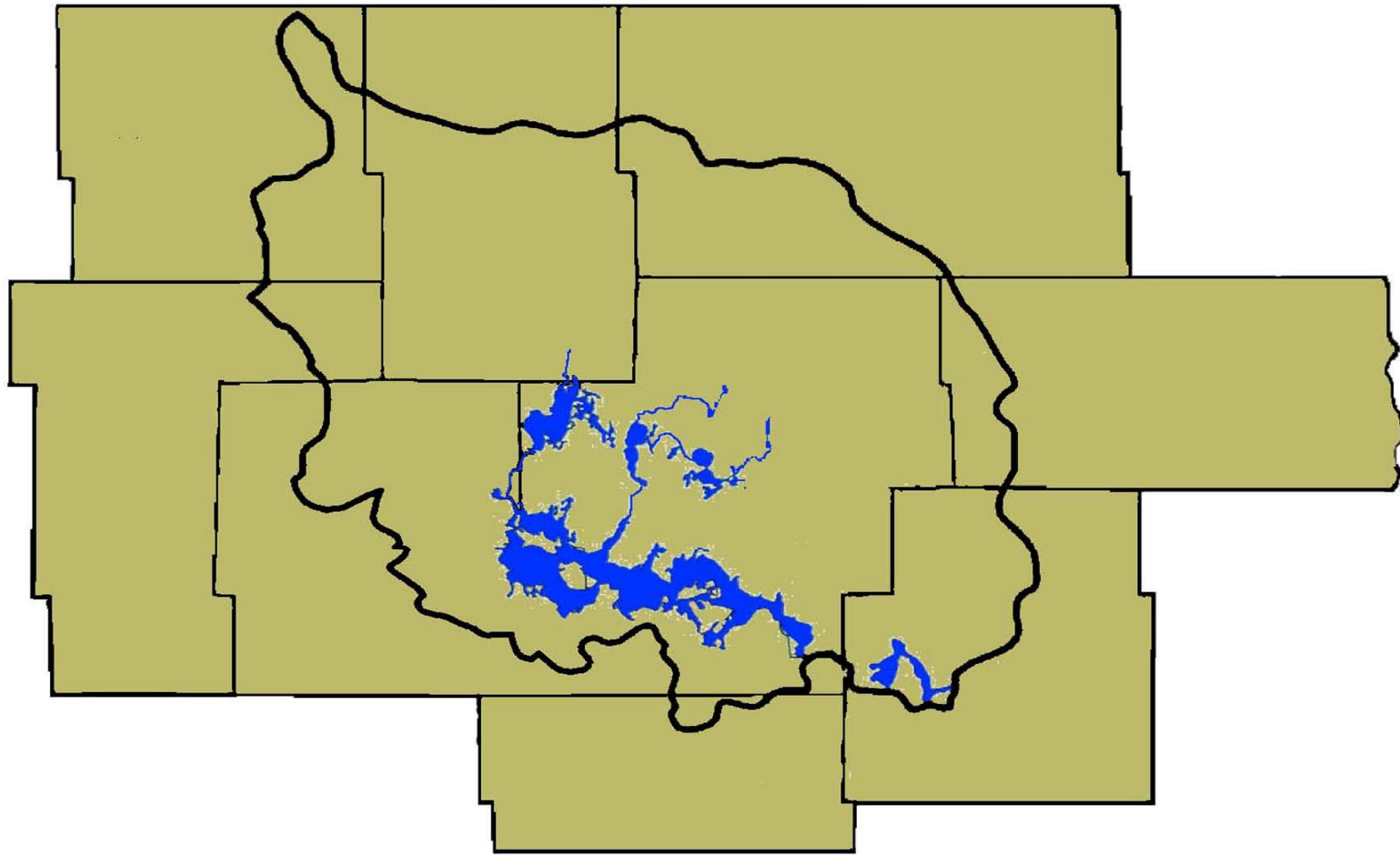


# The Devils Lake Basin



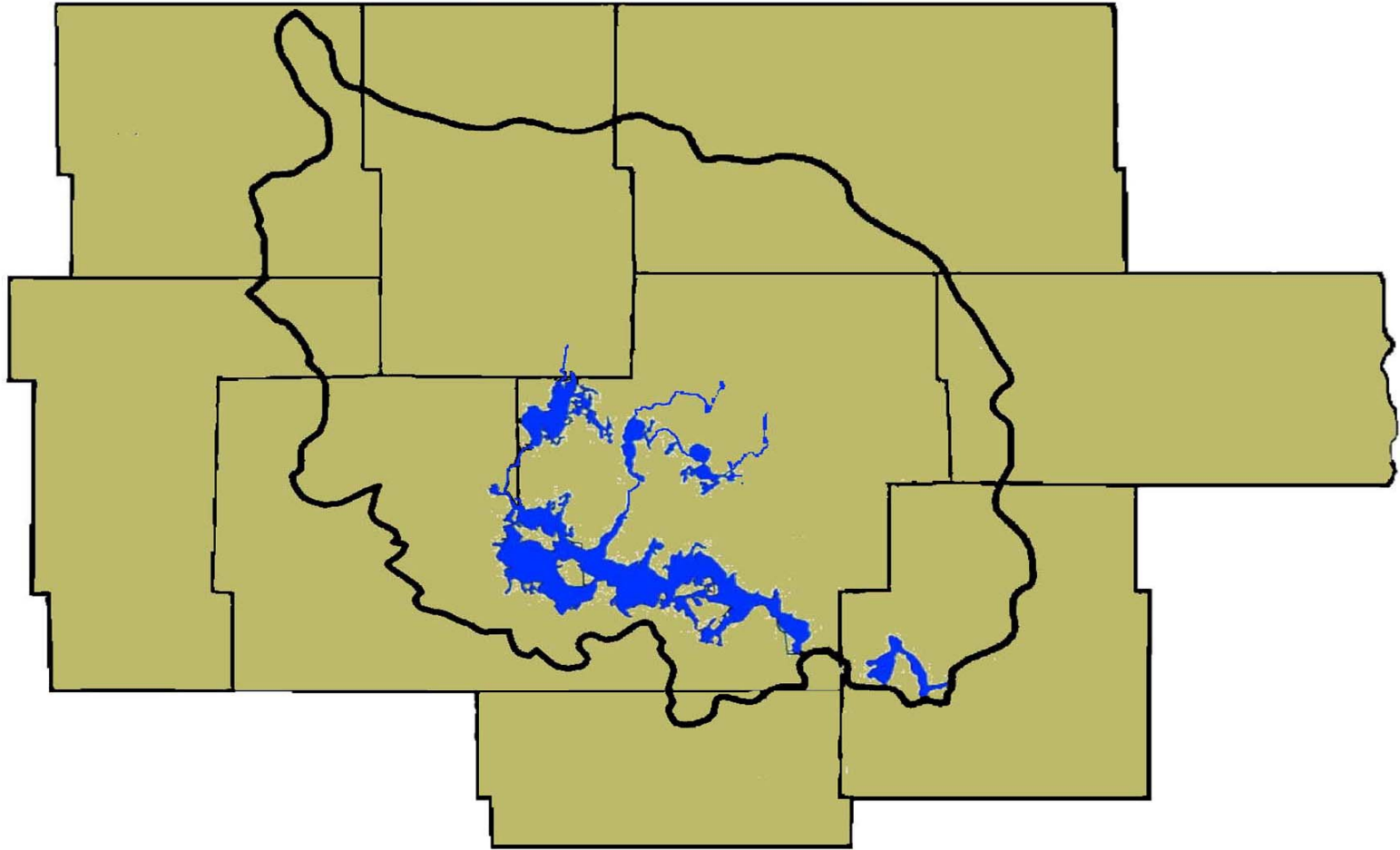






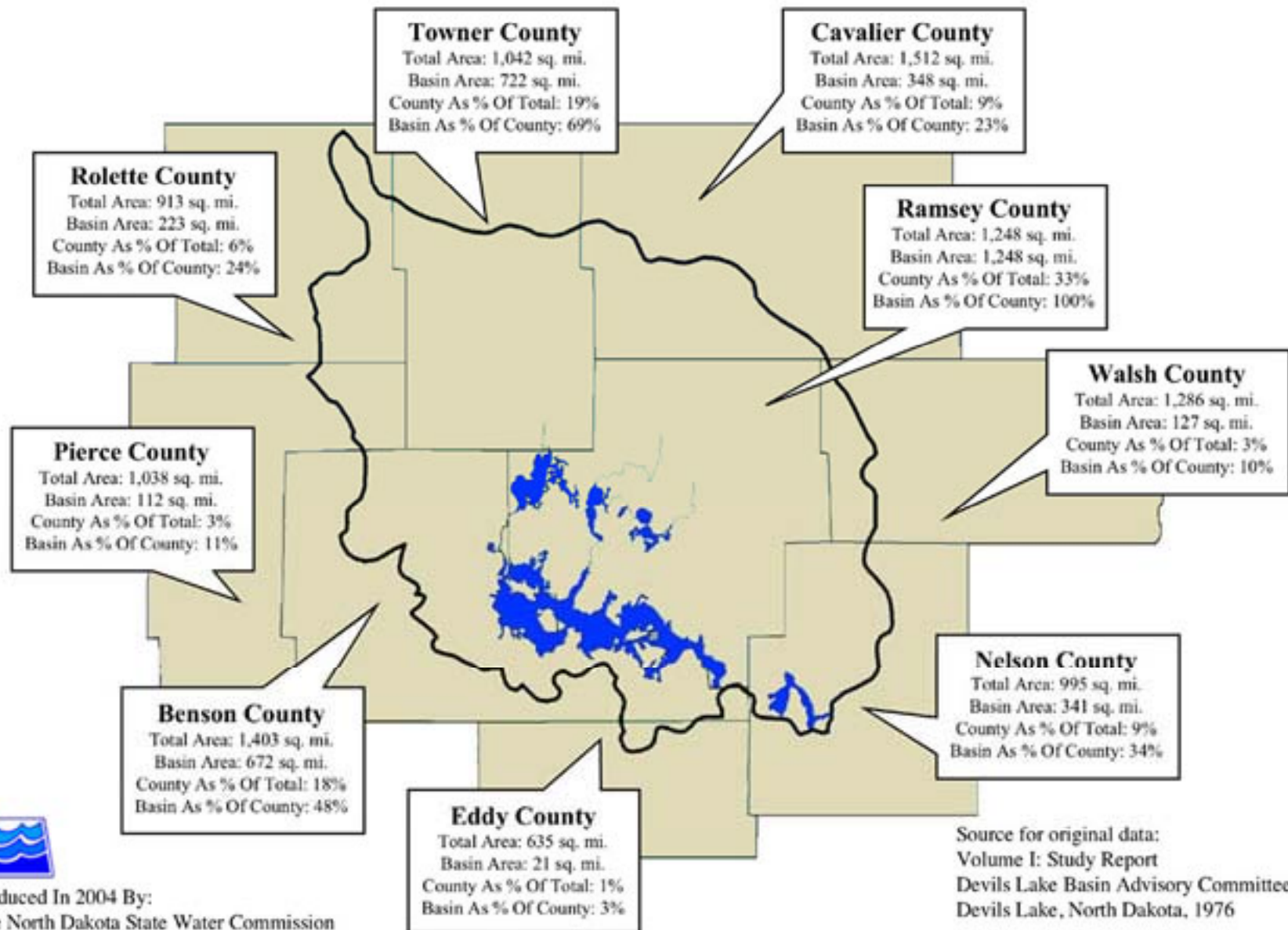
➤ Sub-Basin of the Red River Basin & part of the Hudson Bay Water Shed.





