



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

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

### **Erosion Information Paper - Port Heiden, Alaska**

Current as of October 24, 2007

#### **Community Information**

Port Heiden (HIGH-dun), a.k.a. Meshik, population 79, is at the mouth of the Meshik River on the north side of the Alaska Peninsula, 424 miles southwest of Anchorage. It is near the Aniakchak National Preserve and Monument. Port Heiden is a 2nd class city, in the Lake and Peninsula Borough.

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

Port Heiden reports coastline erosion along Bristol Bay. Causes of and factors contributing to the erosion include fall storms with high tides, storm surges, wind and wave action, and easily-eroded gravel and sand along the shoreline. 15 to 20 feet of inland erosion has been estimated each year. Port Heiden reports losing over 100 feet of beach in one section in the last 5 years, which exposed an old grave yard in 2003 and an old US Army landfill in 2007. More recently, Port Heiden reported about 40 feet was eroded during 2007. The erosion is occurring along the 2-mile community beachfront between "Grandma Maggie's", an old fishing site, and the boat landing site.

The borough planner estimates that from the August 2002 Port Heiden community profile map to the present time there was about 200 feet of bank loss; which is an average loss of 40 feet per year. A 2000 Corps trip report on Port Heiden states more than 40 feet of coastline was lost during 2 storms in 2000. The Corps compared existing conditions to a 1983 aerial photo indicating an erosion rate of about 20 feet per year.

#### **Potential Damages**

According to the community survey, riverbank erosion destroyed several small buildings in the community. Many buildings were relocated inland in 1981, including the school and the clinic. Since then, 2 cemeteries have been moved. One cemetery was relocated by the residents. The other was moved in a coordinated federal/state response effort.

Several buildings, structures, and facilities are threatened by or are undergoing loss from coastal erosion, including: (a) a residence and some vacated houses estimated to be less than 500 feet from the eroding coastline, (b) the marine fuel header was closely approached by recent storm surges and may be impacted this year if ice does not form along the coast, (c) new fuel tanks installed in 2004, (d) 2 cemetery sites, (e) roads, (f) the old Saint Agafia Russian Orthodox Church built in the 1800s, and (g) the landfill is currently being lost. The access road along the shoreline to the boat launch site has eroded, so the residents now drive along the beach. Continued erosion may cut off access to the harbor area. The community is concerned that

building debris and hazardous material could adversely impact subsistence fishing and hunting if it is washed into the bay. The communities' fuel header is only 28 feet from the new high water mark from storm surges and may erode under this next fall and winter.

The community has not implemented erosion protection measures other than relocating community facilities (e.g., cemeteries) and structures. The community survey indicates that no protective measures have been suggested to the community.

### **Photos and Diagrams**

Photos of erosion provided by the Port Heiden Native council and the Lake and Peninsula Borough are attached. Also, attached is a diagram showing the linear extent of erosion along the community's coastline.

### **References**

**Alaska DOT/PF. 1984.** *Final Task Force on Erosion Control*. Prepared by Department of Transportation and Public Facilities.

**USACE. 1975.** *Port Heiden/Ugashik, Erosion Study*. Prepared for Alaska District, U.S. Corps of Engineers by Hewitt V. Lounsbury & Associates.

**USACE. 1976.** *Letter to Freeman Roberts*. Alaska District, U.S. Corps of Engineers.

**USACE. 2000.** *Field Trip to Port Heiden*. Alaska District, U.S. Corps of Engineers.

**USACE. 2007.** *Alaska Community Erosion Survey, OMB approved number 07100001*, expires September 30, 2009 provided via facsimile from Lynn Carlson, administrative assistant for the Native Council of Port Heiden on November 1, 2007 with additional telephone interviews and added information from Marv Smith, Lake and Peninsula Borough planner .

