



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

ALASKA BASELINE EROSION ASSESSMENT

Erosion Information Paper - Tununak, Alaska

Current as of March 18, 2008

Community Information

Tununak (too-NOO-nuck; var. Tunanak), population 341, is on a small bay on the northeast coast of Nelson Island, 115 miles northwest of Bethel and 519 miles northwest of Anchorage. The community is unincorporated in the unorganized borough. Tununak is on a narrow isthmus of beach land, less than 15 feet above sea level, between Tununak Bay and Tununak River. The riverbank and shoreline are used for a variety of community activities including barge access, fishing and hunting, whaling and other cultural and social events, and driftwood collecting.

Description of Erosion Problem

The coast at Tununak is eroding along Tununak Bay and the bank is eroding along Tununak River. Coastal erosion reportedly is caused by storm surges, wind-driven waves, high tides, and melting permafrost. There have been 3 or 4 major erosion events on the coastal shoreline in the last 20 years. The annual rate of coastline erosion is estimated at 1 to 5 feet.

Seasonal fluctuations in river flows and water levels, flooding, ice jams, and melting permafrost all contribute to riverbank erosion. The riverbank reportedly is eroding at an estimated 1 to 2 feet per year. The Tununak River is eroding along the frontage road near the Tununak Bridge, which connects the community to the airport. The erosion site is 200 to 250 feet in length. The riverbank is about 50 feet high at the erosion site.

Potential Damages

Erosion damage has forced the community to reroute the road in recent years. The beach near the barge landing has eroded considerably during the last few years. The community constructed a gabion basket seawall along a portion of this area in 1984 to protect bulk fuel storage tanks, administration and storage buildings, and a subsistence harvest site. According to a letter request from the Native village of Tununak to the Corps, the seawall was damaged in a 1997 fall storm. The community received aid from the Federal Emergency Management Agency and the state Division of Homeland Security and Emergency Management to repair and install gabions and sandbags at 3 locations along the seawall following an October 2004 coastal storm. The project is under construction.

No protective measures have been installed to address erosion along the riverbank. Outbuildings and sheds, food storage structures, drying racks and smoke houses, the boat launch, boat storage, the post office, and the fishery office are less than 100 feet from erosion areas.

Photos and Diagrams

Photos taken in September 2003 provided by the Native village of Tununak are attached. A diagram depicting the linear extent of erosion in the community is also attached.

References

Alaska DOT/PF. 1984. *Task Force on Erosion Control Final Report*. Alaska Department of Transportation and Public Facilities.

Arctic Geo Resource Associates. 1987. *Community Profile: Tununak*. Prepared by Arctic Geo Resource Associates for the Department of Community and Regional Affairs.

Native Village of Tununak. 1997. *Letter request for Section 14 of the 1946 Flood Control Act assistance to the Alaska District U.S. Army Corps of Engineers*.

USACE. 2008. *Alaska Community Erosion Survey*, OMB approved number 07100001, expires September 30, 2009 administered to James James, Native village of Tununak tribal administrator, on March 18, 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 : Erosion at the Tununak bridge that connects to the airport, 2003.



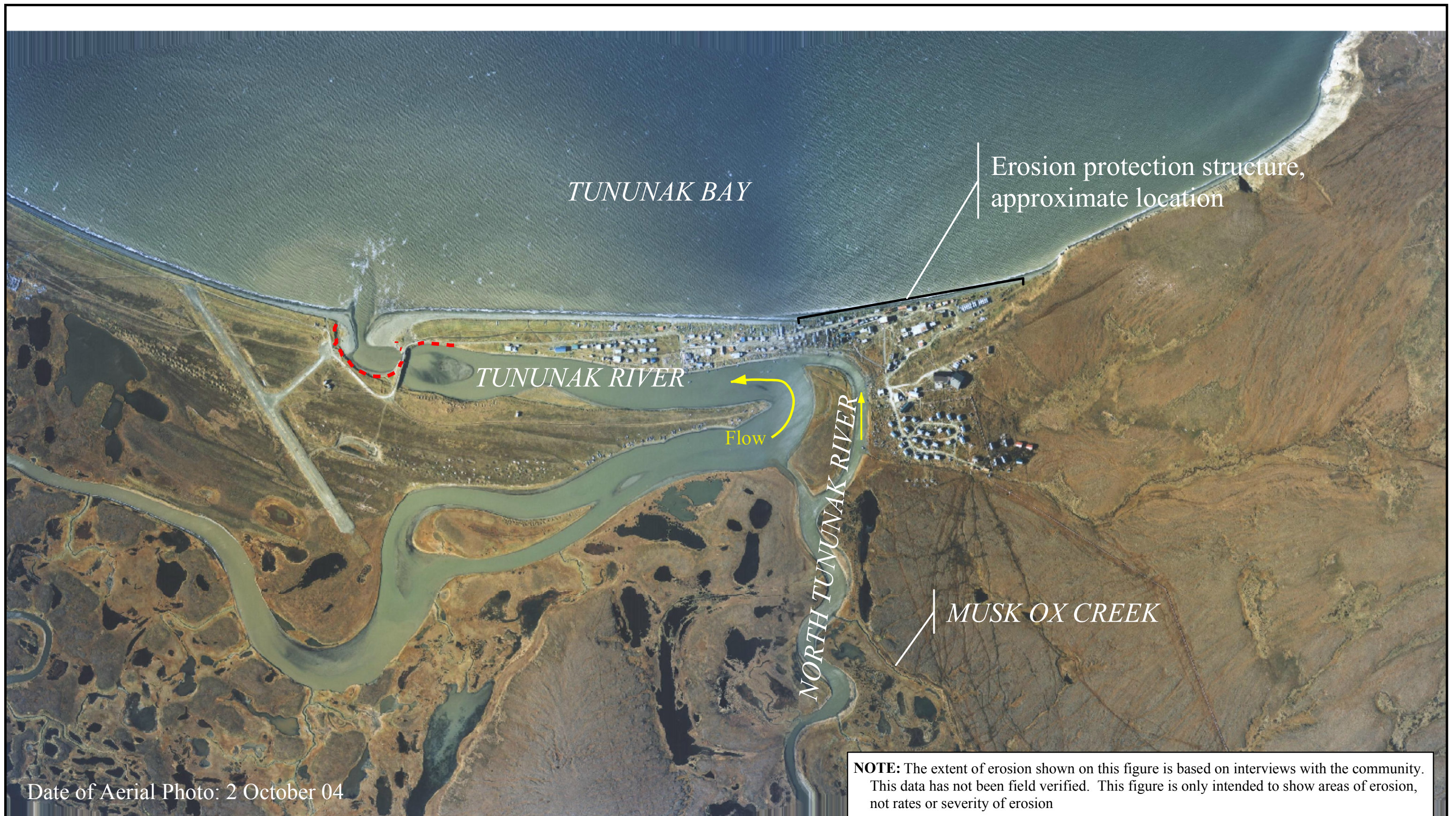
Photo 2: Erosion of the road to the airport, September 2003.



Photo 3: Bank behind the Post Office, 2003.



Photo 4: Bank near tribal office; Tununak River Bridge is in the background, 2003.



Alaska District
Corps of Engineers
Civil Works Branch

--- Linear Extent of Erosion



Alaska Baseline Erosion
Tununak, Alaska