- Devils Lake Basin encompasses 3810 Square Miles or 2.5 Million Acres in Northeastern North Dakota.

# Devils Lake Basin Data

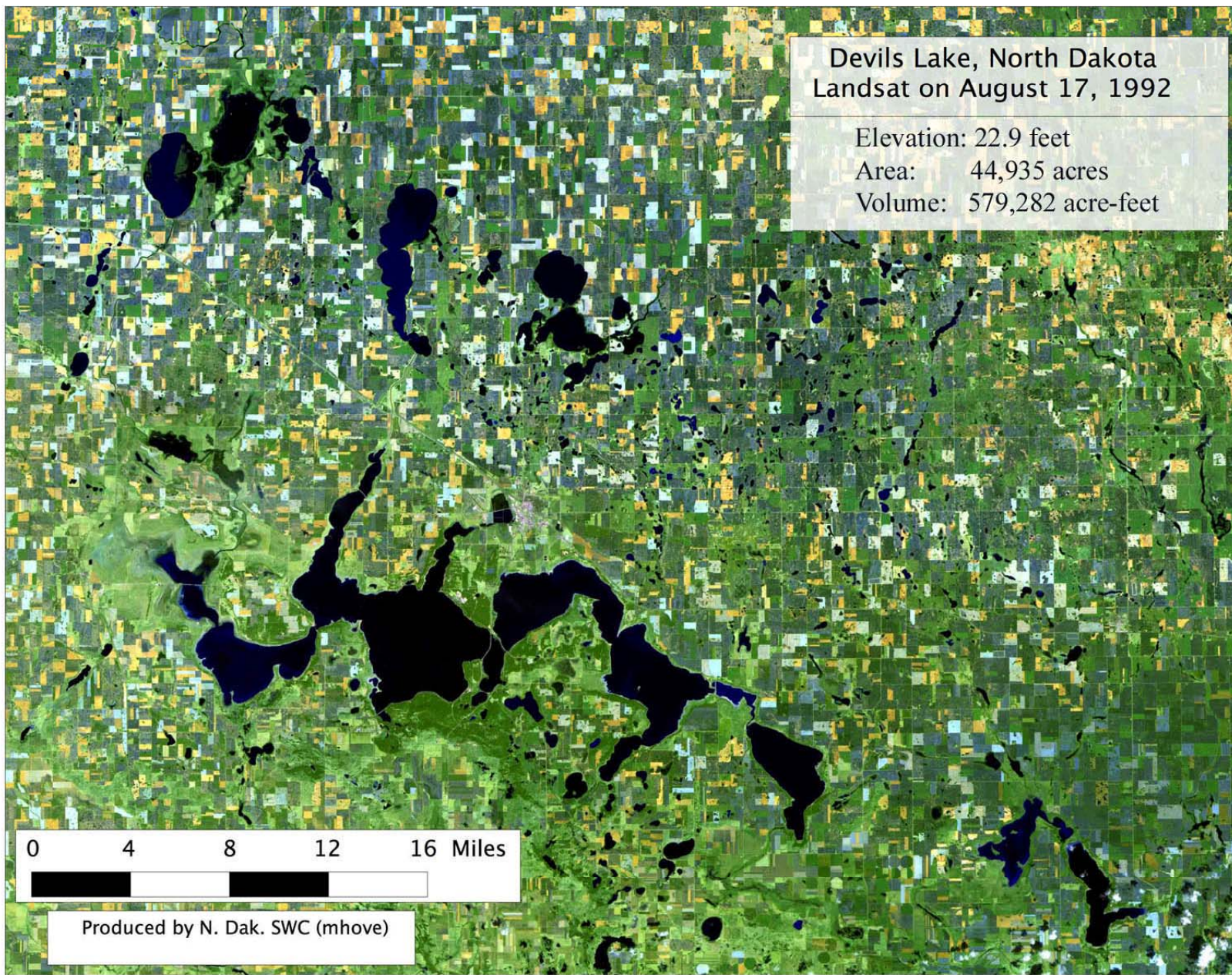


Produced In 2004 By:  
The North Dakota State Water Commission

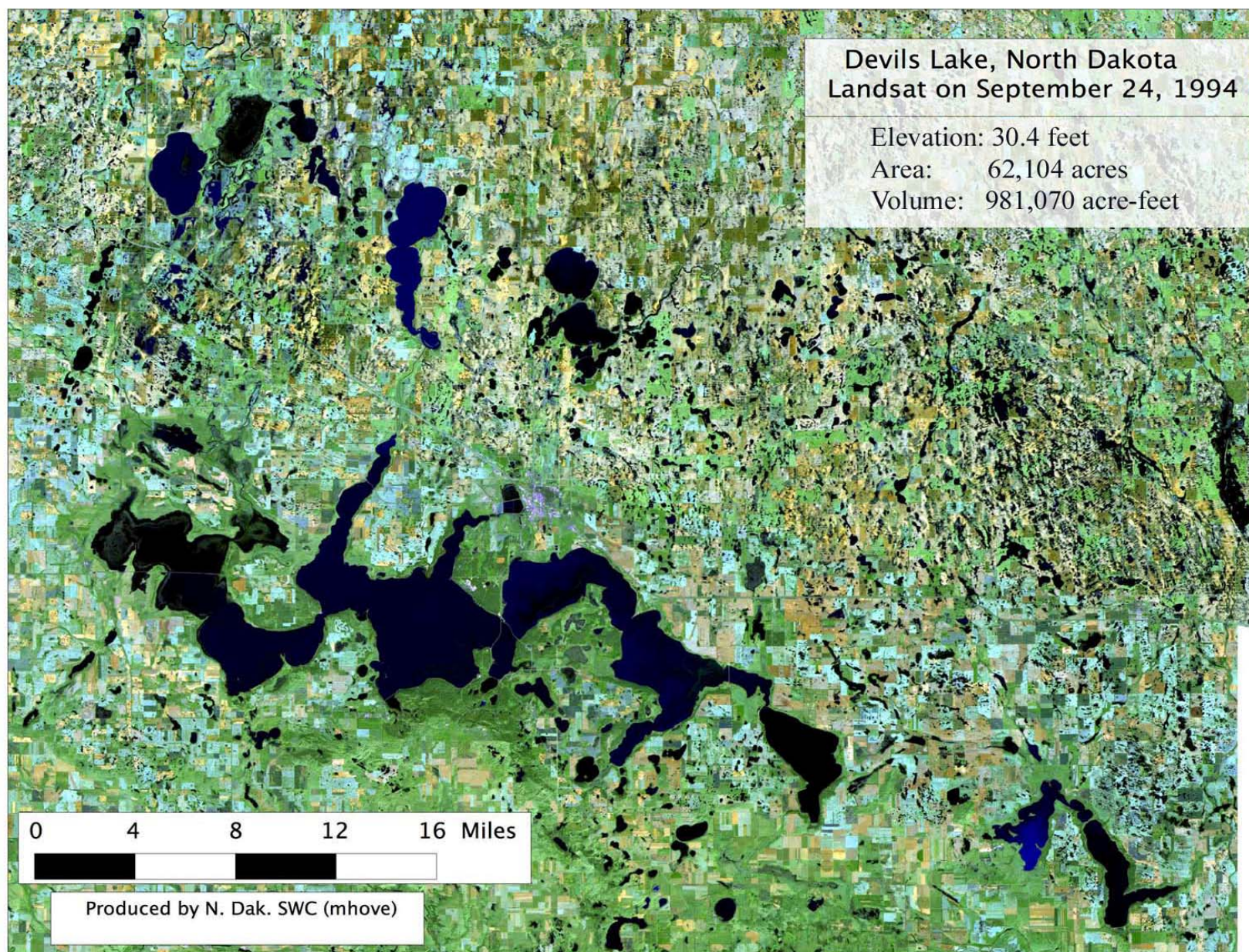
# What Has Happened?



