



U.S. Army Corps  
of Engineers  
Alaska District

## **ALASKA BASELINE EROSION ASSESSMENT**

### **Erosion Information Paper - South Naknek, Alaska**

Current as of November 14, 2007

#### **Community Information**

South Naknek (NACK-neck), originally named Qinuyang, population 74, is on the south bank of the Naknek River on the Alaska Peninsula, 297 miles southwest of Anchorage. It is just west of Katmai National Park and Preserve. The community is unincorporated in the Bristol Bay Borough with the smallest population and the least amount of infrastructure and services of the 3 communities in the borough (King Salmon, Naknek, and South Naknek).

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

South Naknek reports coastal erosion along Bristol Bay and riverbank erosion along the Naknek River. High tides, storm surges, wind, waves, melting permafrost, and vehicle and pedestrian traffic along the shoreline are reported as causes and factors contributing to coastal erosion. Natural riverine processes such as water level fluctuations and flow, ice jams, spring breakup, melting permafrost, and vehicle and pedestrian traffic along the banks are factors causing and contributing to riverbank erosion. Erosion is undercutting banks up to 70 feet high in the vicinity of the community docks. The average erosion riverine and coastal rate is estimated at about 2 to 5 feet per year and is considered to be mainly gradual. Seasonal events such as storms and extreme tides account for periodic accelerations in the rate.

According to the *Bristol Bay Borough Coastal Management Plan*, erosion occurs along the entire coastline and along most riverbanks. Coastal and most river bluffs are glacial drift and fluvial deposits, which are mostly unconsolidated and unstable. This makes the coastal and river bluffs significant landslide and erosion hazards. Erosion by wind, wave, and tidal action can be severe in some areas.

#### **Potential Damages**

The main sanitary sewer line, several outbuildings, 5 setnet cabins and smoke houses, access roads to the cabins, and a major beach access ladder have been damaged or destroyed by erosion. The estimated repair or replacement costs totaled about \$200,000. Ongoing erosion threatens numerous buildings, structures, and facilities, including dwellings, outbuildings, sheds, food storage areas, drying racks, smoke houses, access roads, boat launch facilities, sewer lines, boardwalks and important pathways, setnet cabins, and utility lines. Informal erosion protection measures have been undertaken by community residents, including placing sandbags, rocks in wire containers, nets, and vegetative plantings. According to the community, these measures have not been effective and the eroding shorelines and banks continue to be a problem.

The community feels that the beach access road will have the most severe impact to the commercial fishing and subsistence; that the entire community depends on. The community mentioned that depending on the tide the beach access road has to be repaired at least a couple of times a week, during non-winter months, due to the steep grade of access.

### **Photos and Diagrams**

Photos of the erosion have been provided by the community. Attached is a diagram depicting the linear extent of erosion.

### **References**

- Bristol Bay Borough. 2006.** *Alaska Coastal Management Program Plan.*
- Bristol Bay Borough. 2006.** *Comprehensive Community Plan: Planning Our Future.*
- DCCED, DCRA. 2007.** *Community Database Online*,  
[www.commerce.state.ak.us/dca/commdb/CF\\_COMDB.htm](http://www.commerce.state.ak.us/dca/commdb/CF_COMDB.htm) Department of Commerce, Community and Economic Development, Division of Community and Regional Affairs.
- ESL. 1982.** *South Naknek.* Prepared by Environmental Services Limited.
- USACE. 2007.** *Alaska Community Erosion Survey, OMB approved number 07100001*, expires September 30, 2009, respondent, Bristol Bay Planner, Yvonne Copy, on October 30, 2007 and interview with Lorianne Rawson, South Naknek village administrator on October 31, 2007.

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### **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)



Photo taken November 1, 2007



Photo taken November 1, 2007





**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



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--- Linear Extent of Erosion  
Part 1



Alaska Baseline Erosion  
South Naknek, Alaska



NAKNEK RIVER

Flow

To Bristol Bay  
Erosion continues along the  
river and Bristol Bay coastline

Top of Bluff

Toe of Bluff

Date of Aerial Photo: 23 May 06

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--- Linear Extent of Erosion  
Part 2



Alaska Baseline Erosion  
South Naknek, Alaska