Cape. ATSDR issued its report in July 2017 and found that eating fish from the summer season is not expected to harm people's health; that eating berries and greens year-round is not expected to harm people's health; and accidentally ingesting soils for half of the year and drinking Suqitughneq (Suqi) River surface water year-round are not expected to harm health.

The report concluded that "there is not enough contact with site contaminants to suggest that exposures are contributing to cancer and birth defect rates" (ATSDR, 2017: vi).

While, ATSDR recommended that community members continue to eat fish and marine mammals from their traditional fishing grounds because of the "health and cultural benefits," community members do not feel it is safe.

"Our traditional foods are killing our people.... But without our traditional foods, we die as a culture," Vi Waghiyi, told a *New York Times* reporter in 2015 (Johnson, 2015). In her extended family, five people have been diagnosed with cancer. Waghiyi is a Savoonga resident, Environmental Health and Justice Program Director for ACAT, and serves as National Advisory Environmental Health Science Council member for the National Institutes of Health.

Residents of St. Lawrence Island describe a cancer crisis, according to Miller. They are conducting a community cancer registry. They are also witnessing reproductive health problems, neurobehavioral development problems, and birth defects. "We be-

lieve that PCBs can cause these things, but it is very difficult to show cause and effect," she added. The standards for cleanup are not protective.

There's a lot of bias in environmental monitoring, selective testing, and no peer review of findings in cleanup reports, according to Miller. Communities need to be a "squeaky wheel" to get their concerns addressed.



Aerial view of the former Northeast Cape Headquarters facility. The buildings were removed and disposed off-island in 2003. U.S. Army Corps of Engineers (n.d.) via Wikimedia Commons (21 Mar 2007).

Most remote communities do not have the resources to do independent testing, monitoring, and research studies to evaluate their environmental health or push for cleanup, similar to what is being done by the St. Lawrence Island community.

### ► Protecting future generations

The disproportionate impact of environmental contaminants and their long-term effects on minority and low-income communities and indigenous people, including Alaska Natives, is well known. The EPA's Environmental Justice Program celebrated its 25th anniversary in 2017. The EPA defines environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."

However, there is concern that current regulatory measures, both federal and state, are unable to adequately address the future impacts of contaminants. The Science and Environmental Health Network (SEHN) and the

International Human Rights Clinic at Harvard Law School, citing respect for future generations of indigenous cultures around the world, and a duty to all people, are working to develop models for protecting the environment for future generations, including developing model statutes and constitutional provisions (SEHN, 2008).

*Find full citations online.*



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# Expanded Brownfields Program supports redevelopment in Alaska

Summer is construction season in Alaska, but before redevelopment projects move forward, site assessments must be done to determine whether there are hazardous substances or contaminants that could interfere with plans. If the site previously housed a business, such as a gas station or dry cleaners, there may be residual contaminants. The types of contaminants, remediation process, and costs need to be assessed. Once these are known, the developer can decide how best to move forward.

Over the past few years, Cook Inlet Housing Authority (CIHA) has received funds from the Environmental Protection Agency's (EPA) Brownfields Program to assist with site assessments in Anchorage's Spenard, Fairview, and Mountain View neighborhoods. Brownfields Program funds, along with other funds, assisted with the investigation and cleanup of property previously occupied by Olson's Tesoro Service Station, clearing the way for development of CIHA's retail/residential property in Spenard.

## ► Redevelopment projects

There are Brownfields projects — projects involving the reuse or redevelopment of land that may be hindered by contaminants — throughout Alaska. These include an assessment of the Keku Cannery in Kake which operated from the early 1900s to 1977. The Organized Village of Kake plans to turn the old cannery into a cultural center with a museum, restaurant, and market place. Funds are also going to clean up contaminants found on a school site in Ruby and an old library site in Talkeetna that residents would like to turn into a skate park (DEC, 2018b).

## ► Increased grant limits

This year, Congress authorized increased grant limits in the Brownfields Program and removed barriers to Alaska Native villages and Alaska Native corporations receiving grants under the program. The Brownfields Utilization, Investment, and Local Develop-



Keku Cannery, Kake. Photo from Alaska Department of Environmental Conservation.

ment (BUILD) Act of 2018 is part of the FY18 Omnibus Appropriations bill.

The Brownfields Program, like the Superfund Program, is under the EPA. While Superfund sites automatically receive federal funds, not all Brownfields sites receive feder-

## ► Kodiak, Anchorage and Mat-Su grants

Currently, Kodiak, Anchorage, and Mat-Su Borough have received area-wide grants for assessment of contaminated sites. The Municipality of Anchorage received a \$300,000 Brownfield assessment grant, Kodiak Island

**Alaska Native villages and corporations that received a contaminated facility from the U.S. government under ANCSA are now eligible for grants.**

al funds. The EPA provides each region funds for Brownfields site assessment and cleanup and the Alaska Department of Environmental Conservation (DEC) administers funds for Alaska projects under a 128(a) grant from the EPA. Although Congress increased the limits on the amount each project may receive, funds are still limited. Priority is given to projects that have "solid reuse or redevelopment plans," projects that are working to secure funds from multiple sources, and projects that have strong community support (DEC, 2018a).