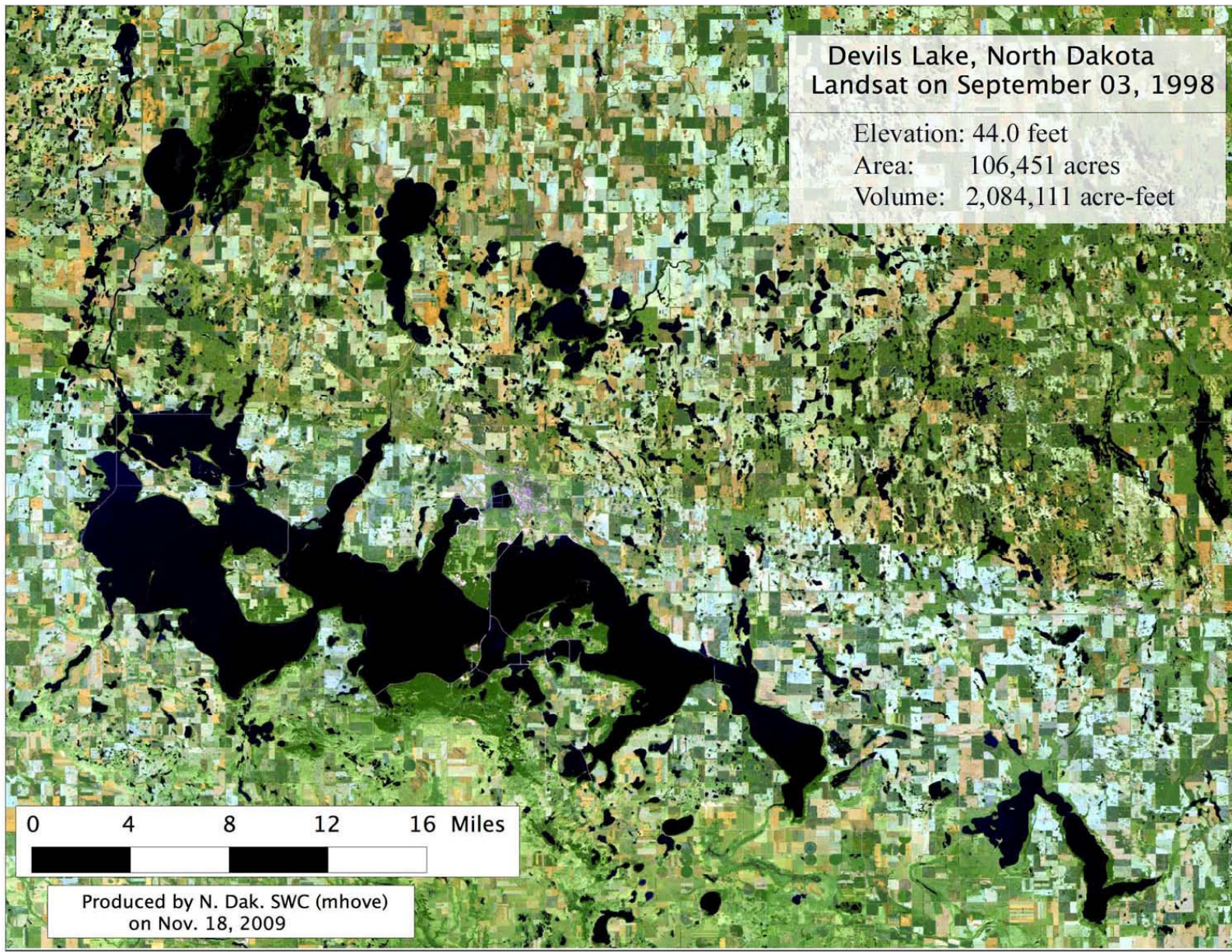




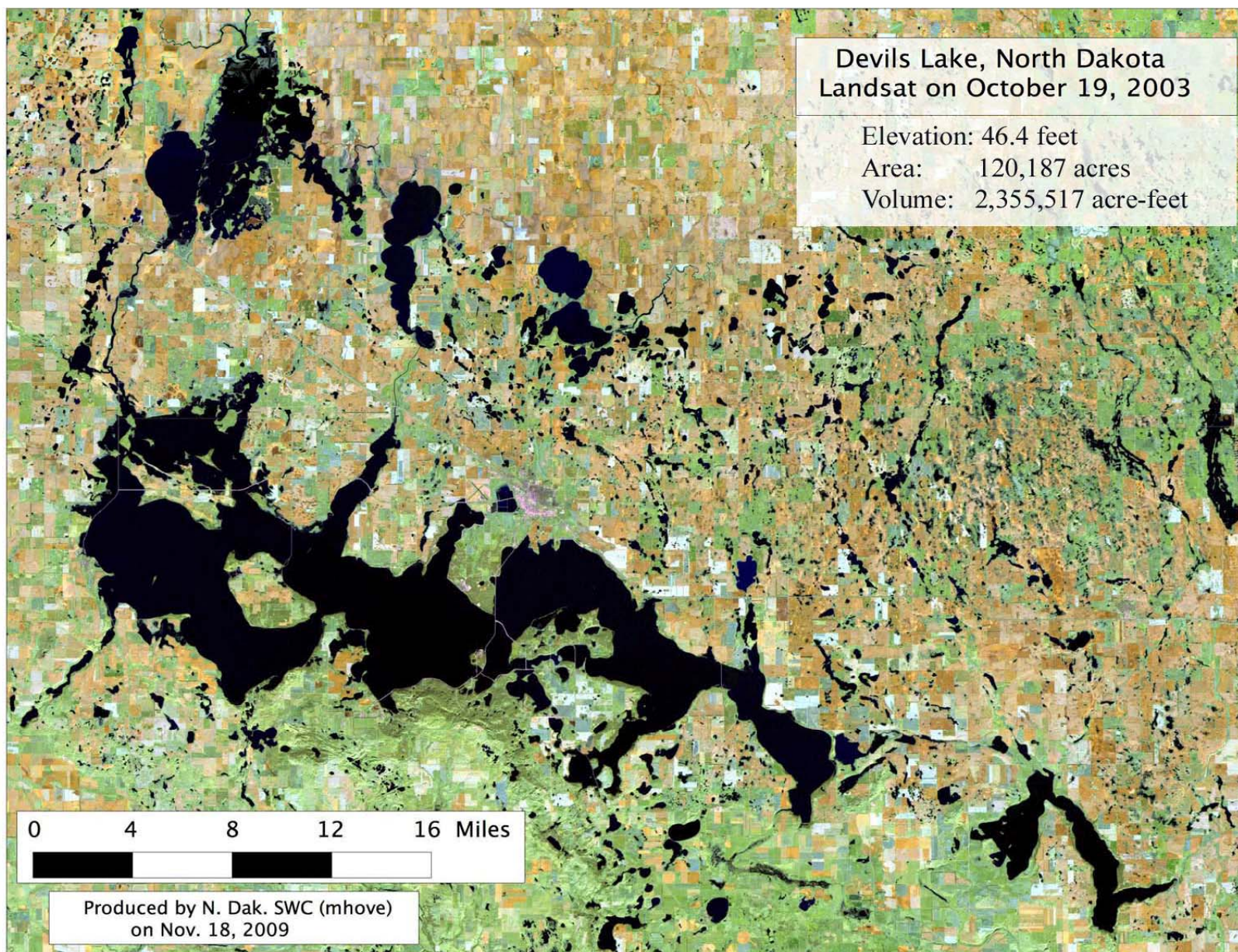




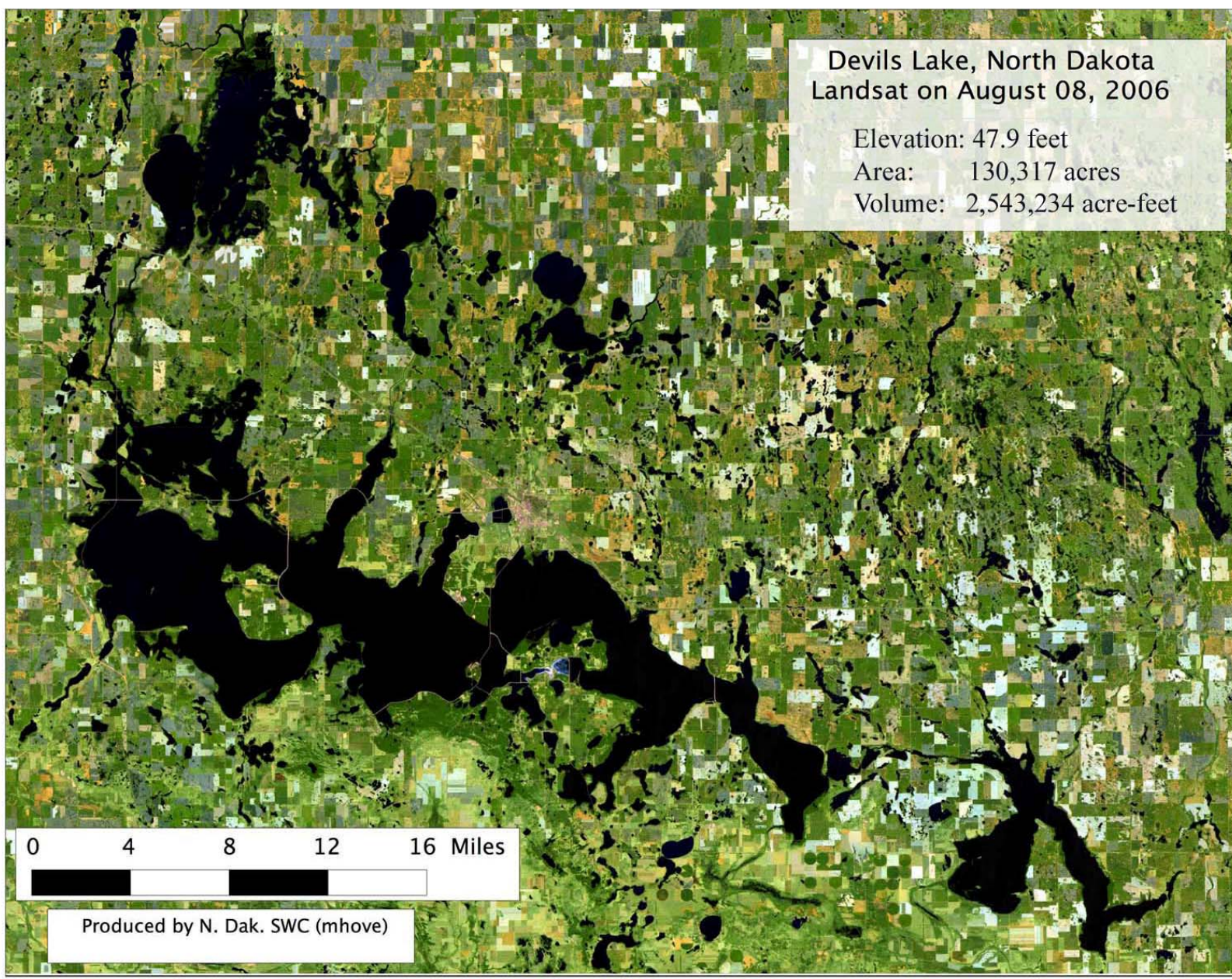




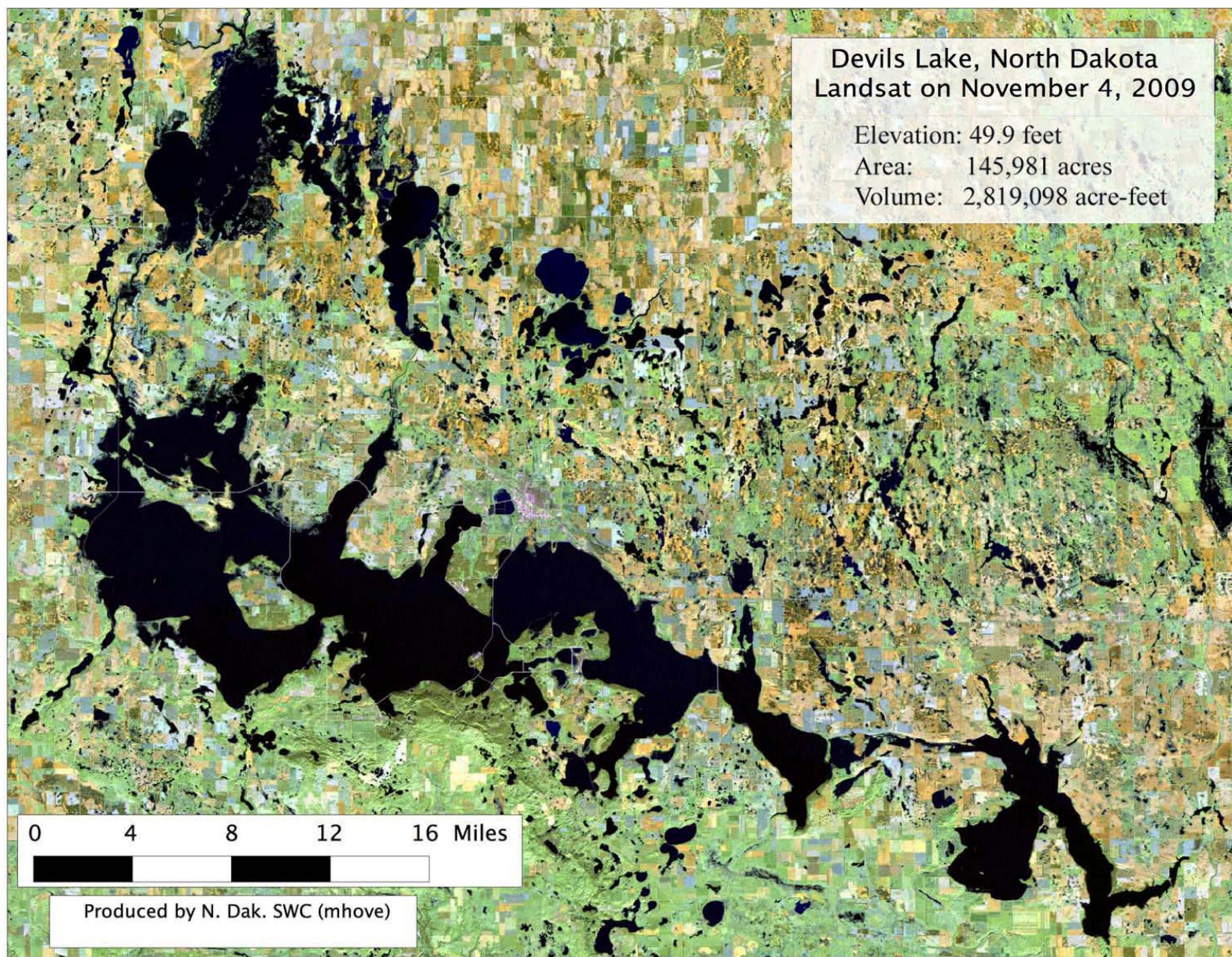




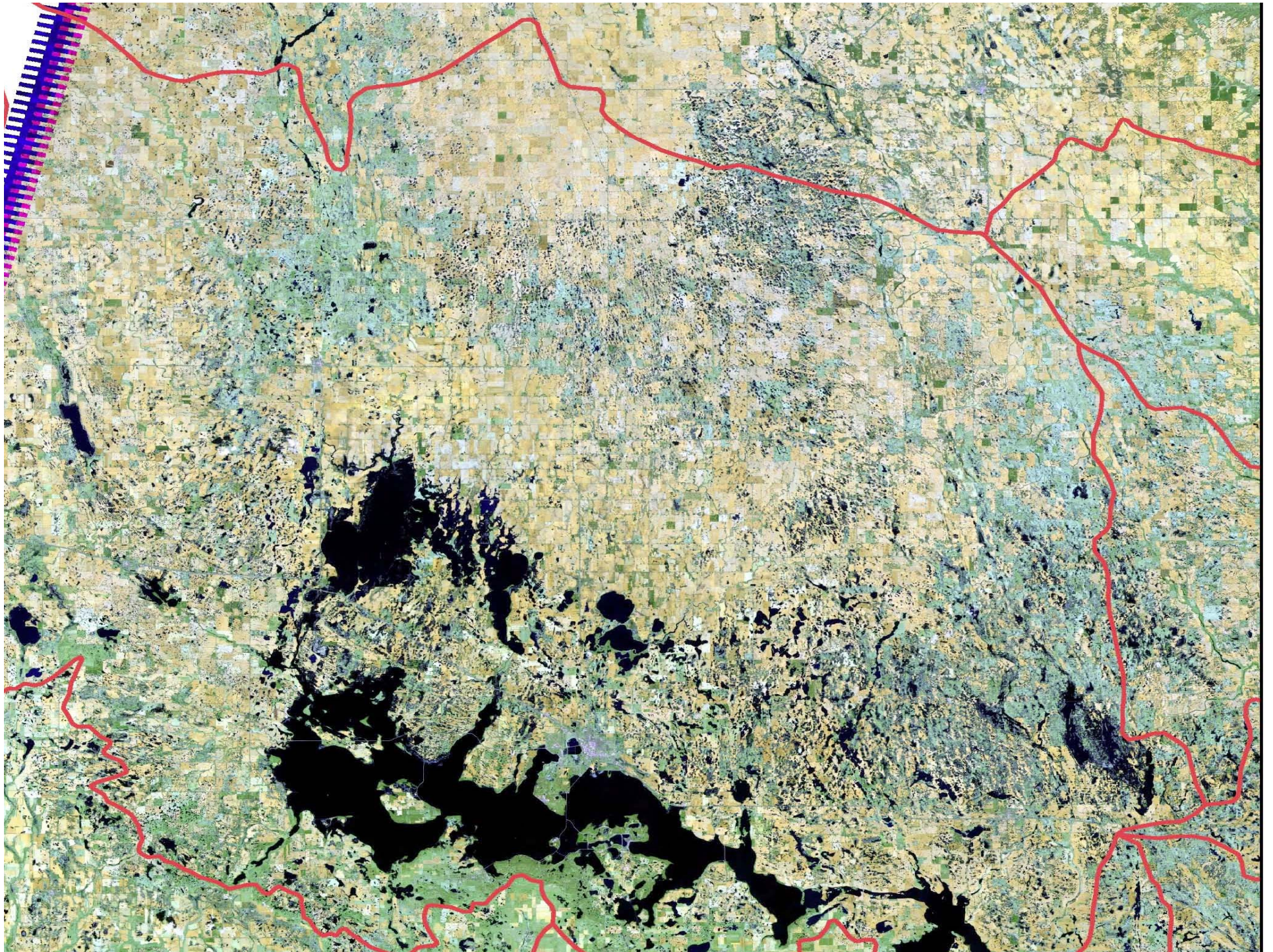














- On May 30<sup>th</sup>, Devils Lake crept to a new record level of 1451.79, surpassing last years record of 1450.73 feet above mean sea level (amsl), set on June 27, 2009.
- From its lowest 1993 elevation of 1422.62 feet amsl to its record May 2010 elevation, Devils Lake rose over 29 feet.



- Combined storage for the lakes is 3.67 MAF, an increase of 218,000 from June 9, 2009. For Stump Lake, the lake level is higher by 1.09 feet from June 9, 2009 and Devils Lake is 1.28 feet higher then last year at this time. The area of the lakes has increased by 12,400 acres from a year ago.



- Devils Lake naturally spills into Stump Lake at 1,446.5 feet amsl. Since water began trickling into Stump Lake from Devils Lake in 1999, Stump Lake has now been filled and has become part of Devils Lake – rising 42.8 feet in the process.
