

KIVALINA PRESENTATION

“Climate Change Sub-Cabinet
Immediate Action Workgroup”

By Colleen E. Swan
Tribal Administrator
Native Village of Kivalina



FIRST SCHOOL



Reindeer Herding



FIG. 2.—ROUNDED-UP HERD.

050611

Photographed at Norton Sound in the summer of 1924. When reindeer are rounded up, even in the open, they crowd into a compact mass like a herd of sheep.



Reference: *Excerpts from "Reindeer in Alaska," Seymour Hadwen, Chief Veterinarian and Parasitologist, and Lawrence J. Palmer, In Charge of Grazing Investigations, Bureau of Biological Survey, United States Department of Agriculture, Bulletin No. 1089, Washington, D.C., September 22, 1922 (pp. 33-52). [Figures and photos to be added.]*

http://www.alaskool.org/projects/reindeer/history/usda1922/pl_xvifig2.jpg

Traditional whale hunt



Primary subsistence food Fish and bearded seal

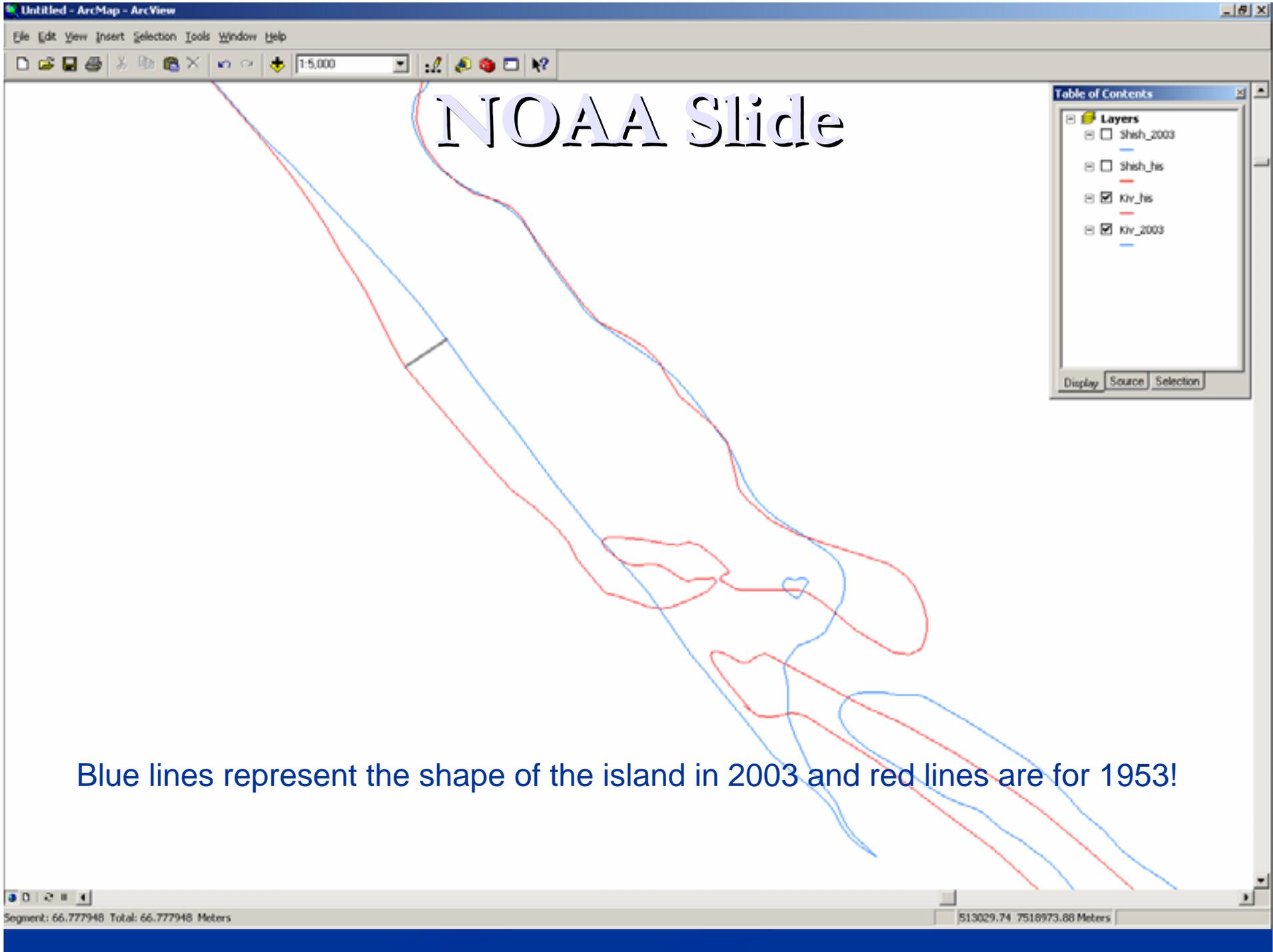


Photos used by permission of owner Austin Swan Sr. and Myrtle Adams, Noatak

Kivalina – the island



NATURAL EROSION



NOAA Slide

Blue lines represent the shape of the island in 2003 and red lines are for 1953!