There are multiple types of Brownfields funding available in Alaska including: 128(a) grants, Competitive Assessment grants, Competitive Cleanup grants, Targeted Brownfields Assessments, or funds from DEC's Brownfield Assessment and Cleanup program (DBAC). Higher amounts for assessment are awarded for large community or area-wide contamination.

Borough received a \$600,000 grant, and Mat-Su Borough received a \$550,000 Brownfield grant (Municipality of Anchorage, 2017; Kodiak Island Borough, 2017; Matanuska-Susitna Borough, 2018).

The maximum amount for site remediation grants has increased from \$200,000 to \$500,000 this year. The limit may be waived by the administrator up to, but not to exceed \$650,000, according to Lisa Griswold, DEC Environmental Specialist. However, Griswold added, these funds have not been appropriated. No extra money has been given to the federal Brownfields Program. This rule change simply increased the amount for which each site is eligible.

## ► Eligibility expanded

Public entities, such as Native corporations, nonprofits, and local governments may ap-

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Go to the *Alaska Justice Forum* online, [www.uaa.alaska.edu/justice/forum/](http://www.uaa.alaska.edu/justice/forum/), where you'll find more stories and you can sign up to get the *Forum* by email.

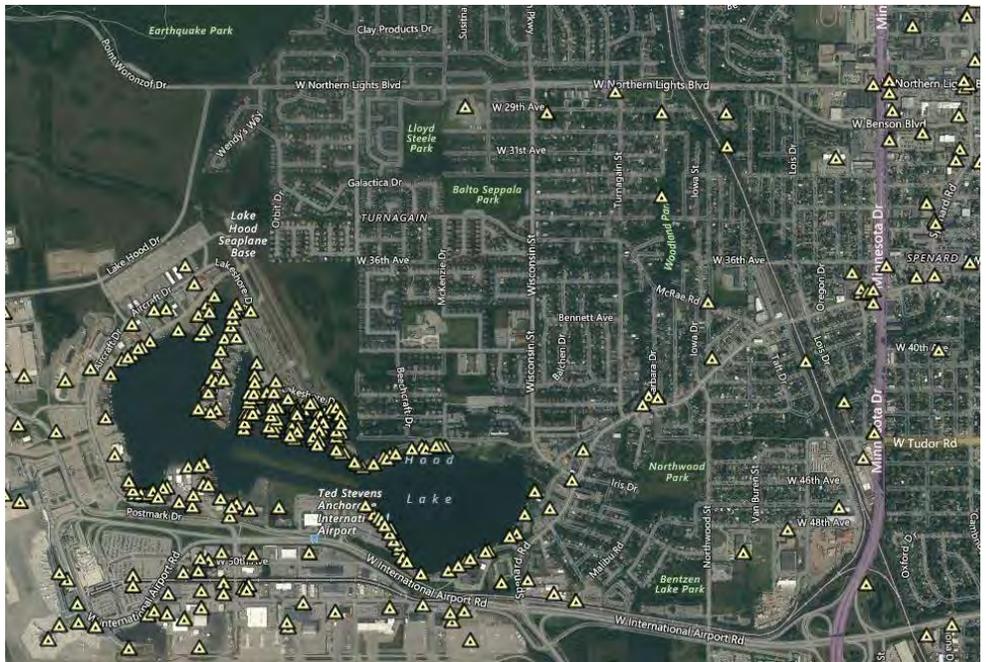
### Brownfields

(continued from page 7)

ply for these grants or services. The EPA has allowed Alaska Native corporations and local governments to partner with tribal entities and others who may not be eligible for these grants on their own.

In addition, this year Congress cleared a path for Alaska Native villages and Alaska Native corporations or their successors that received a contaminated facility from the U.S. government under the Alaska Native

**Kodiak, Anchorage and Mat-Su Borough have received area-wide grants for assessment of contaminated sites.**



Brownfields around Lake Hood and Spenard neighborhood, Municipality of Anchorage. Image from Contaminated Sites Database searchable ArcGIS map, Alaska Department of Environmental Conservation.

Claims Settlement Act (ANCSA) to be eligible for Brownfields grants. Prior to this year, Alaska Native villages and corporations had been considered "owner or operator" of the lands and liable for contamination and ineligible for Brownfields grants.

Griswold continued to put the increased limits in perspective. While the limits are high, the actual funding pool is "quite small." The largest project in any given year for DBACs is no more than \$100,000, she said,

adding that communities could fill out multiple applications through the years to reach the uppermost limit.

Priority is given to sites that most endanger human health and the environment. DEC considers the overall cost of assessment or remediation in determining which sites will receive funding. "The funding can be thought of like a pie. It is theoretically possible to

do one really large project, but that would mean no other projects could be done. Lower cost projects allow for more projects to be completed (thus extending DEC's ability to assist communities)," Griswold said.

If you have questions about Brownfields in Alaska, Lisa Griswold can be reached at [lisa.griswold@alaska.gov](mailto:lisa.griswold@alaska.gov) or (907) 269-2021.

*Find full citations online.*

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