



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

ALASKA BASELINE EROSION ASSESSMENT

Erosion Information Paper - Willow, Alaska

Current as of May 9, 2008

Community Information

Willow (WILL-oh), population 1,973, between mile 60 and 80.7 of the George Parks Highway, north of Houston. The community is unincorporated in the Matanuska-Susitna Borough and encompasses nearly 685 square miles of land. Nancy Lake State Recreation Area and Willow Creek State Recreation Area are both within the Willow community boundaries, as are numerous other lakes and streams. Almost 60 percent of the estimated 1,500 homes in Willow are vacant or are used seasonally.

The Susitna River is fed by the Susitna Glacier and other clear water streams. Some of the larger streams entering from the east (i.e. Willow community area), include Willow Creek, Little Willow Creek, and Kashwitna River. The Susitna River has a highly moveable bed and active bank erosion, but there is little development along the riverbanks. Deshka Landing and Susitna Landing boat launches provide the primary access to the Susitna River and its numerous western tributaries. Willow Creek is a highly productive salmon and trout stream with road access that both residents and visitors use heavily. Willow Creek Parkway provides paved road access from the Parks Highway to the mouth of Willow Creek's confluence with the Susitna River. Willow Creek receives intense fishing pressure, with hundreds of fishermen congregating along eroded streambanks on busy summer weekends.

Description of Erosion Problem

Erosion associated with flooding of Willow Creek is a reoccurring phenomenon. Historic flood-erosion events occurred in 1979, 1986, and 2006. The latter events were declared state and Federal disasters with both floods causing significant erosion along the Willow Creek bank and local roads. Erosion conditions are occasionally worsened when winter time glaciation with high water causes overland flow.

Two projects on Willow Creek below the Parks Highway Bridge provide in-stream and riparian habitat along both sides of degraded riverbank. A multi-year effort, in cooperation with the Matanuska-Susitna Borough, has restored about a mile of degraded habitats near the campground at Willow Creek's confluence with the Susitna River in 2002. Willow Creek upstream of the Parks Highway Bridge caused erosion in the Friday and Deneke Meadows Subdivisions. One home was lost about 20 years ago, reportedly during the 1986 flood. The Deneke Meadows Bridge washed-out during spring break-up in 2007, because the abutments were weakened in a 2006 flood. Matanuska-Susitna Borough records indicate the bridge sustained heavy debris damage during the 2006 flooding.

Potential Damages

Erosion is ongoing on Friday Drive and Kelly Circle along the north bank adjacent to Willow Creek and Stinson Drive. The Willow Chamber of Commerce reported a log blocked Willow Creek at one time, forcing flows into Iron Creek, a small tributary to the north.

Photos and Diagrams

Attached are photos of Willow Creek above and below the Parks Highway Bridge, provided by Russell Miller. The attached diagram shows the linear extent of erosion.

References

USACE. 1992. Community Information Form: Willow. Alaska District, U.S. Army Corps of Engineers.
USACE. 2008. Alaska Community Erosion Survey, OMB approved number 07100001, expires September 30, 2009 administered to Jim Huston, Willow Chamber of Commerce president, and Jim Norcross, chairman, Greater Willow road service area advisory board on May 7 and 9, 2008.
USFWS. Willow Creek Streambank Restoration. U.S. Fish and Wildlife Service, Southcentral Alaska Coastal Habitat Protection. http://Alaska.fws.gov/fisheries/fieldoffice/anchorage/habitat_projects.htm