1939



Power poles - 2004





AVEC September 25, 2004

Power line poles have been removed



Principal's housing unit - 2004



October 2004



September 21, 2005



September 21, 2005



September 24, 2005



Airport-uncompromised area 2004



September 22, 2005 Airport





RELOCATION DISCUSSIONS

In the early years!



Waves over-topping

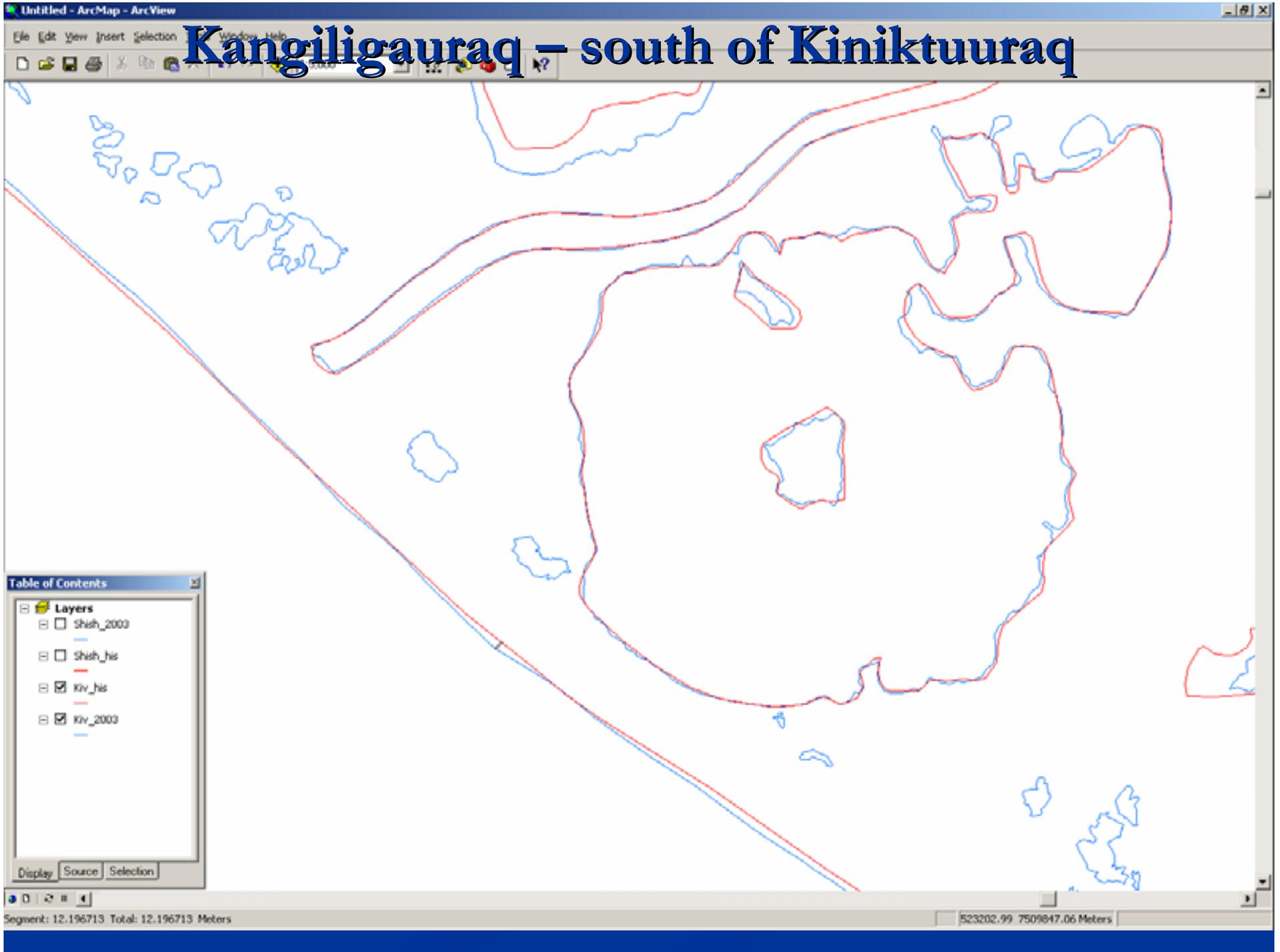




RELOCATION DISCUSSION

Resumed!

