



U.S. Army Corps
of Engineers
Alaska District

ALASKA BASELINE EROSION ASSESSMENT

Erosion Information Paper - Levelock, Alaska

Current as of November 10, 2007

Community Information

Levelock (LEEV-lock), population 61, is on the west bank of the Kvichak River, 10 miles inland from Kvichak Bay, near the Alagnak Wild and Scenic River corridor. Levelock is 40 miles north of Naknek and 278 miles southwest of Anchorage. The community is unincorporated in the Lake and Peninsula Borough. The Kvichak (Kweejack) River flows from Iliamna Lake into Kvichak Bay and Bristol Bay. Boat, snowmachine and ATV ramps, barge access, boat and trailer storage, hunting, fishing, and driftwood collection are community uses of the riverbanks.

Description of Erosion Problem

Erosion in the community is associated with the Kvichak River. Natural riverine processes and flow, tidal action, high tides, and storms (primarily in the fall) are the main causes and contributors to the erosion. Storms from the south and southwest can raise the river level 5 to 8 feet. In the mid-1990s the main channel of the river shifted course to the west where it flows closer to the community. The active erosion area along the river is the whole length of the community. The sand bank on the river is estimated to be from 15 to 30 feet high in places. Some homes in the community are approximately 50 feet from the eroding bank area. The *Levelock Watershed Community Planning Project Final Summary Report* states reclamation of the riverbank and mitigation of the erosion problem as the #2 priority in the community's 2004 baseline environmental assessment.

In a 1997 letter, the Lake and Peninsula Borough manager stated: "Local residents report that the bank is receding between 2 and 10 feet per year in different locations. You can walk along the beach at low tide and see an amazing collection of fallen trees, rocks, huge clumps of sod and other debris. It is obvious that much of this erosion has taken place within the past few years."

A portion of Levelock is flooded about once every 10 years. Primary causes of erosion are high tides and strong winds. In the 1980 record flood 6 homes were flooded and the dock was lost. Erosion associated with major events has not been measured. The community reports that every fall when big storms come in they can lose 1 to 3 feet of bank. Within the last 20 years approximately 30 to 40 feet of riverbank was lost.

Potential Damages

Potential damage from active riverbank erosion, periodic flooding, poor drainage and the possibility of hazardous fuel spills are serious concerns to the community. Many structures have been lost to erosion and several homes relocated. One home was moved by local residents and one home was moved with funding help by the Department of Housing and Urban Development.

More structures reported to be at risk are: (1) the community bulk fuel facility of three 10,000 gallon gas and fuel tanks are currently 60 to 70 feet from the river, (2) the Russian Orthodox Church is about 90 feet from the river, (3) the steel bulkhead on the dock structure, (4) septic and leach fields, (5) the school is about 200 feet from the river, (6) a road at the outer boundary of the school is about 10 feet from the river, (7) teacher housing is about 100 feet from the river, and (8) several sites of cultural value to the community are close to the river.

The community has old fuel tanks that are in danger of falling into the Kvichak River within the next 3-5 years and has had reports of losing 15 feet of river bank in one storm. The community has concerns that the teacher housing may have to be moved in the near future.

The community has not installed erosion protection measures, but some homeowners periodically cut down brush and throw it over the bank in an effort to help keep the bank from washing away. As reported in the watershed plan, residents want the threatened areas prioritized and mitigation measures implemented. Erosion mitigation measures identified in the plan are: (a) sponsoring and organizing community events to plant trees and retentive vegetation, (b) placing control blocks in problem areas, (c) enforcing “slow” or “no wake” areas along the river, (d) orienting boat launch and docking facilities to direct landings away from natural banks, and (e) consulting with an environmental engineering firm on other possible mitigation measures.

Photos and Diagrams

Photos of erosion taken from the Levelock watershed plan final summary report are attached. Also, attached is a diagram showing the linear extent of community erosion along the Kvichak River.

References

- Lake and Peninsula Borough. 1997.** *Manager's letter to Senator Lyman Hoffman.*
- Levelock Village Council. 2005.** *Levelock Watershed Community Planning Project, Final Summary Report*, Levelock Village Council with assistance from Agnew-Beck Consulting, online at: www.agnewbeck.com
- USACE. 1992.** *Community Information Form, Levelock.* Alaska District, U.S. Army Corps of Engineers.
- USACE. 2007.** *Alaska Community Erosion Survey, OMB approved number 07100001*, expires September 30, 2009 administered to George Wilson, village council president on November 2, 2007.

