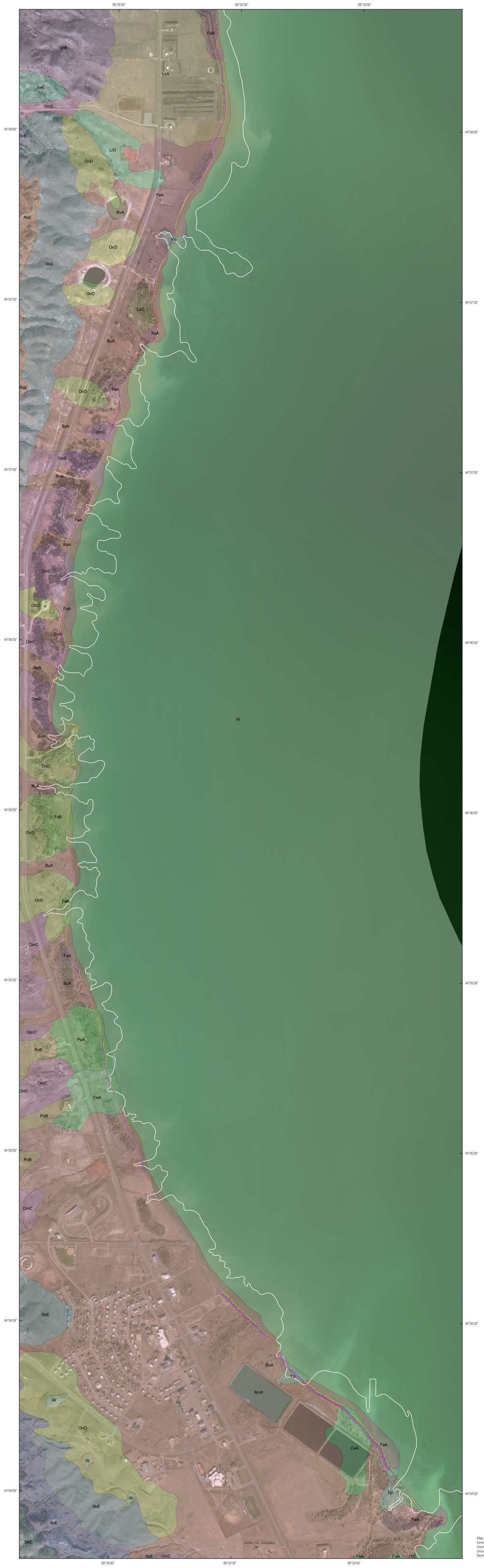
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Prepared in cooperation with the
Lower Brule Sioux Tribe

Scientific Investigations Report 2018–5058
Location of sites—PLATE 1
Thompson, R.F., and Stamm, J.F., 2018, Shoreline erosion at selected areas along Lake Sharpe on the Lower Brule Reservation, South Dakota, 1966–2015



This plate can be opened using Adobe Acrobat or Acrobat Reader software. Instructions in this paragraph are for using tools available in Adobe Acrobat Reader 2017, and may need to be modified for other Adobe software versions. Within this geo pdf, the 7-mile reach bank lines digitized from real-time kinetic-collected bank locations for each date are displayed against base-map imagery as lines of differing colors. A layers tool (accessible by clicking on the layers icon near the upper left edge) can be used to toggle which data layers are displayed. Clicking on the layers icon opens a panel that lists the layers present in the figure. Clicking on the arrow near the layers folder will expand the folder and list each layer individually. Each layer has an eye icon. Clicking on the eye icon for a specific layer allows that layer to be turned on or off. The plus and minus buttons (or the zoom drop-down box), together with panning, can be used to zoom in to an area of interest. A measuring tool is available within Acrobat Reader. Select the Tools tab near the top of the page, then click on Measure. This tool can be used to measure eroded distances between bank lines at any location within the 7-mile reach. To use this tool, click on Measuring Tool within the Measure menu. Then click a point where the distance measurement should begin, and click a second point where it should end. After clicking the second point, a Geospatial Distance Tool window will appear that displays the distance between the two clicked points. Imagery from the base map can be used to determine the locations of features and land-cover types that may affect erosion, and the soils layer may be used to compare eroded distances to soil types.

EXPLANATION

- November 2010 bankline
- March 2011 bankline
- November 2011 bankline
- February 2012 bankline
- May 2012 bankline
- August 2012 bankline
- November 2012 bankline
- November 2015 bankline
- 1966 shoreline

Soil symbol key

- BuA
- CeA
- FaA
- FaB
- Fp
- LoA
- LoB
- LoC
- LrD
- M-W
- OIC
- OmC
- OnD
- PoA
- PoB
- RsE
- SbE
- ScE
- SeE
- ShE
- W

MUSYM	Description
BuA	Bullcreek clay, 0 to 6 percent slopes
CeA	Carter silt loam, 0 to 4 percent slopes
FaA	Fairlo silt loam, 0 to 3 percent slopes
FaB	Fairlo silt loam, 3 to 6 percent slopes
Fp	Norway loamy fine sand
LoA	Lowry silt loam, 0 to 2 percent slopes
LoB	Lowry silt loam, 2 to 6 percent slopes
LoC	Lowry silt loam, 6 to 9 percent slopes
LrD	Lowry-Sully silt loams, 9 to 25 percent slopes
M-W	Miscellaneous water
OIC	Opal clay, 6 to 9 percent slopes
OmC	Opal-Chantier clays, 2 to 9 percent slopes
OnD	Opal-Sansarc clays, 6 to 15 percent slopes
PoA	Promise clay, 0 to 3 percent slopes
PoB	Promise clay, 3 to 6 percent slopes
RsE	Rock outcrop-Sansarc complex, 9 to 40 percent slopes
SbE	Sansarc-Opal clays, 9 to 40 percent slopes
ScE	Sansarc-Rock outcrop complex, 9 to 40 percent slopes
SeE	Sansarc-Schamber complex, 9 to 40 percent slopes
ShE	Schamber loam, 6 to 40 percent slopes
W	Water

0 405 810 1,620 FEET
0 115 230 460 METERS

Universal Transverse Mercator, Zone 14 North
North American Datum of 1983

SHORELINE EROSION AT SELECTED AREAS ALONG LAKE SHARPE ON THE LOWER BRULE RESERVATION IN SOUTH DAKOTA, 1966–2015

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