



U.S. Army Corps
of Engineers
Alaska District

ALASKA BASELINE EROSION ASSESSMENT

Erosion Information Paper - Skagway, Alaska

Current as of July 24, 2008

Community Profile Summary

Skagway (SKAG-way), population 854, is located in southeastern Alaska at the northernmost end of Lynn Canal, at the head of Taiya Inlet, 90 miles northeast of Juneau. It lies just west of the Canadian border at British Columbia, 108 road miles south of Whitehorse, and approximately 1,700 road miles northwest of Seattle, Washington. The Klondike Highway and Alaska Highway provide a connection south through British Columbia and the Yukon Territory to the lower 48 states, or north to interior Alaska. Skagway was incorporated in 1900 as a 1st class city in the territory of Alaska. In June 2007, voters approved dissolution of the City of Skagway and incorporation as a 1st class borough. The municipality of Skagway borough was incorporated on June 205, 2007, and will be transitioning over the next 2 years. The following information on erosion was obtained through telephone interviews and completion of an OMB Community Erosion Survey with the Skagway municipal manager and U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) engineer in December 2007.

Description of Erosion Problem

The Skagway municipal manager did not identify any current erosion problems in Skagway or Dyea. The Municipality of Skagway is in the process of completing repairs to the last section of the Skagway River dike that protects Skagway from flooding. The repair is 600-feet in length and is between 20th and 21st Avenue, near the airport. The old mining town of Dyea, on the Tayia River is within the corporate limits of the municipality of Skagway. A dwelling and a cabin with significant historical value were in danger of being eroded away by the Tayia River, and the NRCS helped protect the house and cabin by completing a 300 to 400-foot protection project.

Development of the Skagway city townsite has required the Skagway River to be channelized to control channel migration and flooding, and reduce potential erosion of property along the banks. According to the *Skagway Coastal Management Plan*, beginning in the 1940s, flood control dikes have been built on both sides of the Skagway River, through the townsite and to about 1.5 miles upstream. The projects have involved cooperative efforts between the Corps, private landowners, and the Department of Transportation and Public Facilities. The severe floods of 1943-1944 caused extensive damage to the dikes and washed out a section of the breakwater. Other major floods occurred in the years 1901, 1919, 1927, 1936, 1949, and 1967. Additional repairs to the dikes were made in 1945, 1951, and 1967.

The *Skagway River Area Meriting Special Attention* (AMSA) portion of the 2005 *Skagway Coastal Management Plan* states that the hydraulic capacity of the Skagway River remains of great local concern. The plan recognizes that flooding from the Skagway River may potentially

result from heavy rains, rapid snow melt, earthquakes, or the sudden breakout of a glacier-dammed lake. Also, human activity such as control or diversion of waterways or development in the floodplain can magnify flooding problems.

Potential Damages

No potential erosion damages were identified by those interviewed for the community survey. Skagway participates in the National Flood Insurance Program, administered by Federal Emergency Management Agency (FEMA). This program makes flood insurance and disaster assistance available to communities such as Skagway that adopt and enforce floodplain management ordinances. As a participant in this program, Skagway has adopted flood control regulations and adopted ordinances to oversee building activity in the Skagway River floodplain through the building review process. The Municipality of Skagway recently completed the final phase of dike work on the Skagway River which will greatly reduce the potential for flooding. The work included installation of revetments and dike structures on both sides of the river for 3,800 feet upstream of the Klondike Highway Bridge to retain the 100-year flood revetments were placed along existing embankments where possible. In other areas, dikes were constructed 10 to 20 feet high (depending on local topography) and 30 to 40 feet wide at the base. Dike improvements included tying into the existing dike on the west side of the river (approximately 3,800 feet upstream of the bridge) and rising and reinforcing that structure along its 1,400-foot length where necessary. Programmed gravel mining will be conducted to maintain a low flow channel and to direct flow away from the dikes to assure integrity of the dike structures. In addition to channel maintenance, regular dike inspection and periodic maintenance will be conducted. The Municipality is now in the process of initiating a flood insurance rate map revision for the Skagway River to show the reduced flood zone.

Photos and Diagrams

A photo is attached, taken from the *City of Skagway, Skagway River AMSA Plan* prepared by Sheinberg and Associates. The attached diagram shows the harbor area and mouth of the Skagway River, and no erosion is indicated.

References

- HUD. 1976.** Flood Insurance Study, Skagway, Alaska.
Montgomery-Watson. 1997. *Skagway River Flood Control Master Plan.*
Sheinberg Associates. 2005. *Skagway Coastal Management Plan including the Skagway AMSA Report.*
USACE. 1974. *Skagway Navigation and Flood Control Report.* Alaska District, U.S. Army Corps of Engineers.
USACE. 2007. *Alaska Community Erosion Survey, OMB approved number 07100001,* expires September 30, 2009 administered to Alan Sorum, Skagway manager, and Aimee Rohner, USDA, NRCS, week of December 3, 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: Skagway River valley, looking upstream. No photo date.



LYNN CANAL & TAIYA INLET

SKAGWAY RIVER

Skagway River east side is
diked up river, not shown
on aerial photo.

Flow

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

Date of Aerial Photo: 21 May 04