



U.S. Army Corps  
of Engineers  
Alaska District

## **ALASKA BASELINE EROSION ASSESSMENT**

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

Current as of December 17, 2007

#### **Community Information**

Chignik (CHIG-nick), a.k.a. Chignik Bay, population 85, is on the south shore of the Alaska Peninsula at the head of Anchorage Bay. It is 450 miles southwest of Anchorage and 260 miles southwest of Kodiak. The community is incorporated as a 2nd class city in the Lake and Peninsula Borough.

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

Chignik is eroded periodically by coastal waves. High tides and winds occurring together, especially winds from the northeast, add to the severity of the erosion. A small area adjacent to where Indian Creek outlets into the bay is reported to be eroding.

The survey reports winter storms can erode large sections of the road to the airport and areas of coastline. This is especially true when high tides and high winds accompany the winter storms. It is also reported that in some areas along the road high tides and winds can “put back” the land where it had been previously eroded. In one reported case, a 400 to 500 foot-long island formed off the beach and built up a natural barrier in front of an area where the road was washing away.

In a 1992 *Flood Plain Management Services* report, the Corps indicated that Chignik is occasionally flooded (with accompanying erosion) by storm-driven waves, stream overflow, and tsunamis. Flooding was predicted to occur every 40 to 60 years. The worst flood on record was in 1948, when flood water elevation was about 14 feet above normal. A 1967 flood reportedly damaged one home.

#### **Potential Damages**

The main road to the Chignik airport and near the mouth of Indian Creek are the main areas at risk from ongoing erosion. The community reports that 6 to 7 areas along the airport road eroded in the past. Combined high winds and tide caused the loss of about 4 to 5 feet of bank along the road near the developed community during a 2002 storm. Following that event, the State of Alaska contributed about \$8,000, the Federal Emergency Management Agency contributed about \$1,500, and the city of Chignik provided equipment and labor to place rocks along the bank and to build up the road with gravel. There are also plans to place armor rock along a section of this road in spring of 2008 with Alaska Department of Transportation and Public Facilities assistance.

The survey reported that in 2002 or 2003, the owners of the fish processor paid for the placement of several hundred yards of armor rock near the processor. There was also a problem with erosion in 2002 by the boat harbor. Before the harbor construction began, approximately 20 feet

of coastline property was lost. Dredging of the harbor is planned and there is a bid out for this work.

According to the survey respondent, no structures would be affected by the Indian Creek. The mayor believes that all of the previous and planned efforts at preventing or slowing down erosion have been or will be effective.

### **Photos and Diagrams**

Photos of Chignik provided by the Lake and Peninsula Borough are attached. Also, attached is a diagram depicting the linear extent of erosion.

### **References**

**ESL. 1982.** *Chignik*. Prepared by Environmental Services Limited.

**USACE. 1987.** *Small Boat Harbor Draft Environmental Impact Statement*. Alaska District, U.S. Army Corps of Engineers.

**USACE. 1992.** *Flood Plain Management Services: High Water Elevation Identification, Chignik*. Alaska District, U.S. Army Corps of Engineers.

**USACE. 2007.** *Alaska Community Erosion Survey, OMB approved number 07100001*, expires September 30, 2009 administered to Richard Sharp, city of Chignik mayor on November 27, 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 1: Aerial view of the Chignik public dock, summer 2003.**



**Photo 2: Another view of the public dock, summer 2003.**



**Photo 3: Aerial view of Chignik small boat harbor under construction by the Corps of Engineers; scheduled for completion Dec. 2008, summer 2003.**



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- - - Linear Extent of Erosion



Alaska Baseline Erosion  
Chignik, Alaska