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

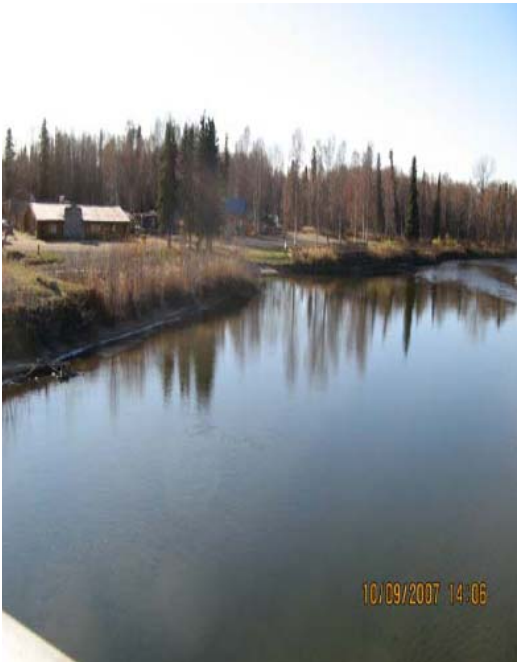


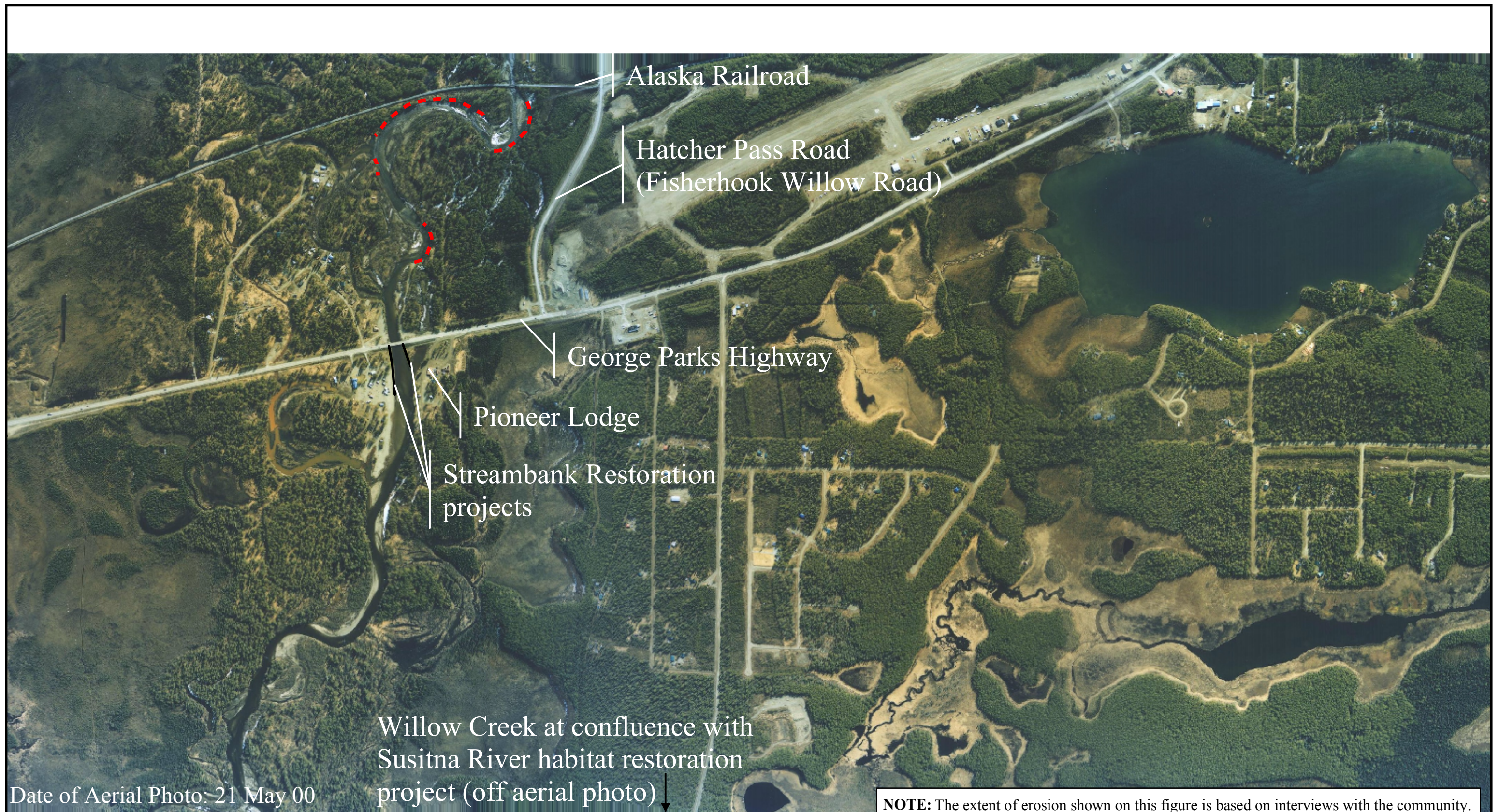
Photo 1: Riparian habitat protection installed along left bank Willow Creek; Pioneer Lodge is in background; photo courtesy of Russ Miller, 2007.



Photo 2: Elevated walkway and root wads installed along right bank Willow Creek downstream of Park's Highway Bridge; Willow Creek Lodge is out of photo to the right of project; photo courtesy of Russ Miller, 2007.



Photo 3: Willow Creek upstream of Parks Highway Bridge; photo courtesy of Russ Miller, 2007.



Alaska District
Corps of Engineers
Civil Works Branch

--- Linear Extent of Erosion



Alaska Baseline Erosion
Willow, Alaska