- Devils Lake naturally overflows into the Sheyenne River at 1458.0 feet amsl. The Sheyenne River is a tributary of the Red River of the North, which flows into Canada.

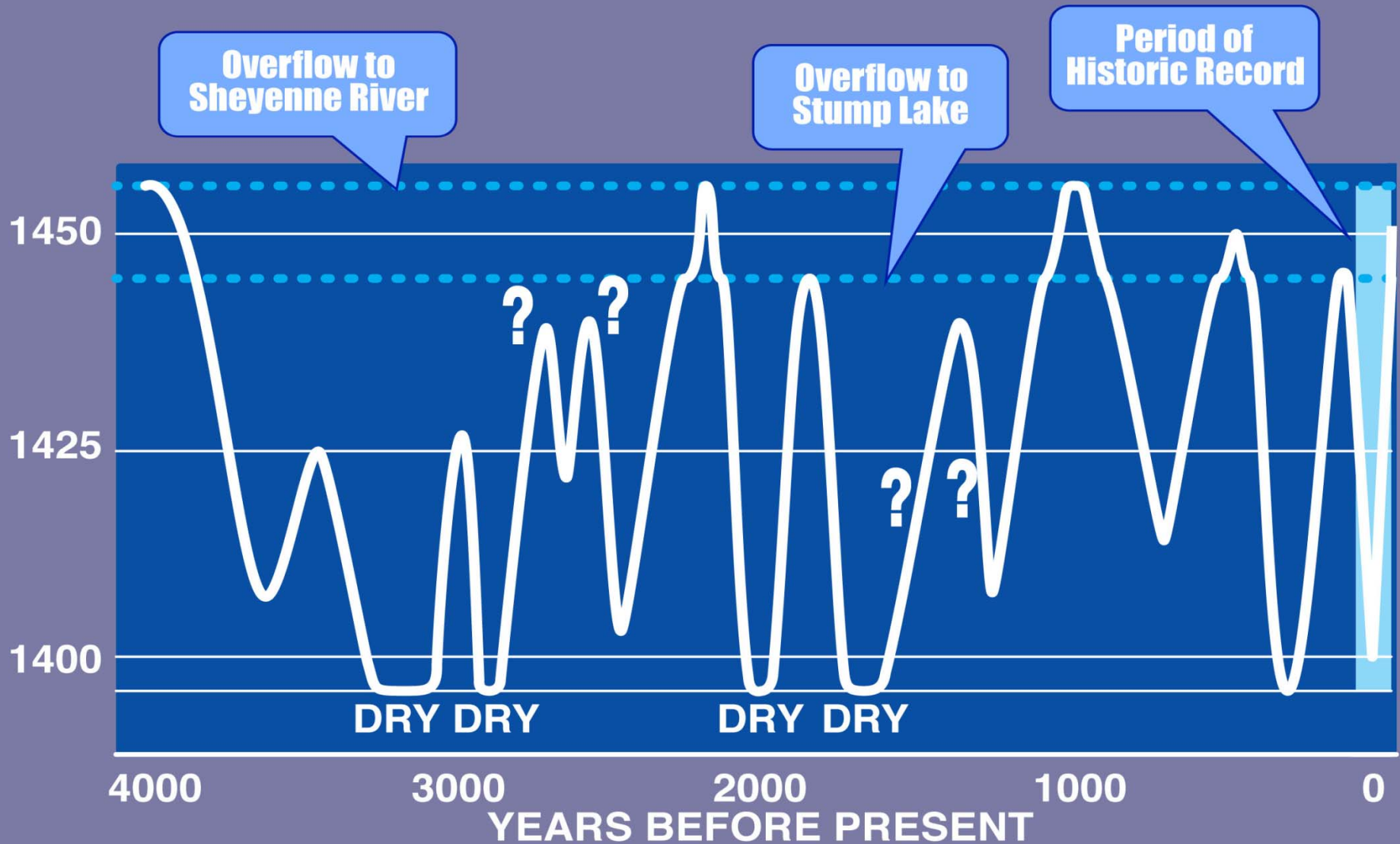
- Since glaciation, Devils Lake has been fluctuating from overflowing to dry. This variability is the normal condition of the lake – reflecting climate changes.
- Devils Lake has reached its spill elevation of 1,458.0 feet amsl and overflowed into the Sheyenne and Red Rivers at least twice during the past 4,000 years. The last Devils Lake spill into the Sheyenne River occurred less than 2,000 years ago.

- At its spill elevation, Devils Lake will cover more than 261,000 acres.
- In March 1993, Devils Lake had a surface area of 44,230 acres. At its June 2009 record elevation, Devils Lake covered about 169,000 acres – an increase of 124,800 inundated acres, or about 195 square miles. During that same time period, the volume of water in Devils Lake had more than sextupled.