Kangiligauraq – south of Kiniktuuraq









GLOBAL WARMING

January 2007 rain



The January rain is not a natural occurrence!



Oct. 29 - Unfrozen sea



November 4, 2007



Wulik River sink hole 2006



LAND EROSION

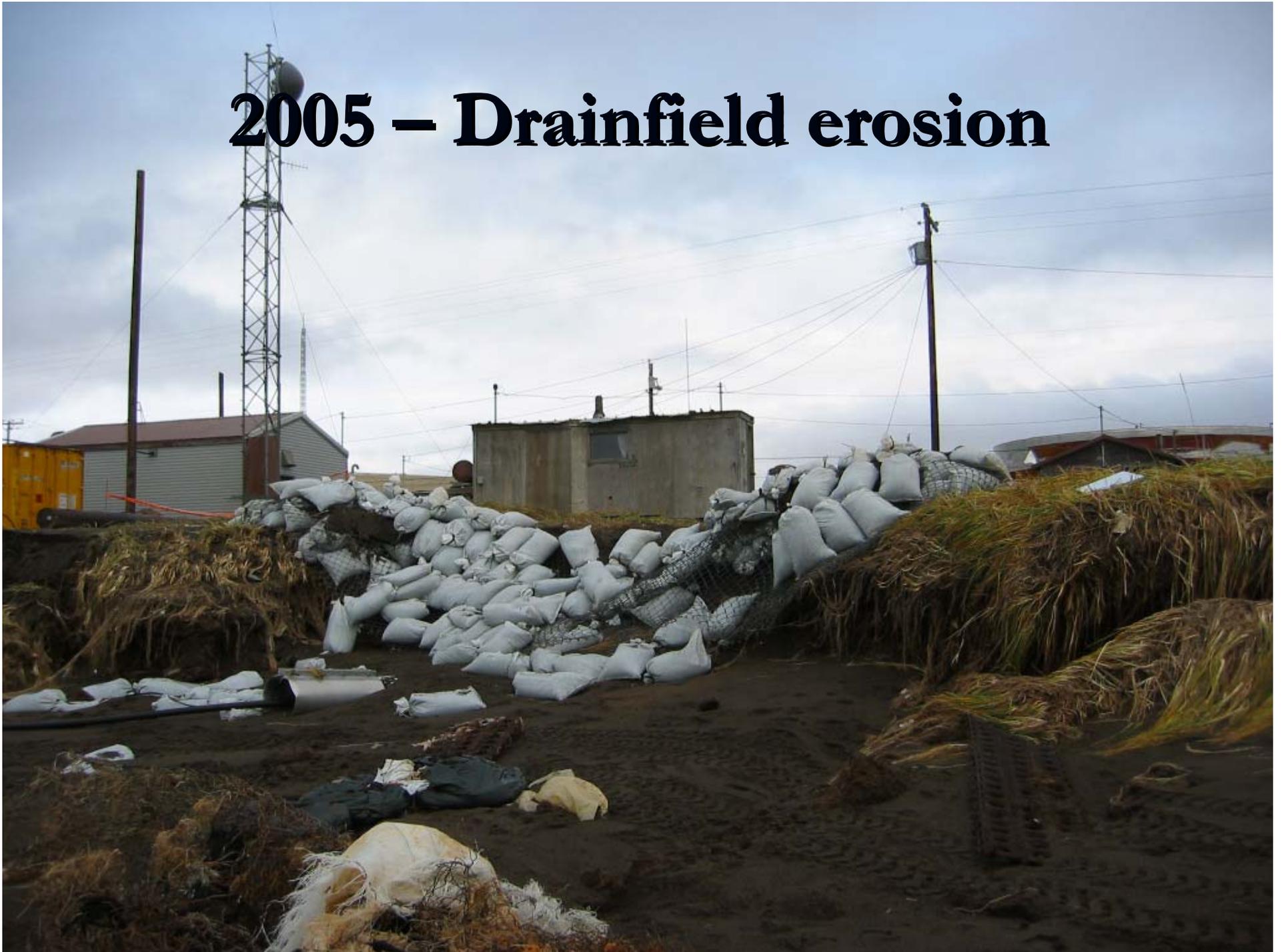
Laundry facility drain field



Empty cages



2005 – Drainfield erosion







EROSION PROTECTION MEASURES

**George Cannelos – Denali Comm.
Senator Ted Stevens**









October 2006 Storm



October 15, 2006



Senator Ted Stevens and various others assessing the damage to the seawall.



