

The background of the slide is a photograph of a sunset or sunrise over a large body of water. The sky is filled with dark, dramatic clouds, with a bright orange and yellow glow from the sun just below the horizon. The water in the foreground is dark and reflects the light from the sky. The overall mood is serene yet powerful.

Sedimentation Impacts on the Big Muddy

Association of Western State Engineers

Lawrence, Kansas

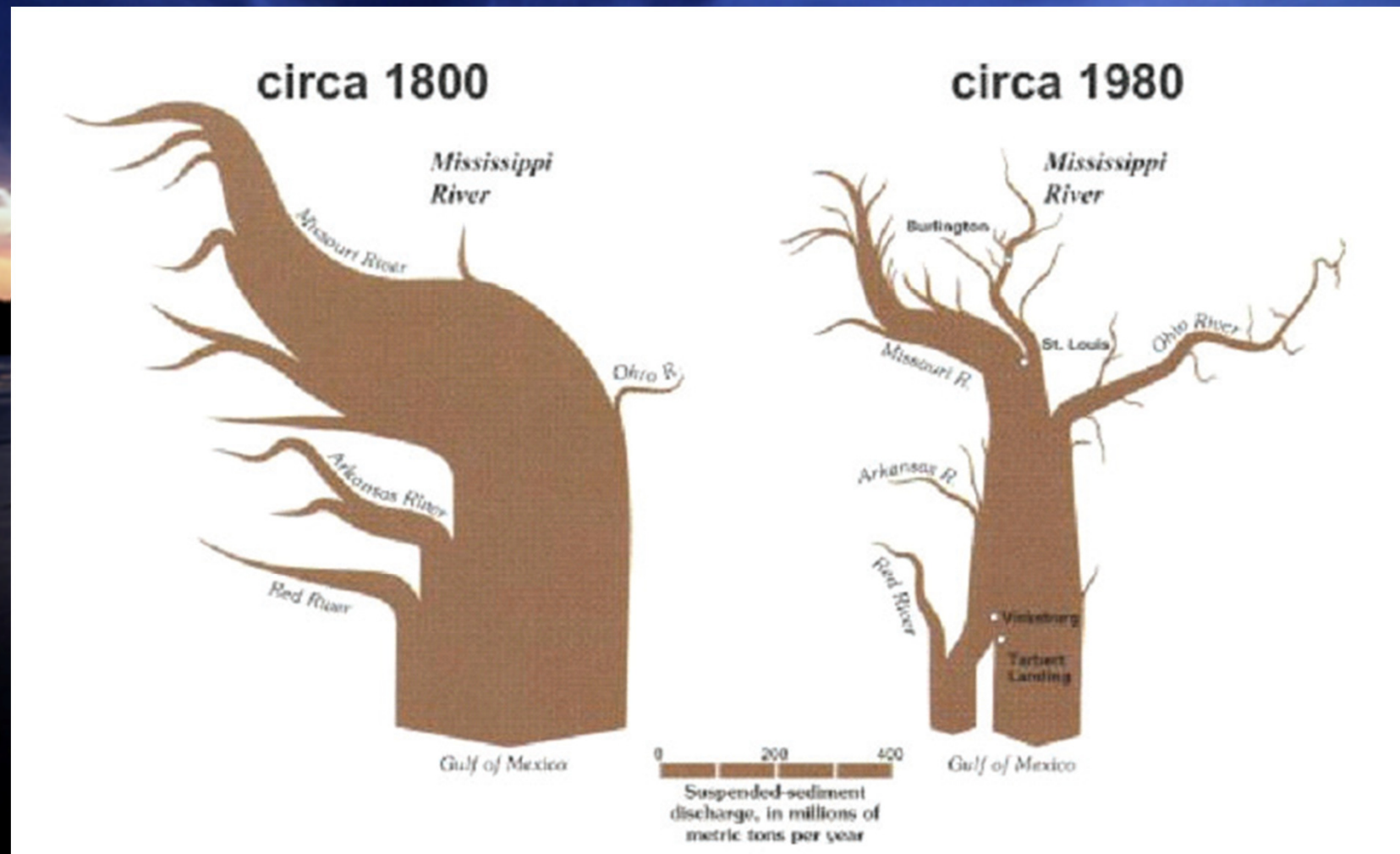
October 16-19, 2011



Reservoir Capacity and Sediment Loading

- Lake Oahe
 - 23.1 maf, sediment load-19,800 af, 1170 yrs
- Lake Sharpe
 - 1.8 maf, sediment load-4300 af, 430 yrs
- Lake Francis Case
 - 5.4 maf, sediment load-18,300 af, 250 yrs
- Lewis and Clark Lake
 - 0.47 maf, sediment load- 2600 af, 180 yrs

