



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

ALASKA BASELINE EROSION ASSESSMENT

Erosion Information Paper - Selawik, Alaska

Current as of October 10, 2007

Community Information

Selawik (SELL-uh-wick), population 841, is at the mouth of the Selawik River where it empties into Selawik Lake, about 90 miles east of Kotzebue and 670 miles northwest of Anchorage. The community is on both banks of the Selawik River and Middle Island, which is between the 2 channels of the river. The community is near the Selawik National Wildlife Refuge, a key breeding and resting spot for migratory waterfowl. Selawik is incorporated as a 2nd class city in the Northwest Arctic Borough. Boat, snowmachine and ATV ramps, barge access, boat storage, fishing and hunting, and cultural and social events are activities using the riverbank and shoreline. Attempts to contact the tribal environmental director via telephone and email to follow up on the survey and confirm the erosion areas were not successful.

Description of Erosion Problem

According to the community survey, erosion is an ongoing problem resulting from both riverine processes on the Selawik River and shoreline erosion on Selawik Lake. The natural river flow; flooding; ice jams; spring break-up; vehicle; barge and boat traffic; and melting permafrost cause or contribute to erosion on the river. Storms, wind and waves, and melting permafrost cause shoreline erosion on the lake. Eroded banks at the community center presently measure 800 feet horizontally and 6 feet vertically.

Permafrost thawing (thermokarsting) along the Selawik River, the impact of boat wakes, and episodic flood events were mentioned in association with erosion in the community erosion survey and the 2-day workshop on Climate Change Impacts, Vulnerabilities, and Adaptation in Northwest Alaska, held May 24-25, 2006 in Kotzebue, but specific information was lacking.

Potential Damages

Dwellings, outbuildings and sheds, water tanks and lines, fuel tanks food storage areas, drying racks and smokehouses, a road, boardwalk, other important pathways, boat launches and structures utilized for boat storage and repair, utility poles for power, telephone and cable, and sites of significant cultural and archeological value are threatened by erosion. Based on the survey, some structures are less than 100 feet from erosion areas, however no specific measurements were provided and no estimated average or episodic erosion rates were provided.

Crib wall log protection using local spruce logs back-filled with local silt was placed in some areas during 1978, 1979 and 1980. A state-funded erosion control project in 2003 constructed a boardwalk and repaired Rainbow Bridge and the Airport Bridge. Protective measures used by the community to help reduce erosion damages cost \$32,632. The earlier crib wall protection project

was reported in the 1984 *Task Force on Erosion Control Final Report*, prepared by the Alaska Department of Transportation and Public Facilities. The report noted that protection had eliminated the problem in the project areas where the cribbing was installed. Flooding occurs during spring breakup, but hasn't been a problem since the community cut a channel from the river to Selawik Lake. Major floods in the past affected only 1 home, which has since been moved. The information provided in the community erosion survey was not sufficient to determine if or to what degree the protective measures are functioning at present.

Photos and Diagrams

No photos of the erosion were provided by the community or other sources. Attached is a diagram depicting the approximate linear extent of erosion in the community.

References

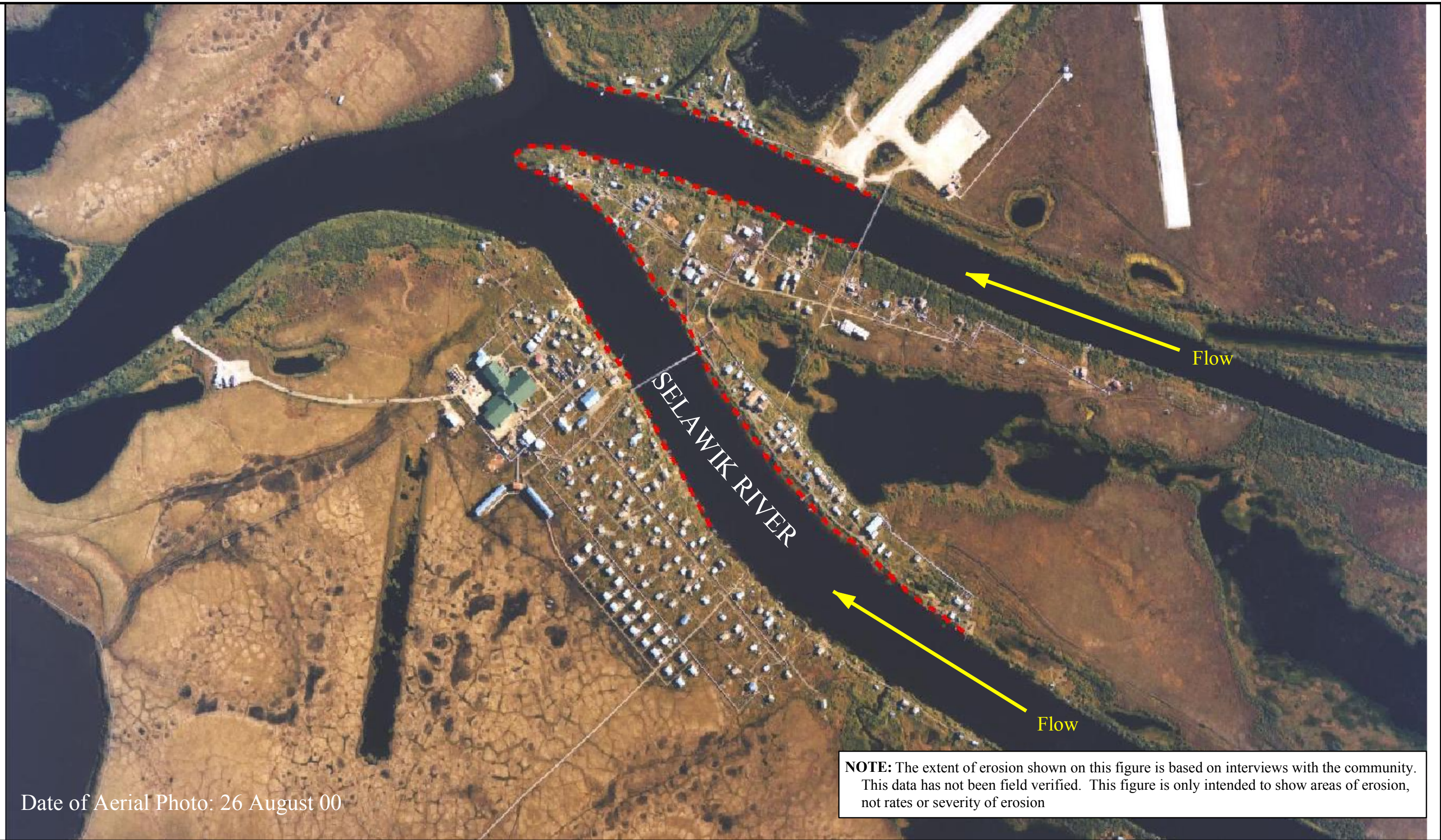
Leiserowitz, Failing, and Gregory. 2006. *Climate Change Impacts, Vulnerabilities, and Adaptation in Northwest Alaska Workshop Proceedings.*

USACE. 1993. *Trip Report – Kiana, Noorvik, and Selawik.* Alaska District, U.S. Army Corps of Engineers.

USACE. 2007. *Alaska Community Erosion Survey, OMB approved number 07100001*, expires September 30, 2009 submitted by Raven Sheldon, native village of Selawik, environmental director, via facsimile on August 28, 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



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----- Linear Extent of Erosion



Alaska Baseline Erosion
Selawik, Alaska