U.S. Army Corps of Engineers
Alaska District

Erosion Information Paper – Elim, Alaska

Current as of February 8, 2008

Community Information

Elim (EE-lim), population 294, is on the northwest shore of Norton Sound, on the Seward Peninsula, 96 miles east of Nome and 460 miles northwest of Anchorage. The community is incorporated as a 2nd class city in the unorganized borough. The shoreline in Elim is used for boat and barge access, fishing, hunting, processing catch, beachcombing, cultural and social events, and driftwood collecting.

Description of Erosion Problem

Storm surges, wind-driven waves, and periodic flooding contribute to periodic coastal erosion. Most erosion is where the shore is at its lowest elevation in an reach of about 800 feet along the coast and inland to an estimated 50 feet above the high water line. The lower areas along Elim Creek are subject to storm surge flooding and erosion. Major storm surges n 1974, 1992, 2004, and 2005 induced floods with associated erosion. The community identified the primary erosion area is along the town front with all beach sand eroded away leaving a rocky beach where a lost of 1-2 feet of shore has occurred over the past few years and estimated need to relocate several homes in the next 10-20 years.

Potential Damages

The eroding shoreline area is estimated to be less than 100 feet from 4 residences. Storm surges often reach and surrounding those structures. The Elim Native store shed, a water main that crosses the bridge over Elim Creek, drying racks and smoke houses, Beach Road, a bridge, and some sanitary sewer lines also are threatened by erosion.

Damages associated with the 2004 storm surge totaled $6,900. The 2005 event damaged the main access bridge and septic lines along the coast, resulting in $34,000 for repairs which were reimbursed by the Federal Emergency Management Agency (FEMA). The repairs included elevating the structures an estimated 5 feet and protection with rip rap. The city administrator expects these measures will help reduce further erosion damage. Six subsistence use cabins were also destroyed or damaged by the 2005 storm. In addition, the community had to replace fuel headers at the barge landing.

Photos and Diagrams

Photos of flooding and erosion provided by the community are attached. A diagram depicting the linear extent of erosion is attached.

References

USACE. 2008. *Alaska Community Erosion Survey, OMB approved number 07100001*, expires September 30, 2009 administered to Art Amaktoolik, Elim city administrator on February 8, 2008.

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: Damaged bridge carrying main water and sewer line, 2004.

Photo 2: Beach Road looking east during October 2004 storm.

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

Alaska District
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Civil Works Branch

Linear Extent of Erosion

Alaska Baseline Erosion

Elim, Alaska