Additional Information

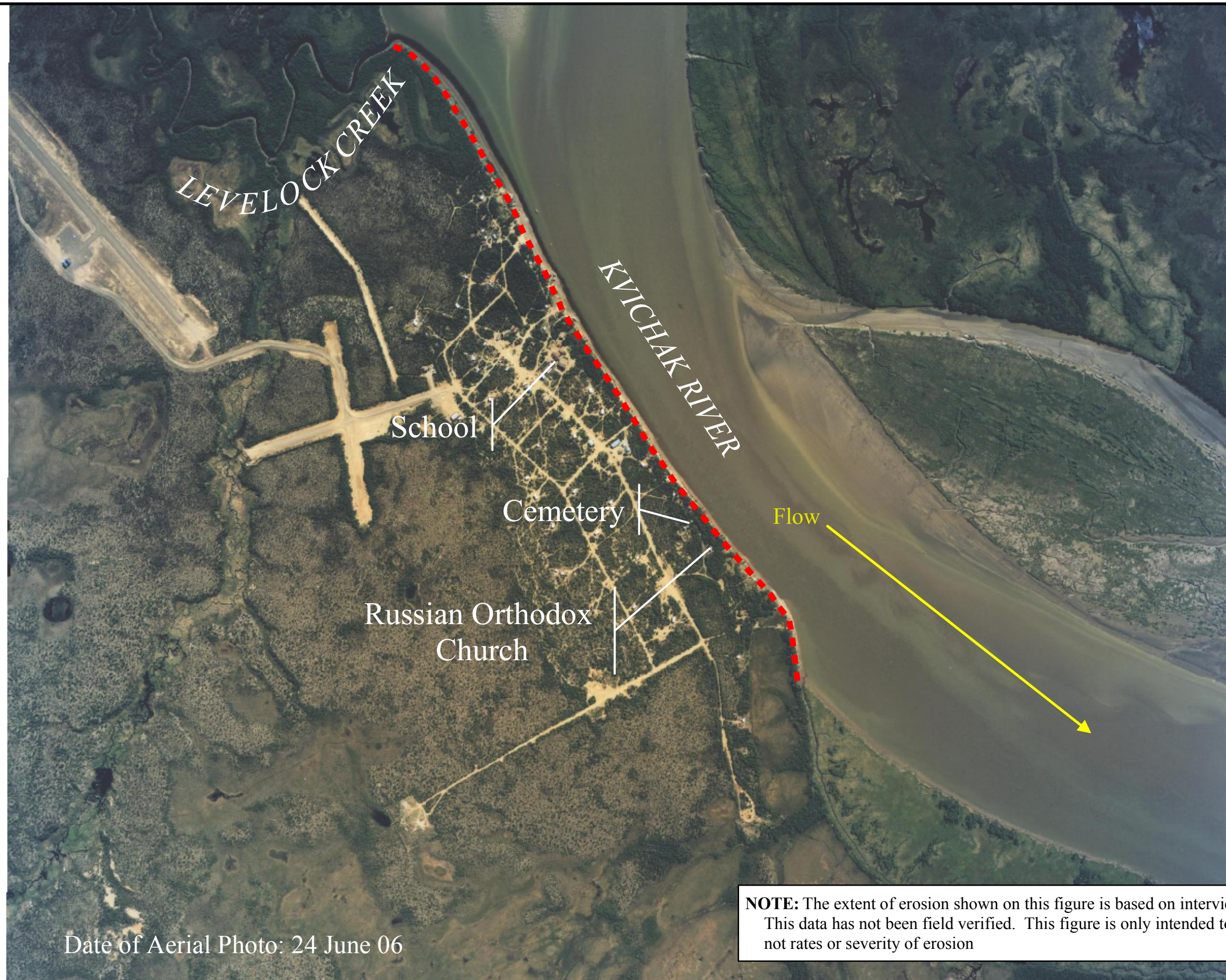
This information paper, as well as those for other communities, can be accessed on the internet at www.alaskaerosion.com. For more information please contact the Corps of Engineers project manager at (907) 753-5694 or email Alaska.Erosion.POA@usace.army.mil



**Photo 1: The eroded west bank of the Kvichak River by Levelock's dock.
(Agnew::Beck 2005 Levelock watershed final summary report)**



**Photo 2: Outbuildings succumbed to bank erosion (Agnew::Beck 2005 Levelock
watershed final summary report)**



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--- Linear Extent of Erosion



Alaska Baseline Erosion
Levelock, Alaska