NATIVE VILLAGE OF KIVALINA

Response

US Army Corp and others





26 / 06 / 2007

ALTERNATIVE PLANS



Meeting with Crane Johnson,
engineer for US Army Corp of Engineers

Reppi Swan, Enoch Adams Jr., and Colleen Swan, Tribal Administrator





**EMERGENCY
EROSION
PREVENTION
MEASURES**

Volunteers laying 55 gal drums





Airplane wings ready for use







**POSSIBLE
SOLUTIONS AND
AVAILABLE
RESOURCES**

■ **Frank H. Murkowski**
GOVERNOR STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU November 29, 2006 ADMINISTRATIVE ORDER NO. 231

■ **FINDINGS**

- I, Frank H. Murkowski, Governor of the State of Alaska, make the following findings:
- During the period October 11, 2006, through October 13, 2006, a fall sea storm with sustained high surf and storm surge caused severe wave damage and coastal erosion in the City of Kivalina in the Northwest Arctic Borough.
- The Northwest Arctic Borough and the City of Kivalina, through local declarations, each dated October 19, 2006, requested assistance to repair the seawall and protect community infrastructure. The Alaska Village Electric Cooperative, Inc. (AVEC), a private nonprofit utility cooperative, has also requested state disaster assistance for emergency protective measures required by the United States Coast Guard (USCG) for the AVEC fuel tank farm in the City of Kivalina.
 - The Department of Military and Veterans' Affairs, Division of Homeland Security and Emergency Management (DHS&EM); Northwest Arctic Borough; and the United States Army Corps of Engineers, Alaska District (USACE), performed a joint damage assessment of the seawall. This assessment revealed severe structural damage and substantial material loss along several hundred feet of the seawall, which threatens critical infrastructure in the City of Kivalina, including the AVEC bulk fuel tank farm. The assessment also determined that the seawall, as constructed, did not meet intended shoreline protection goals and should not be replaced as originally built.
 - Based on the findings of the joint DHS&EM, Northwest Arctic Borough, and USACE damage assessment, as supported by recommendations from the November 6, 2006, Disaster Policy Cabinet meeting, I have determined that this incident poses a direct and imminent threat of sufficient magnitude and severity to justify state action.
 - 5. I find it appropriate that financial assistance from the disaster relief fund be expended in accordance with AS 26.23.020(h) to cover eligible emergency

- response costs and emergency protective measures for the Northwest Arctic Borough, AVEC, and the City of Kivalina, including costs incurred for spill response equipment and supplies. Costs of permanent repairs to or replacement of the seawall are not appropriate for funding from the disaster relief fund.

■ **ORDER**

Under the authority of art. III, sec. 1 of the Alaska Constitution and AS 26.23.020(h) and AS 26.23.050, I, Frank H. Murkowski, Governor of the State of Alaska, hereby order that:

Consistent with AS 26.23.010-AS 26.23.220 (Alaska Disaster Act) and AS 26.23.020(h), expenditures be made from the disaster relief fund to cover eligible emergency response and emergency protective measures costs for the Northwest Arctic Borough, AVEC, and the City of Kivalina not covered by alternative financing sources. The amounts of these expenditures are not to exceed \$235,000, including administrative fees.

Consistent with Administrative Order No. 175, I further direct the Department of Commerce, Community, and Economic Development to act as the state coordinating agency to coordinate with other state and federal agencies to propose long-term solutions to the ongoing erosion issues in the City of Kivalina and other affected coastal communities in this state

This Order takes effect immediately.

