



U.S. Army Corps  
of Engineers  
Alaska District

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

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

Current as of January 5, 2008

### **Community Information**

Chignik Lagoon (CHIG-nick), population 70, is on the south shore of the Alaska Peninsula, 8.5 miles west of the city of Chignik, 16 miles east of Chignik Lake, 180 miles south of King Salmon, and 450 miles southwest of Anchorage. The community is unincorporated and in the Lake and Peninsula Borough. Chignik Lagoon is accessible by air and sea with no roads connecting it to other villages.

### **Description of Erosion Problem**

Chignik Lagoon reports shoreline erosion along the lagoon fronting the community. Periodic higher than normal tides, wind-driven wave action, and coastal flooding usually associated with periodic storms are conditions causing and contributing to the erosion. The flooding and erosion during the recent November and December 2007 storms are examples of these occurrences.

The community is also subject to periodic stream erosion associated with natural processes (e.g., seasonal flow fluctuations and water level changes) along Packers Creek. Periodic overflow from Chignik Lake, down the Chignik River, and to the lagoon causes flooding and erosion.

The state-maintained 1,600-foot by 60-foot wide gravel airstrip runs through the center of the Chignik Lagoon community. One end of the runway is close to Packers Creek and the other end of the runway stops at the lagoon. The respondent in the survey estimated that up to 100 feet in total has been lost at both ends of the runway in the recent past. There is also substantial erosion at Packers Point, which is an area that juts out into the lagoon.

### **Potential Damages**

Four Housing and Urban Development (HUD) apartments and approximately 6 houses in a subdivision near Packers Point are at risk. Some of these structures are within 50 to 100 feet of the eroding lagoon shoreline. There are a few houses right at the bank of the lagoon. The community health clinic and bulk fuel tanks are in the Packers Point area, and may be at risk. During a December 2007 flood, there was concern about how close the water had come to the sewer lift station near the school. The respondent stated that the erosion in the Packers Point area may have been made worse by the removal of gravel from the point for a sewer project managed by the Alaska Native Tribal Health Consortium (ANTHC). On the other side of Packers Point, a dwelling, a private hangar, a crew shack, and some storage sheds are close to the water and may

be at risk. The survey respondent did not recall any loss in this area during the last 10 to 20 years.

The community survey reports that in an effort to protect some of the dwellings, the community has built up a breakwater with large boulders wrapped in sheet metal. A breakwater has also been built around the small boat harbor. Individual homeowners have also built flood or erosion protection around their homes. There have not been any other erosion protection projects recently. The community met with the Alaska Department of Transportation and Public Facilities (DOT&PF) in November 2007 to discuss a plan to alleviate the erosion at the ends of the runway. The plan is to extend the current runway approximately 500 feet across Packers Creek. However, the community does not want DOT&PF to lose sight of the larger plan to relocate the runway away from the community development area. Also, there is strong regional interest in constructing access roads between Chignik, Chignik Lagoon, Chignik Lake and the landfill.

### **Photos and Diagrams**

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

### **References**

**USACE. 1977.** *Evaluation of Flood Damage, Chignik Lagoon trip report.* Alaska District, U.S. Army Corps of Engineers.

**USACE. 1987.** *Letter to James Clark, Architects and Planners.* Alaska District, U.S. Army Corps of Engineers.

**USACE. 1997.** *Letter to Bristol Bay Housing Authority.* Alaska District, U.S. Army Corps of Engineers.

**USACE. 2007.** *Alaska Community Erosion Survey, OMB approved number 07100001, expires September 30, 2009 administered to Angela Gregorio, administrative assistant (and former administrator) for the Chignik Lagoon tribal council on January 4, 2008.*

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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: Erosion around Sewage Lagoon, January 2003.**



**Photo 2: Erosion along Packer Creek, near Airport, November 2002.**

CHIGNIK LAGOON

Flow



Approximate location of ANTHC gravel extraction site



PACKER CREEK



**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

Date of Aerial Photo: 31 July 02



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--- Linear Extent of Erosion



Alaska Baseline Erosion  
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