

**Abandoned Federal Agency Dumpsites and Coastal Erosion Problems –
Alaska Department of Environmental Conservation Contaminated Sites Program
Perspective**

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Recent Arctic climate studies indicate warming trends along with a decrease in sea ice coverage. Climate models project a continuing retreat and loss of sea ice. These longer and warmer summer seasons result in larger expanses of open water for longer periods of time and larger waves along the shoreline. Retreat of sea ice allows larger storm surges to develop, which may result in the increasing risk of inundation, coastline erosion, and permafrost thawing (IARC, 2005).

Many exploration, development, and defense facilities were constructed along coastal areas and major waterways due to transportation challenges. These facilities typically included dumpsites or landfills and many of them are located in areas that are subject to high erosion rates. Although there are many small village landfills along waterways; government agencies generally used more industrial materials, such as PCBs, solvents, pesticides, herbicides and other hazardous substances. Many of these dumpsites are now eroding into surface-water bodies such as lagoons, rivers, wetlands and the ocean. Eroding dumpsites create navigation hazards posed by solid waste. Additionally, contaminant discharges may have negative effects on the local environment along with larger scale impacts due to bioaccumulation or biomagnification of specific contaminants.

Lacking an upfront management strategy for eroding dumpsites, the responsible party or the landowner may end up in emergency response actions which are costly and difficult to implement. Response actions started after wastes are eroding may be too late if persistent bioaccumulative toxins end up in sediments, surface water, and the food chain and other pollution is dispersed into the environment during erosion events.

Laws and regulations that may apply to these eroding landfills include State of Alaska Solid Waste, Oil and Hazardous Substance Pollution Control, and Water Quality Standards. Federal regulations and programs include the Clean Water Act, Resource Conservation and Recovery Act, Solid and Hazardous Waste, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the Defense Environmental Restoration Program. Technical and policy issues hindering response actions at these sites include 1) site characterization is difficult, 2) standard risk assessments are not applicable, and 3) federal cleanup programs typically require a hazardous substance be present above risk-based cleanup standards in order to conduct a removal or remedial action. Federal agencies have been hesitant to conduct containment, removal or remedial action at dumps or landfills unless contaminants have been documented at concentrations above risk-based standards. Additionally, the remote location of most of these sites makes it expensive to mobilize and conduct work.

ADEC wants to develop a management strategy that will reduce the potential for future hazardous substance releases caused by eroding landfills, which at the same time will

reduce the need to conduct emergency response or removal actions, thereby reducing costs for the landowners and entities that created or used the dump sites. The Statement of Cooperation working group, a partnership between ADEC and federal agencies working on environmental issues, has an inventory of at least 23 dumpsites of concern that includes locations such as the Oliktok Long Range Radar Station, Barter Island Long Range Radar Station, Bullen Point Short Range Radar Station, and Umiat (Colville River). The working group plans to prioritize the 23 sites and develop a monitoring and response strategy.

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