



**U.S. Army Corps  
of Engineers**  
Alaska District

## ***ALASKA BASELINE EROSION ASSESSMENT***

### **Erosion Information Paper - Nuiqsut, Alaska**

Current as of February 23, 2009

#### **Community Information**

Nuiqsut (new-WICK-sit, var. Nooiksut), population 417, is on the west bank of the Nechelik Channel of the Colville River Delta, 18 miles south of the Beaufort Sea coast, and 135 miles southeast of Barrow. The community is incorporated as a 2nd class city in the North Slope Borough (NSB). The riverbank is used for summer boat storage, fishing, boat access, and snow machine access.

#### **Description of Erosion Problem**

Nuiqsut has occasional minor erosion along the west bank of the Nechelik Channel, which is a branch of the Colville River. Periodic fluctuations in river flow and water levels, melting permafrost, ice jams, and spring break-up water runoff all contribute to erosion. Water from the water plant storage tank recently discharged and ran across the tundra into the Nechelik Channel, accelerating permafrost melt and erosion rate. The eroding area along the channel bank is approximately 100 feet long and 30 feet wide with a drop estimated at 100 vertical feet. An estimated 3 to 5 feet per year has eroded along the bank down-slope of the water tanks. A deep cave has formed along the bank and under the tundra where mammoth tusks were excavated. The holes left in the bank pose dangerous drop-offs and areas vulnerable to accelerated erosion. In addition, the road to the boat dock is eroded and washes out every year when the ice breaks and the river rises at the small creeks and culverts, gravel is placed over the culverts each year.

#### **Potential Damages**

Structures and facilities threatened by erosion include the water and power plant an estimated 250-300 feet from the bank, utility poles and power lines, the school an estimated 500 feet from the bank, two water storage tanks, and a city boat storage building an estimated 90-150 feet from the bank. Contractors in Nuiqsut that manage the utilities for the NSB filled the area with gravel where the water tank discharge had caused erosion in 2000-2001. Thermocouples (passive refreezing apparatus) were also installed. The land damaged by erosion has been purchased by the NSB and the procedures for maintenance of the water storage system have been changed to reduce erosion.

#### **Photos and Diagrams**

No photos were provided by community or other sources. The attached diagram shows the linear extent of erosion.

## **References**

**USACE. 2008.** *Alaska Community Erosion Survey*, OMB approved number 07100001, expires September 30, 2009 administered to Leonard Lampe, Sr. president of the native village of Nuiqsut and a Nuiqsut subsistence panel member on February 22, and to Sam Kunaknana, Nuiqsut city mayor on February 28, 2008.

---

## **Additional Information**

This information paper, as well as those for other communities, can be accessed on the internet at [www.alaskaerosion.com](http://www.alaskaerosion.com). For more information please contact the Corps of Engineers, project manager at (907) 753-5694 or email [Alaska.Erosion.POA@usace.army.mil](mailto:Alaska.Erosion.POA@usace.army.mil)



Date of Aerial Photo: 19 July 03

**NOTE:** The extent of erosion shown on this figure is based on interviews with the community. This data has not been field verified. This figure is only intended to show areas of erosion, not rates or severity of erosion



Alaska District  
Corps of Engineers  
Civil Works Branch

- - - - Linear Extent of Erosion



Alaska Baseline Erosion  
Nuiqsut, Alaska