# 4000 Years of Fluctuations



# WHAT HAS THIS FLOOD COST?

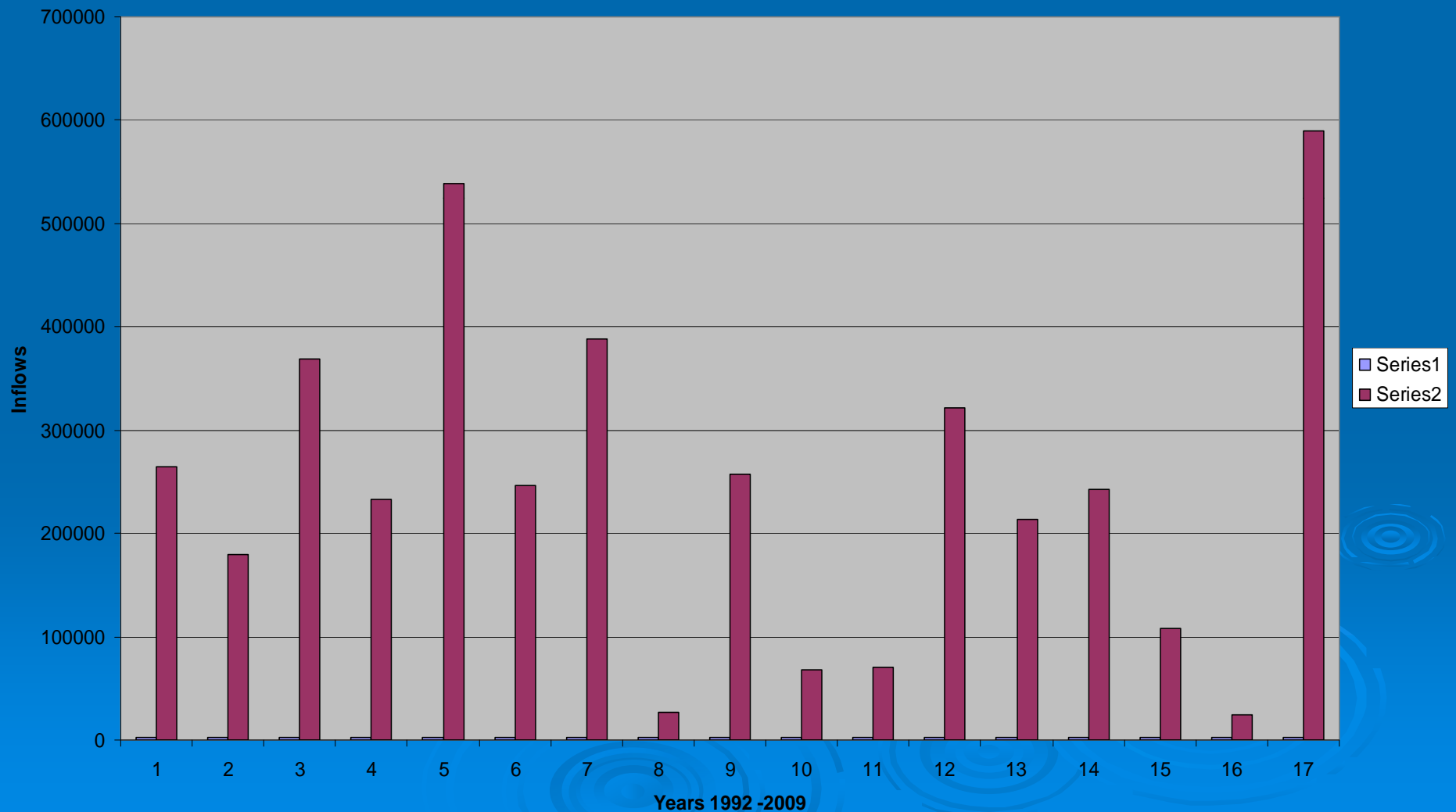
➤ DOT	\$341,702,941
➤ Devils Lake Levee	\$172,987,729
➤ FEMA	\$44,400,000
➤ Devils Lake Outlet	\$42,000,000
➤ Corps	\$26,215,000
➤ Rail Repair	\$25,672,737.80
➤ HUD	\$3,000,000
➤ <u>Total:</u>	<u>\$655,978,407.80</u>

# AGRICULTURAL IMPACTS

- For Every Foot of Elevation Increase 9 – 10 Thousand Acres of Farmland LOST!
- Annual Economic Impact of \$83 Million Dollars LOST!
- 530 Jobs lost!