■ DATED at Juneau, Alaska, this 29th day of November, 2006

■ /s/Frank H. Murkowski
Governor



**US Army Corps
of Engineers**
Alaska District

Environmental Assessment and Finding of No Significant Impact

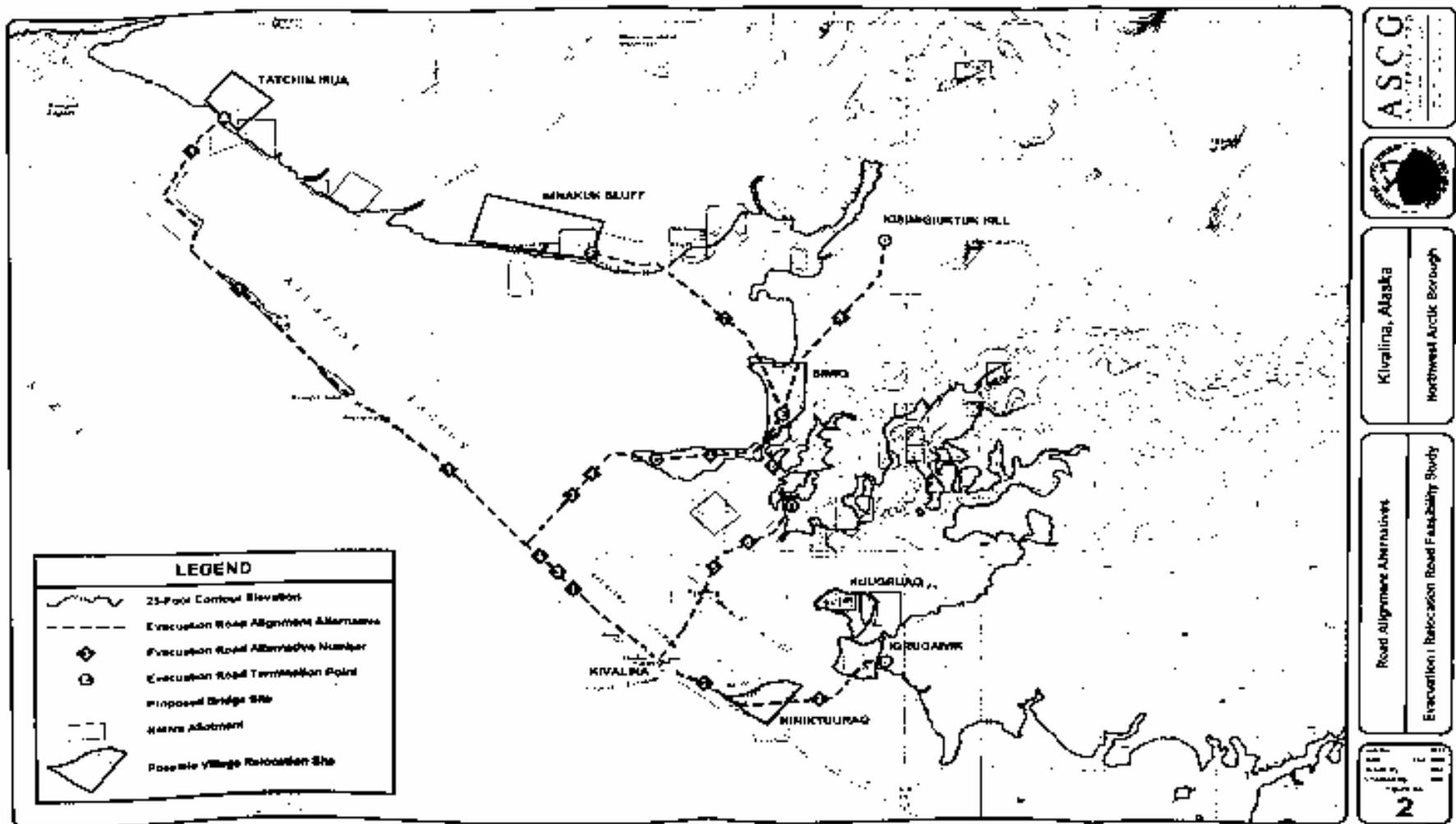
Section 117 Expedited Erosion Control Project Kivalina, Alaska



Photo by Jim Kulas
NANA Corp. 2006

September 2007

Proposed Evac Routes for road



FINAL SUBMITTAL



***RECONNAISSANCE GEOTECHNICAL
INVESTIGATION
KIVALINA RELOCATION***

KIVALINA, ALASKA

**CONTRACT NO. DACA85-99-D-0009
DELIVERY ORDER NO. 0003**

Prepared For:

**U.S. ARMY ENGINEER
DISTRICT, ALASKA
P.O. Box 898
Anchorage, Alaska 99506-0896**

January, 2000

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**US Army Corps
of Engineers**

Alaska District

Alaska Village Erosion Technical Assistance Program

**An Examination of Erosion Issues in the Communities of Bethel,
Dillingham, Kaktovik, Kivalina, Newtok, Shishmaref, and
Unalakleet.**

April 2006

RECOMMENDATIONS





Meeting with Lt. Governor Sean Parnell!





Meeting with FEMA and various others!

Port Site Facility



Perma-frost issues

