



U.S. Army Corps
of Engineers
Alaska District

ALASKA BASELINE EROSION ASSESSMENT

Erosion Information Paper - Fort Yukon, Alaska

Current as of January 21, 2008

Community Information

Fort Yukon (YOO-kawn), population 596, is in the interior of Alaska on the Yukon River near the confluence of the Porcupine River. The community is approximately 8 miles north of the Arctic Circle and 140 miles northeast of Fairbanks. It is incorporated as a 2nd class city in the unorganized borough. The river bank is used for a variety of community activities such as fishing, hunting, fish processing, beachcombing, cultural and social events, and driftwood collecting. It also includes boat ramps, snowmachine ramps, ATV ramps, barge access, boat storage, and several residences.

Description of Erosion Problem

Bank erosion causes along the Yukon River are reported to be caused by natural river flow, water level changes, flooding, ice jams, spring break up, melting permafrost, boat traffic, pedestrian traffic, and vehicle traffic on the beach and bank all contribute to erosion. A large amount of gravel was removed from the Yukon River during construction of an Air Force site in 1955 which reportedly increased the flow velocity of the river and contributed to erosion. Several hundred feet have eroded along stretches of the river bank over the years, according to the *Fort Yukon Comprehensive Plan*. The riverbank is eroding at an estimated rate of 10 to 15 feet per year. The present erosion site is 1,200 to 1,500 feet horizontally and 15 feet vertically, extending from the Y-shaped slough downstream and beyond the barge landing to the finger dikes upstream.

The State of Alaska built a slough closure dike in 1967 to alleviate erosion along the south side of town. High water flow in 1989 caused 2 breaches in the dike and a large sediment plug developed upstream. A study team investigated in 1989 and reported it would take several years for erosion to cause this slough to become active again. The U.S. Department of Agriculture Natural Resources Conservation Service built 7 finger dikes along the river bank in 1992. These dikes appear to be working, although flooding and erosion have washed away some of the dike material. Federal Emergency Management Agency sponsored a *Conceptual Design Study Report for Flood Damage Reduction at Fort Yukon* in 1994 and a resulting ring levee was constructed in 1995 to provide protection from a 20 to 25 year flood event.

Potential Damages

Two residences are in danger of falling into the river, the city landing for boats is no longer usable due to erosion damage, and the barge landing is in danger of becoming unusable. Outbuildings, residential fuel tanks, food storage structures, drying racks, smoke houses, a main access road, utility poles, power lines, a sewage lagoon, sites of significant cultural and

archeological value, boardwalks, pathways, and a park area are all less than 100 feet from the active erosion area.

Photos and Diagrams

No photos of erosion have been provided by community or other sources. A diagram depicting the linear extent of erosion is attached.

References

FEMA. 1994. *Conceptual Design Study Report for Flood Damage Reduction at Fort Yukon, Alaska.*

USACE.1992. *Section 205 Reconnaissance Report*, March 1992. Alaska District, U.S. Army Corps of Engineers.

USACE. 2008. *Alaska Community Erosion Survey, OMB approved number 07100001*, expires September 30, 2009, completed by Nancy James, Fort Yukon tribal administrator, and Michael Jackson, mayor, submitted via facsimile to the Corps on January 14, 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



Date of Aerial Photo: 2 June 01

YUKON RIVER

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



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--- Linear Extent of Erosion



Alaska Baseline Erosion
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