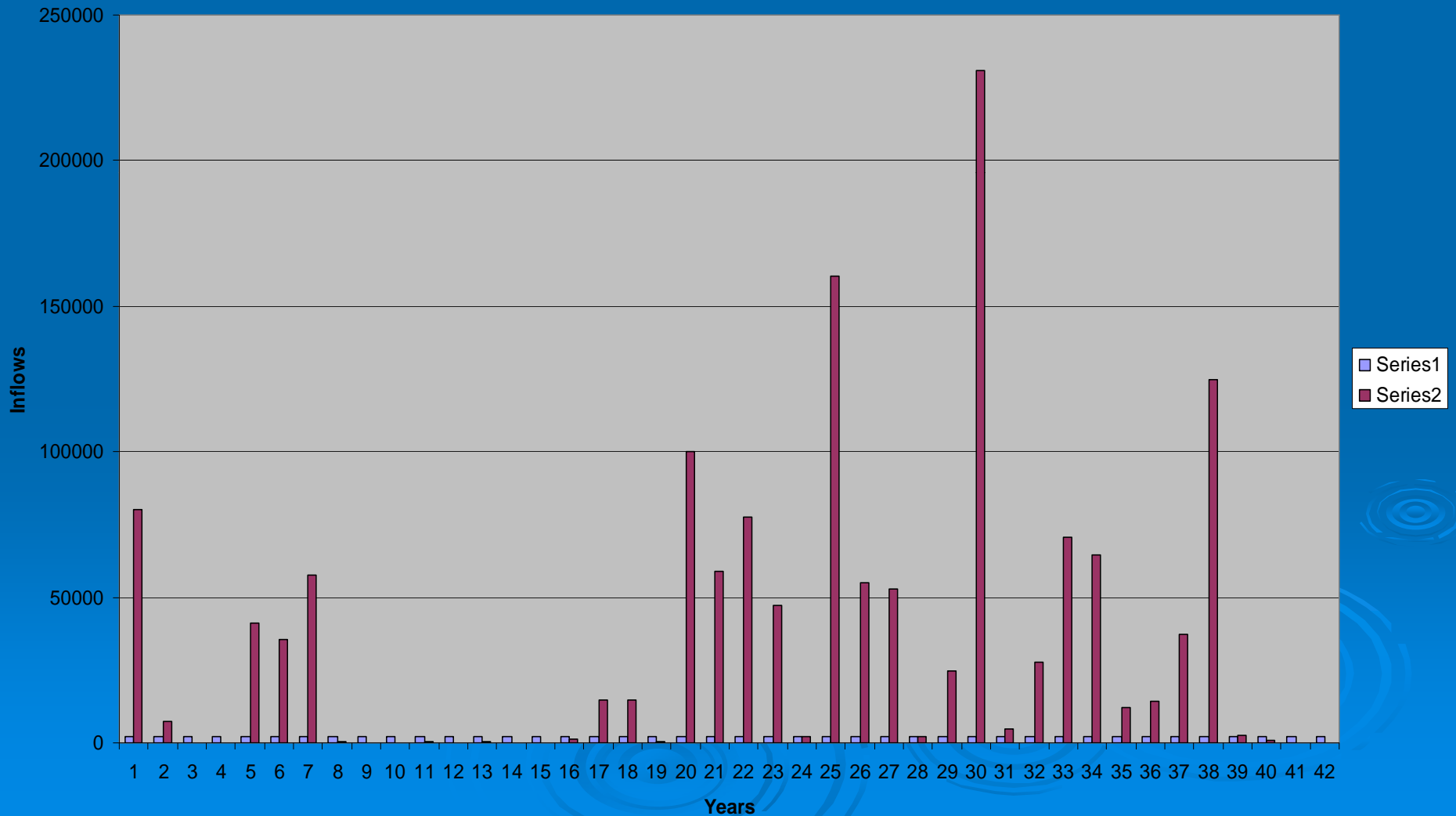
# Basin Inflows 1992 -2009

Inflows



# Basin Inflows 1950 -1991

Inflows 1950 - 1991







1990

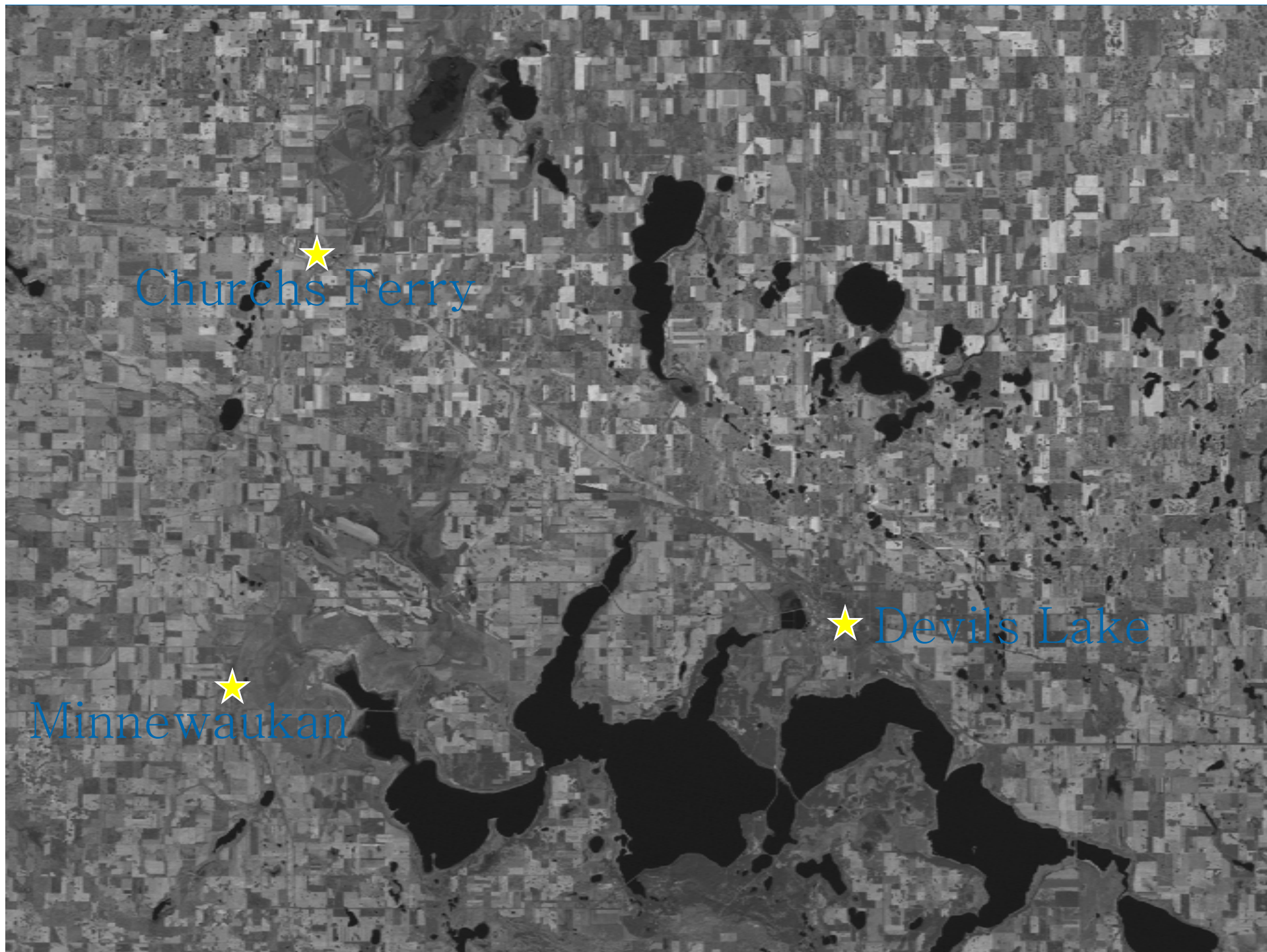
- Black and white photos
- Lake elevation 1424.5

