



U.S. Army Corps
of Engineers
Alaska District

ALASKA BASELINE EROSION ASSESSMENT

Erosion Information Paper - Nome, Alaska

Current as of January 7, 2008.

Community Information

Nome, population 3,540, is on the Bering Sea on the south coast of the Seward Peninsula. It is about 100 miles south of the Arctic Circle, 160 miles east of Russia, and 540 miles northwest of Anchorage. Nome is incorporated as a 1st class city within the unorganized borough. The eroding Snake River bank contains boat ramps, snowmachine ramps, ATV ramps, barge access, and boat storage. Community activities along the shore include fishing, hunting, fish processing, beachcombing, cultural/social events, and driftwood collecting.

Description of Erosion Problem

Nome has both coastal and river erosion, primarily caused by storm surges with high tides and winds on Norton Sound. Two jetties, 200 and 400 feet long, were built between 1919 and 1935 to stabilize the Snake River mouth and estuary. The jetties contributed to beach erosion during severe storms in the late 1930s and 1940s.

The new harbor entrance channel is reportedly causing erosion of the Snake River bank along Seppala Drive, which follows the Snake River to where it empties into the Nome Boat Harbor at Belmont Point. The eroding bank is 10 feet high. Alaska Department of Transportation and Public Facilities (DOT&PF), funded through Federal Emergency Management Agency, was used in the recent past as an erosion protection measure. The present erosion area along Seppala Drive is less than a 100 feet from the roadway; utility poles, telephone and cable lines, the airport runway, and airport facilities. The DOT&PF is planning to repair Seppala Drive in 2008.

Additional erosion problems are accruing along the Nome-Council Road at the popular subsistence area locally called "Nook" at the southern extent of Safety Sound, and within the Nome city limits just east of Nome abutting the locally called "east beach" area. The road is used to access subsistence camps. Road substrate has been subject to significant erosion and is impacting road quality severely. During the recent coastal storms, listed below, portions of roads were closed to vehicle traffic resulting in stranded homes and property stressing Nome residents.

There were 3 major coastal erosion events during the last 20 years: in October 1994, September 2004, and October 2005, each involving about 600 linear feet along the beach. A seawall, constructed in 1949 and completed in 1951, extends 3,350 feet from the existing entrance channel of the port, to the east along Front Street. The seawall is a rock-riveted slope at a height of over 18 feet. The rocks used for the seawall came from Cape Nome, 13 miles east of Nome, at an estimated cost of \$1 million. The state completed a 3,750 foot eastern extension of the seawall in 1993 to control significant erosion beyond the eastern edge of the seawall. The remaining beach

in front of the wall has narrowed and become steeper, resulting in the potential for waves striking the wall to be larger. The City of Nome is responsible for maintaining the seawall. Annual maintenance is necessary.

Potential Damages

The community reported that repairs by DOT&PF will likely be insufficient and that Seppala Drive will likely be damaged in future storm events. Sections of the beach that remain unprotected by the seawall are susceptible to erosion.

Photos and Diagrams

Photos provided by the community showing storm surge are attached. A diagram depicting the linear extent of is also attached.

References

City of Nome. 2003. *Hazard Mitigation Plan*. Prepared by the Nome Planning Commission.

USACE. 2008. *Alaska Community Erosion Survey*, OMB approved number 07100001, expires September 30, 2009 completed by Randy Romenesko, former Nome city manager on January 7, 2008.

Additional Information

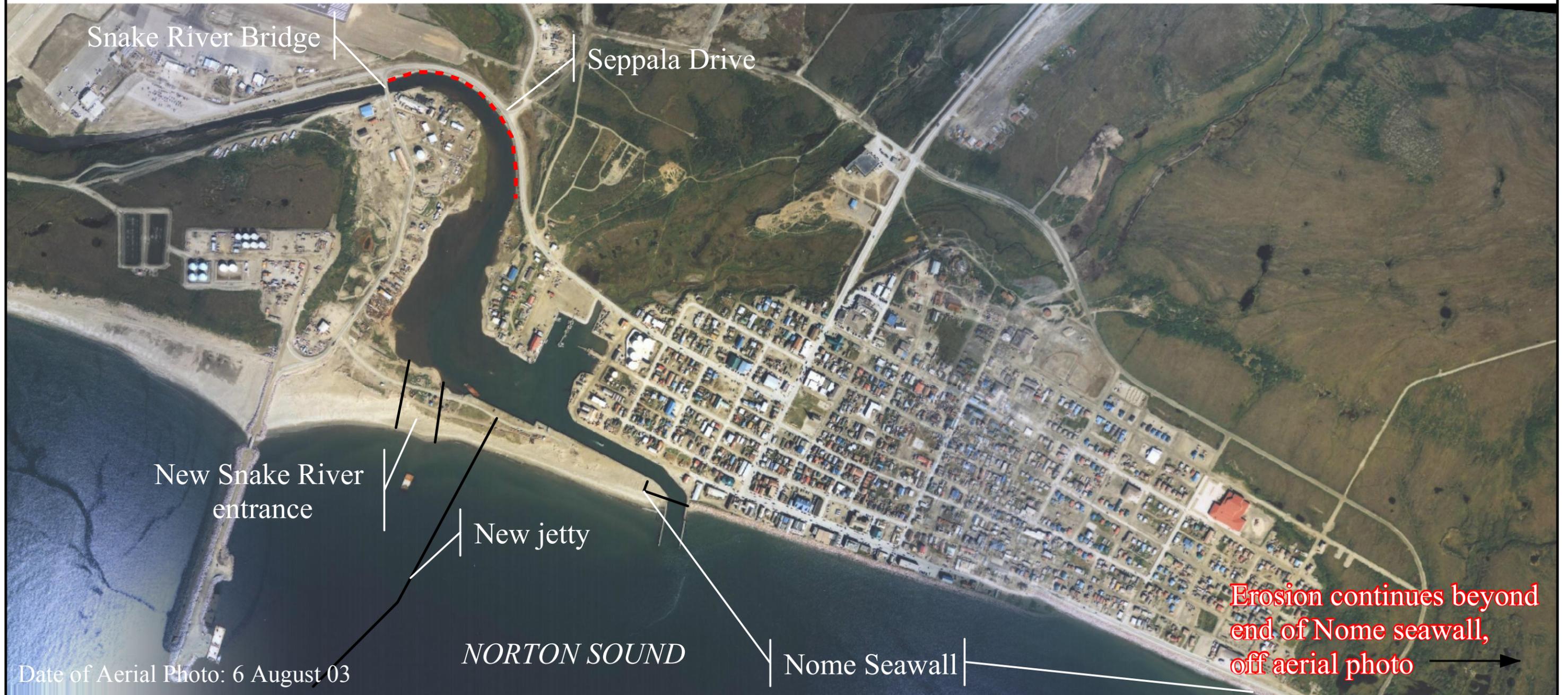
This information paper, as well as those for other communities, can be accessed on the internet at www.alaskaerosion.com. For more information please contact the Corps of Engineers, project manager at (907) 753-5694 or email Alaska.Erosion.POA@usace.army.mil



Photo 1: Storm surge on Seppala Drive looking north away from Harbor towards the airport; photo courtesy of City of Nome, October 2004.



Photo 2: Photo of the October 2004 storm from the cover of the *Nome All-Hazards Plan*; Photo by Megan Hahn.



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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