



U.S. Army Corps
of Engineers
Alaska District

ALASKA BASELINE EROSION ASSESSMENT

Erosion Information Paper – Port Graham, Alaska

Current as of August 28, 2007

Community Information

Port Graham, population 136, is in the Kenai Peninsula Borough at the southern end of the Kenai Peninsula, approximately 24 miles southwest of Homer, and 125 miles southwest of Anchorage. The unincorporated community is in a relatively low-lying coastal area on a point that protrudes a short distance into Port Graham Bay between Port Graham Bay and Cook Inlet. The shoreline is used for barge access, fishing, hunting, beachcombing, cultural and social events, residential property, and access to the bay.

Description of Erosion Problem

Port Graham is concerned about coastal erosion of the 60-to-100-foot-high bluffs on three sides of the community. Rates of erosion along the different sections of coastline are not documented. The Port Graham Village Council environmental planner reported that erosion from high tides, storm surges, wind and waves is impacting five locations on three sides of the community and is within 100 feet of structures. According to the 1998 *Port Graham Flood Mitigation Plan*, the coastal bank erosion threatened the school gymnasium and a fuel tank farm that supplies the fuel to heat the building.

Potential Damages

Erosion at the site of Port Graham's community school poses the most concern, but other sites along the Port Graham coastline are also vulnerable to continuing erosion. Those areas are as follows: (a) At both ends of the riprap placed at the base of the bluff below the Port Graham school some erosion is continuing and drainage runoff adds to the erosion of the bluff from the top side; (b) Part of the road that connects the community to the loading transfer facility (LTF) and provides access to the water reservoir is threatened. The community water line adjacent to the road also is threatened; (c) An area is eroding adjacent to the building referred to as the Fort Knox building, located near the fish processing plant; (d) The estimated 60-foot-high bluff below the community cemetery on the east side of the community has eroded to within 70 feet of the cemetery and threatens damage to it.; (e) The area below a residence on the east side of the community above an estimated 60-foot-high bluff is eroding. Erosion may be related to a sewer pipe that protruding from the bluff and is within 17 feet of a residence and 6 feet of the home's wastewater tank.

The borough received \$275,000 from the Federal Emergency Management Agency (FEMA) to address the immediate problem at the school. The Alaska Department of Community and Economic Development, Division of Municipal and Regional Assistance administered the grant funds. Riprap at the school and at the fish processing plant is reported to have been effective.

Additional local efforts to address erosion problems have included placing tree limbs, fill, and bags of cement in erosion areas. Effectiveness has not been evaluated.

Photos and Diagrams

Photos of erosion provided by the Port Graham Village Council environmental officer are attached. Also, attached is a diagram depicting the linear extent of erosion in the community.

References

KPB. 2001. *Port Graham Flood Mitigation Plan, Port Graham Alaska.* Montgomery-Watson & Parker-Horn for Kenai Peninsula Borough.

USACE. 1998. *Port Graham Bluff Erosion Investigation.* Alaska District, U.S. Army Corps of Engineers.

USACE. 1999. *Port Graham Emergency Bank Stabilization Project Fish and Wildlife Coordination Act Report.* Alaska District, U.S. Army Corps of Engineers.

USACE. 2007. *Alaska Community Erosion Survey,* OMB approved number 07100001, expires September 30, 2009 completed by Violet Yeaton, environmental planner, Port Graham Village Council on August 22, 2007.

Additional Information

This information paper, as well as those for other communities, can be accessed on the internet at 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



Photo 1: Bluff near Duncan Slough that is eroding. 2007



Photo 2: Cemetery Bluff. 2007



Photo 3: Heavy vegetation obscuring the view of coastal bank erosion. 2007



Photo 4: In the middle of photo is the closest erosion to the cemetery. 2007



Photo 5: Riprap below Port Graham school gymnasium and erosion area. 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