2009

- Color photos
- Lake elevation 1450.0

2010

- Current lake elevation 1451.5

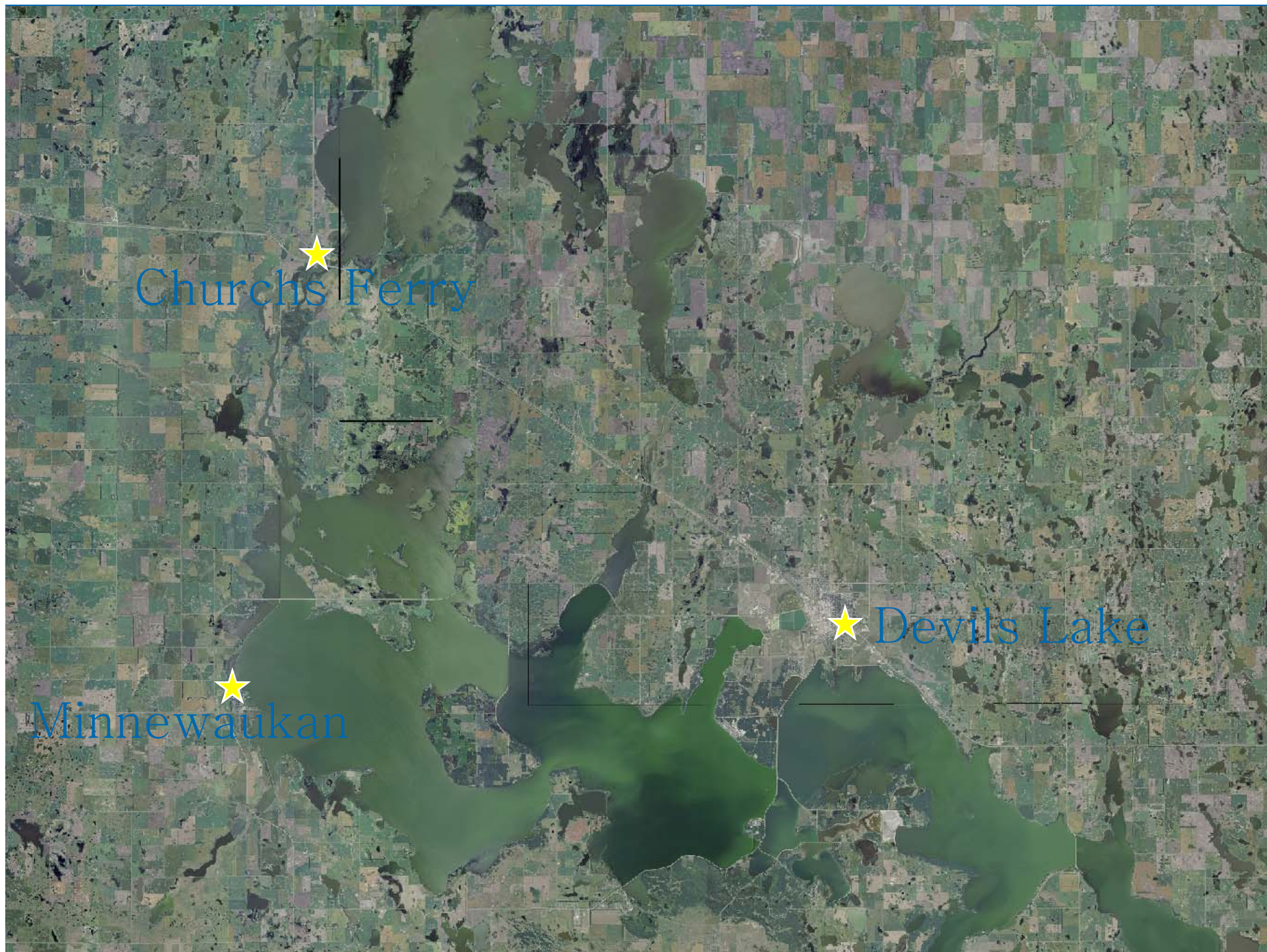


★  
Church's Ferry

★ Devils Lake

★  
Minnewaukan



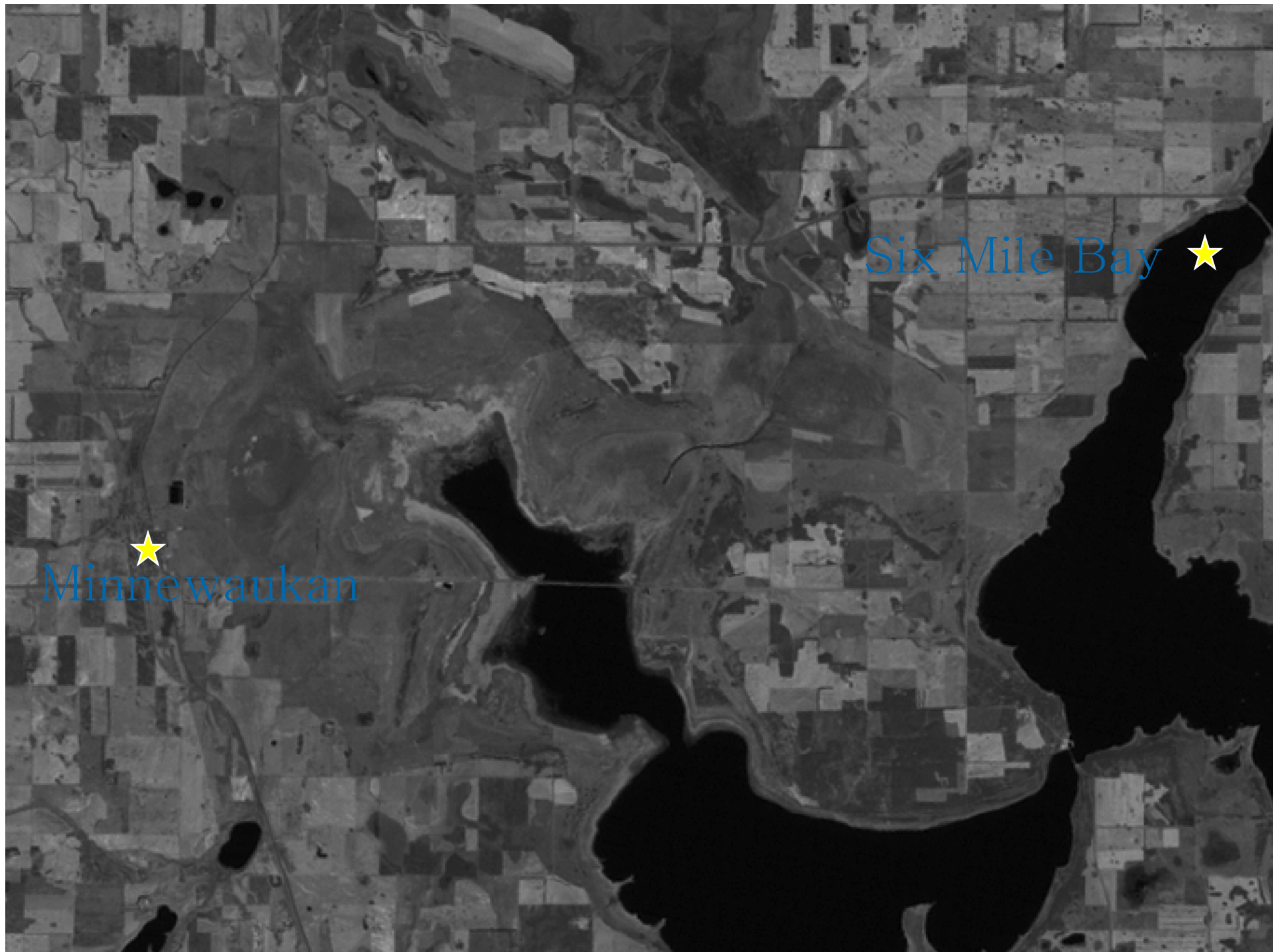


★  
Church's Ferry