Impacts of Reservoir Construction

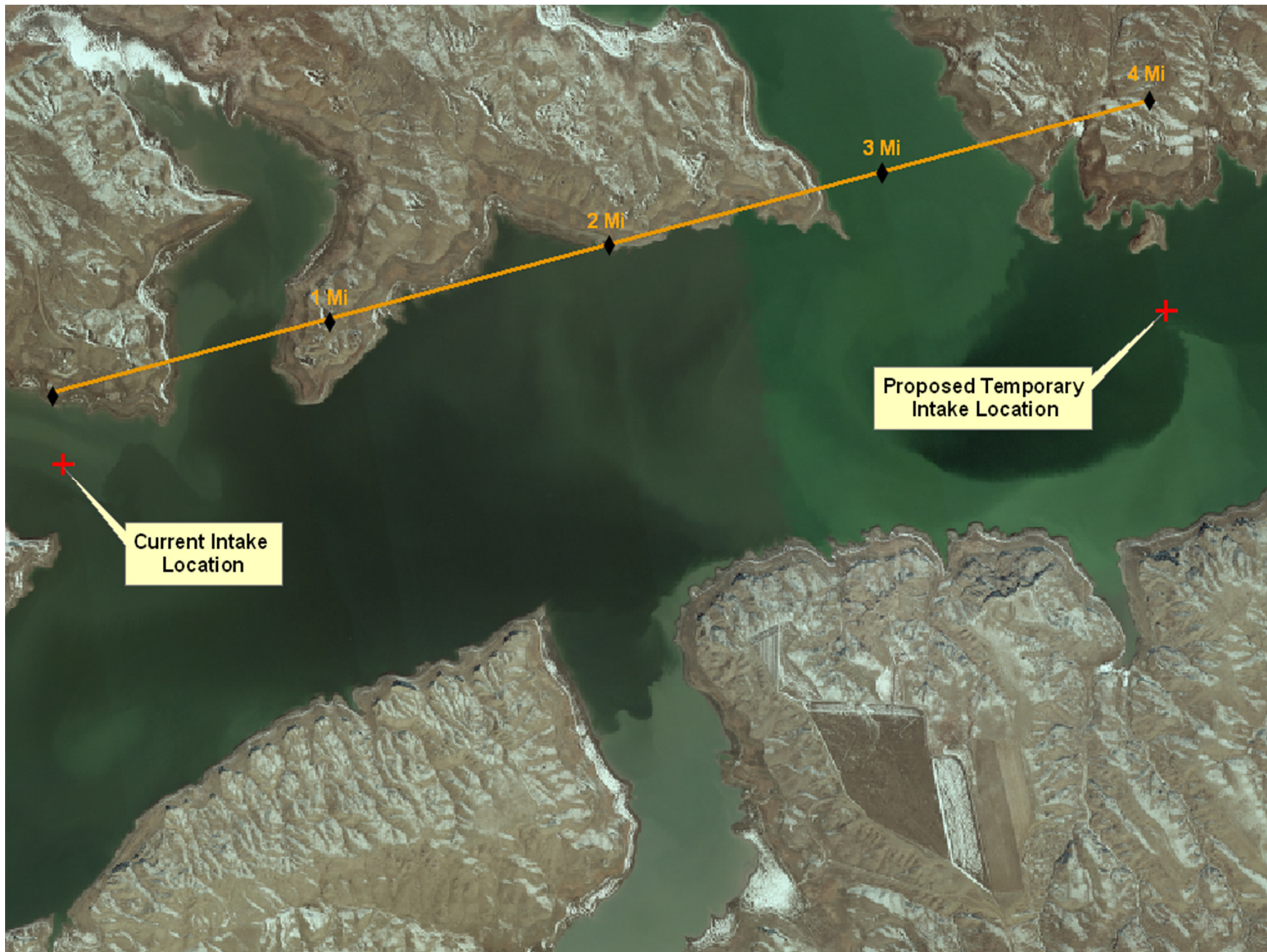


Sediment Transport



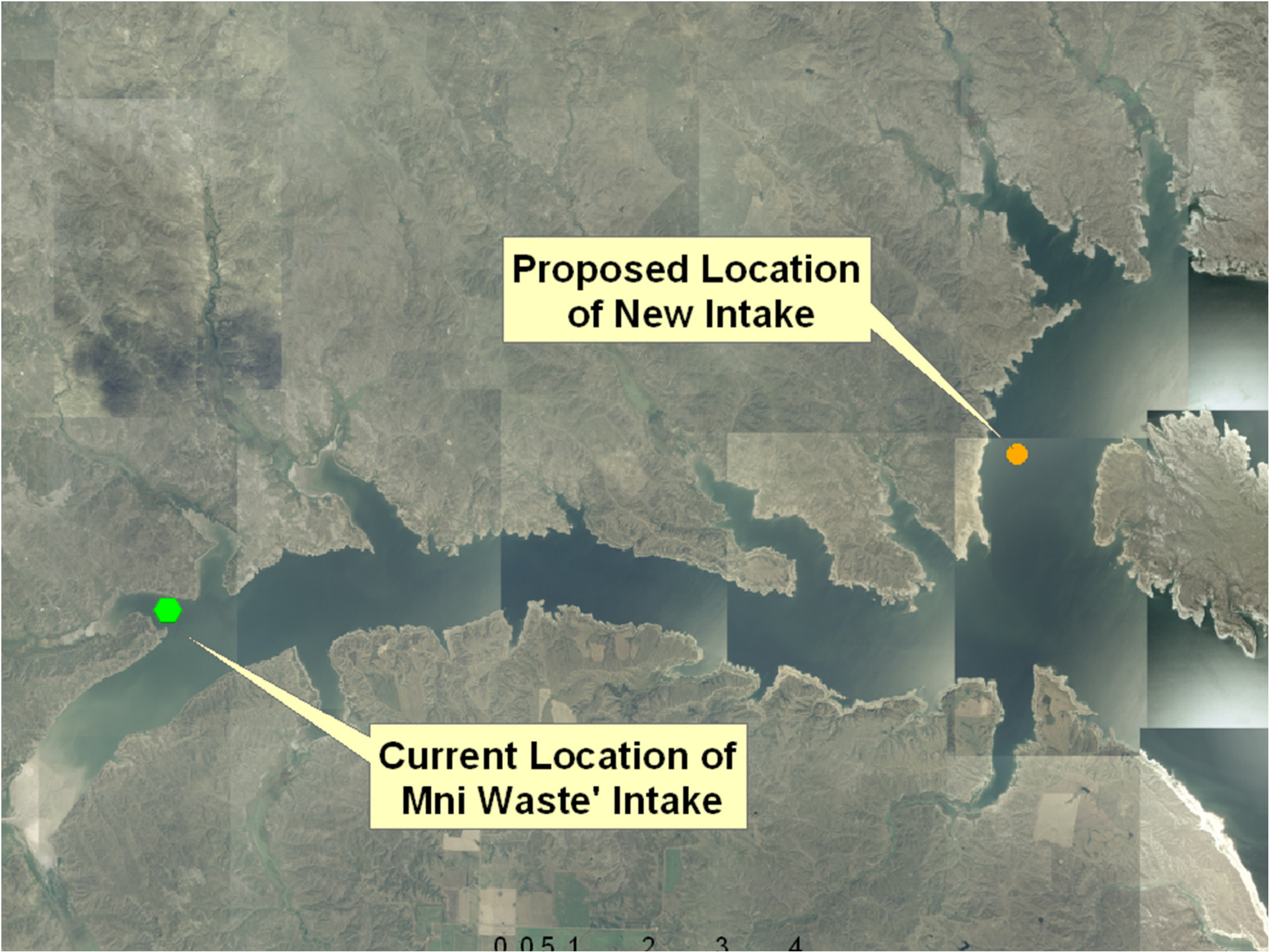
Mni' Waste Rural Water Intake





Mni' Waste Rural Water Intake





A satellite map of a large lake, likely Lake Superior, showing its complex shoreline and surrounding land. Two specific locations are highlighted with colored dots: a green dot on the western shore and an orange dot on the eastern shore. Yellow callout boxes with leader lines point to each dot, identifying them as the current and proposed intake locations. The map is composed of several rectangular satellite image tiles.

