



# Lower Brule Reservation, SD – Monitoring Soil Bank Erosion using Unmanned Aerial Systems



August 22-26, 2011



GPS coordinate collection – survey panels used for ground control

Bank erosion along the Missouri River

The Lower Brule Sioux Tribe (LBST) Environmental Protection Office has asked the USGS for assistance in monitoring erosion of the Missouri River shoreline on the Lower Brule Reservation. It is estimated, the Reservation is losing shoreline at a rate of approximately 8 feet per year in some locations.



The Raven UAS was successfully launched from a boat on the Missouri River to reduce flight time to given targets



Raven UAS ground control at the Lower Brule Reservation, SD with chase boats prepared for operations



Natural color video image captures of the river bank



Natural color video images georeferenced to shoreline data.

The Department of the Interior – U.S. Geological Survey, Lower Brule Sioux Tribe (LBST) Environmental Protection Office, the Aviation Management Directorate, in coordination with the Federal Aviation Administration, performed the forth small Unmanned Aerial System proof-of-concept operation to collect data for monitoring erosion of the Missouri River shoreline on the Lower Brule Reservation. For more information: <http://uas.usgs.gov>