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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: Port Heiden landfill eroding into Bristol Bay, Nov. 2007.**



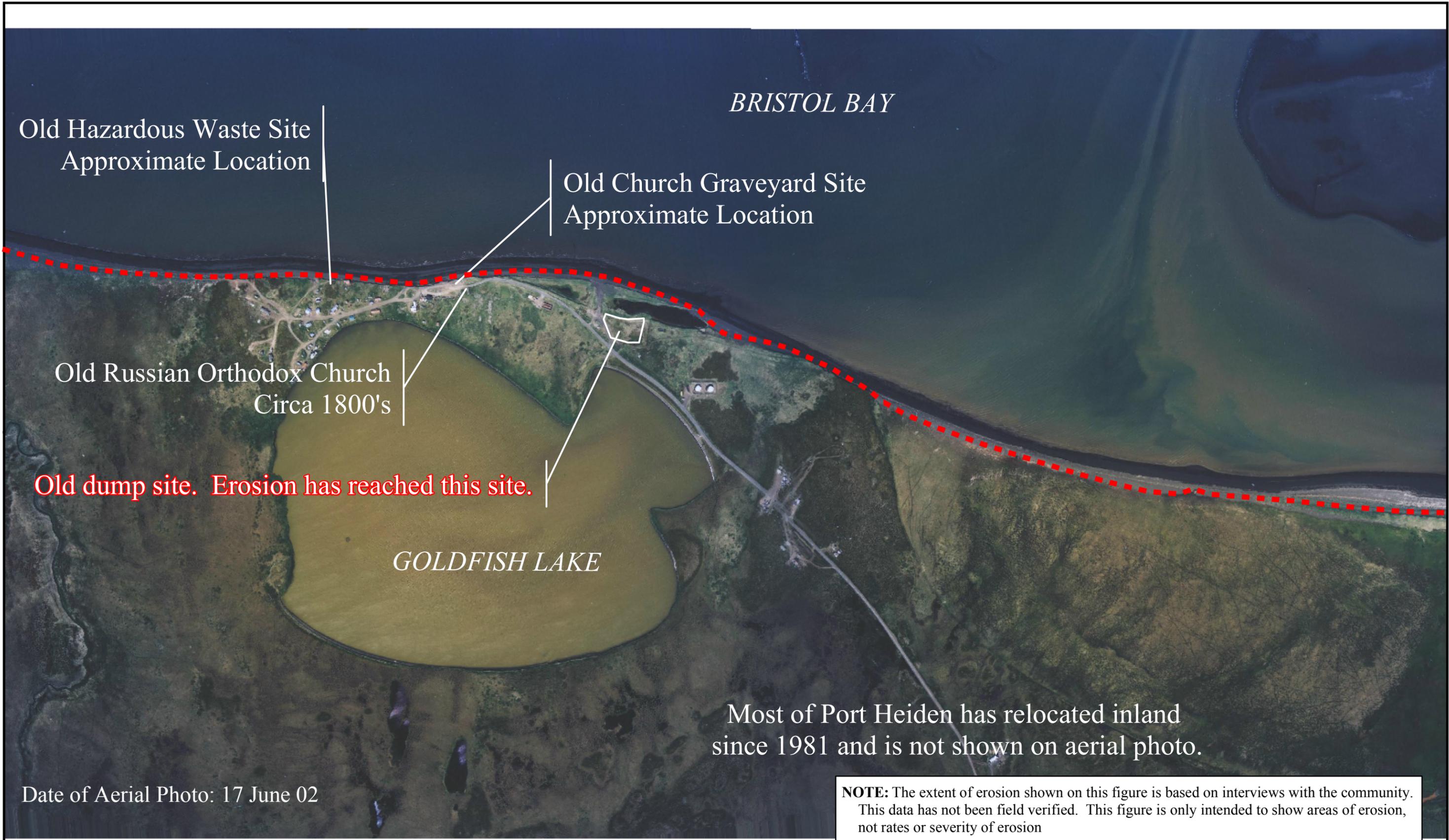
**Photo 2: Fuel Header 38 ft. from coastline, Nov. 2007.**



**Photo 3: Roads in the old Port Heiden town site area continue to be cut off by erosion, Nov. 2007.**



**Port Heiden Beach erosion and the loss of a Road to Meshik and the community lagoon boat storage, May 2008.**



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--- Linear Extent of Erosion



Alaska Baseline Erosion  
Port Heiden, Alaska