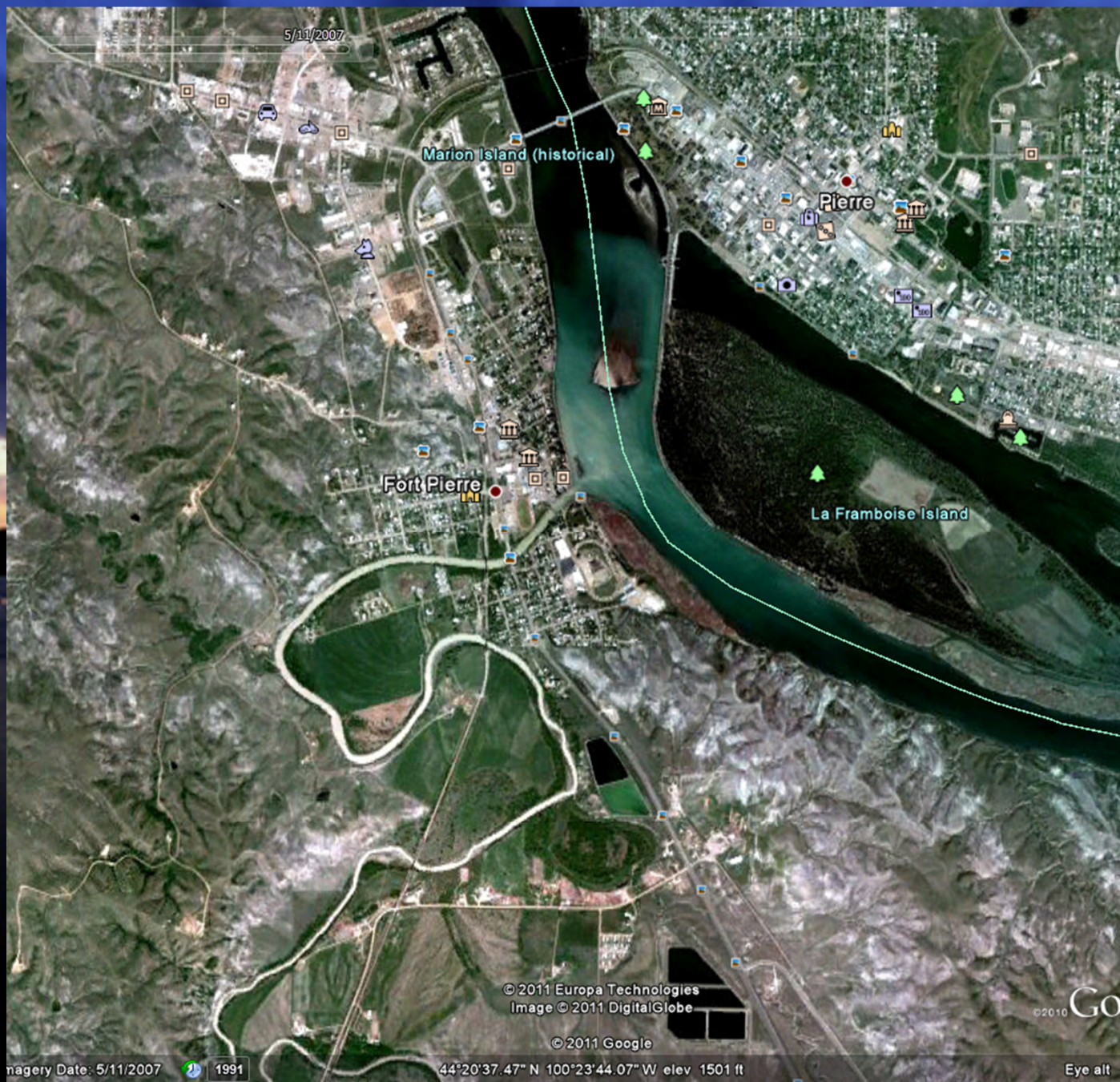
**Proposed Location
of New Intake**

**Current Location of
Mni Waste' Intake**

0 0.5 1 2 3 4

Bad River





5/11/2007

Marion Island (historical)

Pierre

Fort Pierre

La Framboise Island

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Image © 2011 DigitalGlobe

© 2011 Google

imagery Date: 5/11/2007



1981

44°20'37.47" N 100°23'44.07" W elev 1501 ft

Go

Eye alt



Bad River Sediment





5/11/2007

Image U.S. Geological Survey
Image © 2011 DigitalGlobe
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Go

