



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.

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### **Additional Information**


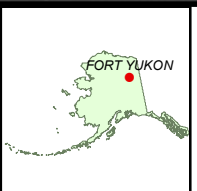
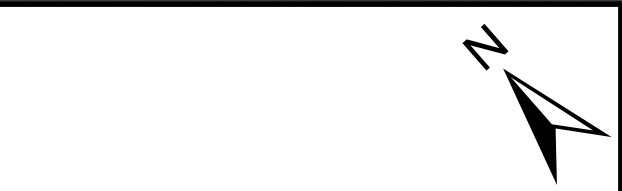
This information paper, as well as those for other communities, can be accessed on the internet at [www.alaskaerosion.com](http://www.alaskaerosion.com). For more information please contact the Corps of Engineers, project manager at (907) 753-5694 or email [Alaska.Erosion.POA@usace.army.mil](mailto:Alaska.Erosion.POA@usace.army.mil)





Date of Aerial Photo: 2 June 01

*YUKON RIVER*

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|  | Alaska District<br>Corps of Engineers<br>Civil Works Branch | - - - - Linear Extent of Erosion |  |  | Alaska Baseline Erosion<br>Fort Yukon, Alaska |  |
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