Imagery Date: 5/11/2007



1991

44°20'50.78" N 100°19'15.93" W elev 1426 ft

Eye alt

White River Delta

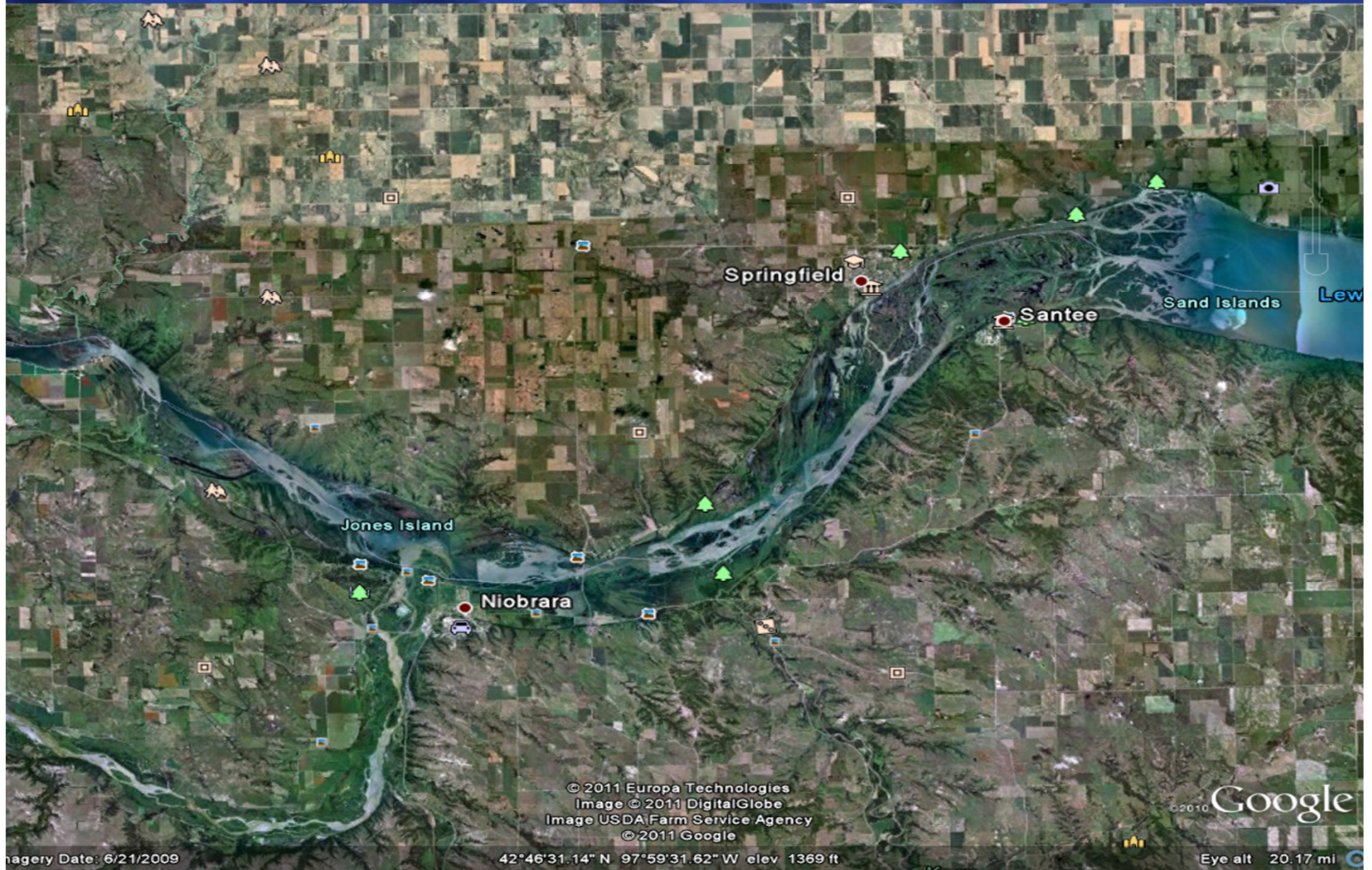




Gavins Point Dam



Lewis and Clark Lake





Aerial photo of Missouri River Shoals, SD



Closing Thoughts

- Sedimentation will continue to create problems in SD reservoirs
- Application of BMP will only partially address issues
- Big Muddy has always been muddy