★ Devils Lake

★  
Minnewaukan







★  
Minnewaukan

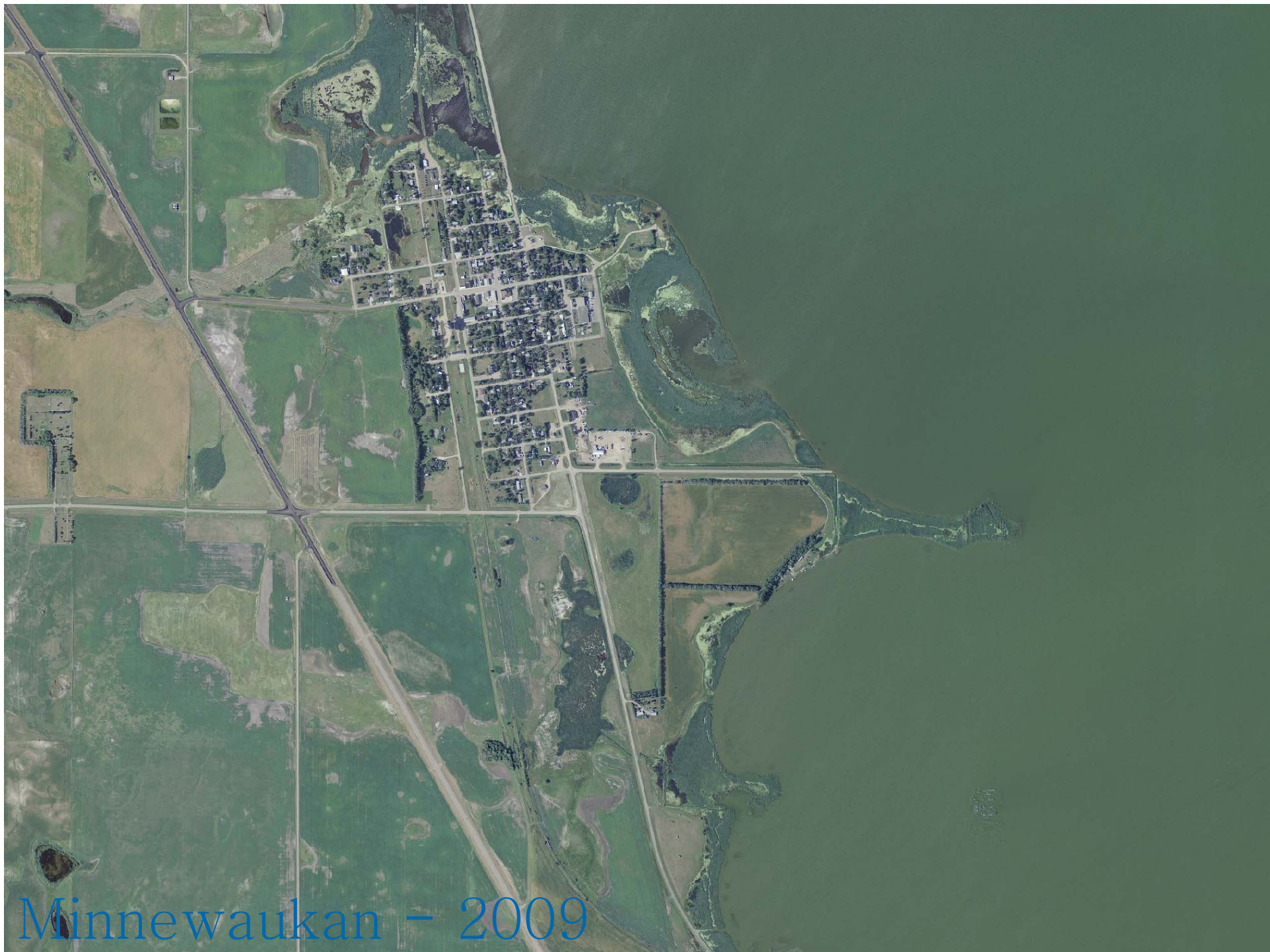
Six Mile Bay ★





Minnewaukan - 1992





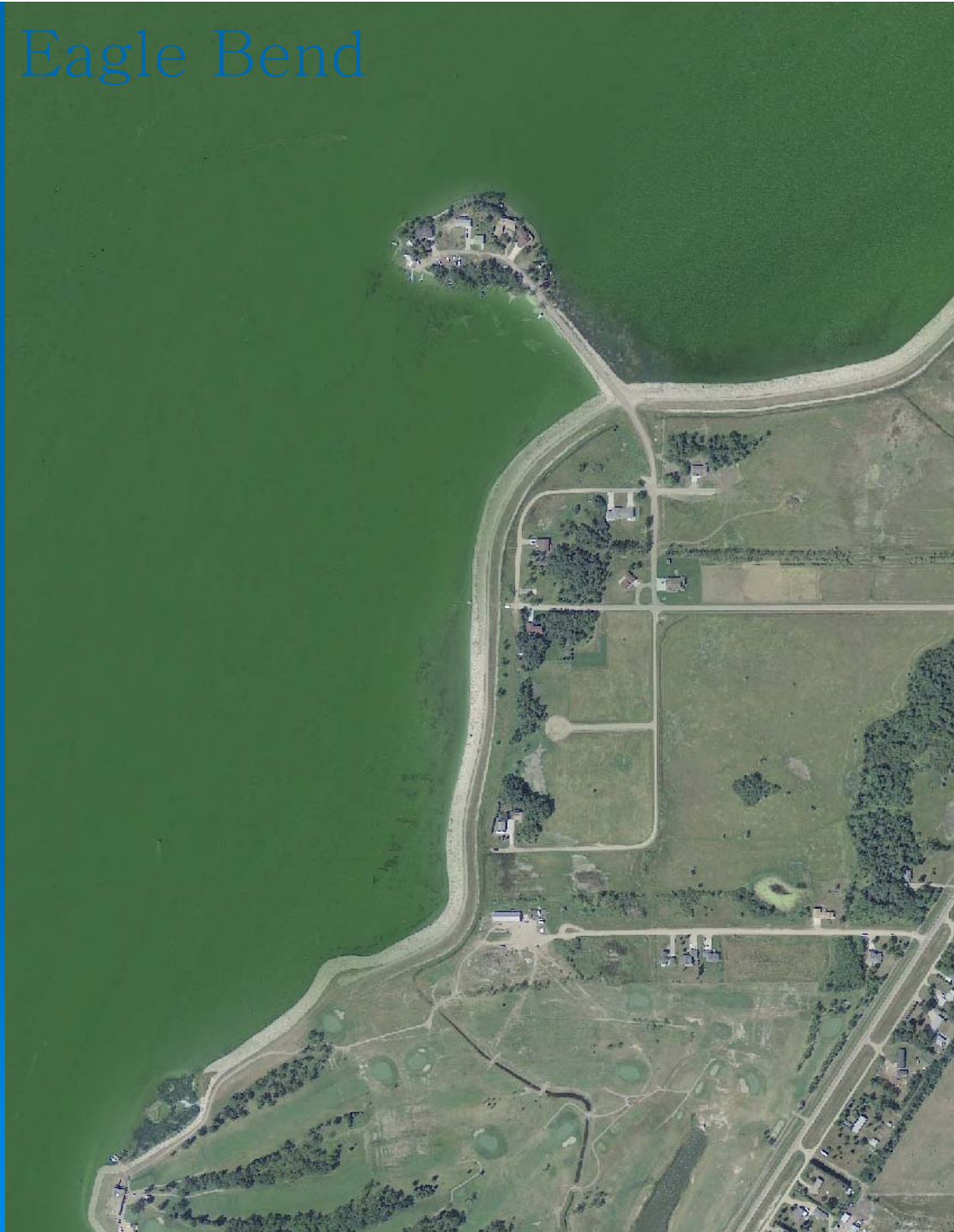
Minnewaukan – 2009



# Eagle Bend



# Eagle Bend



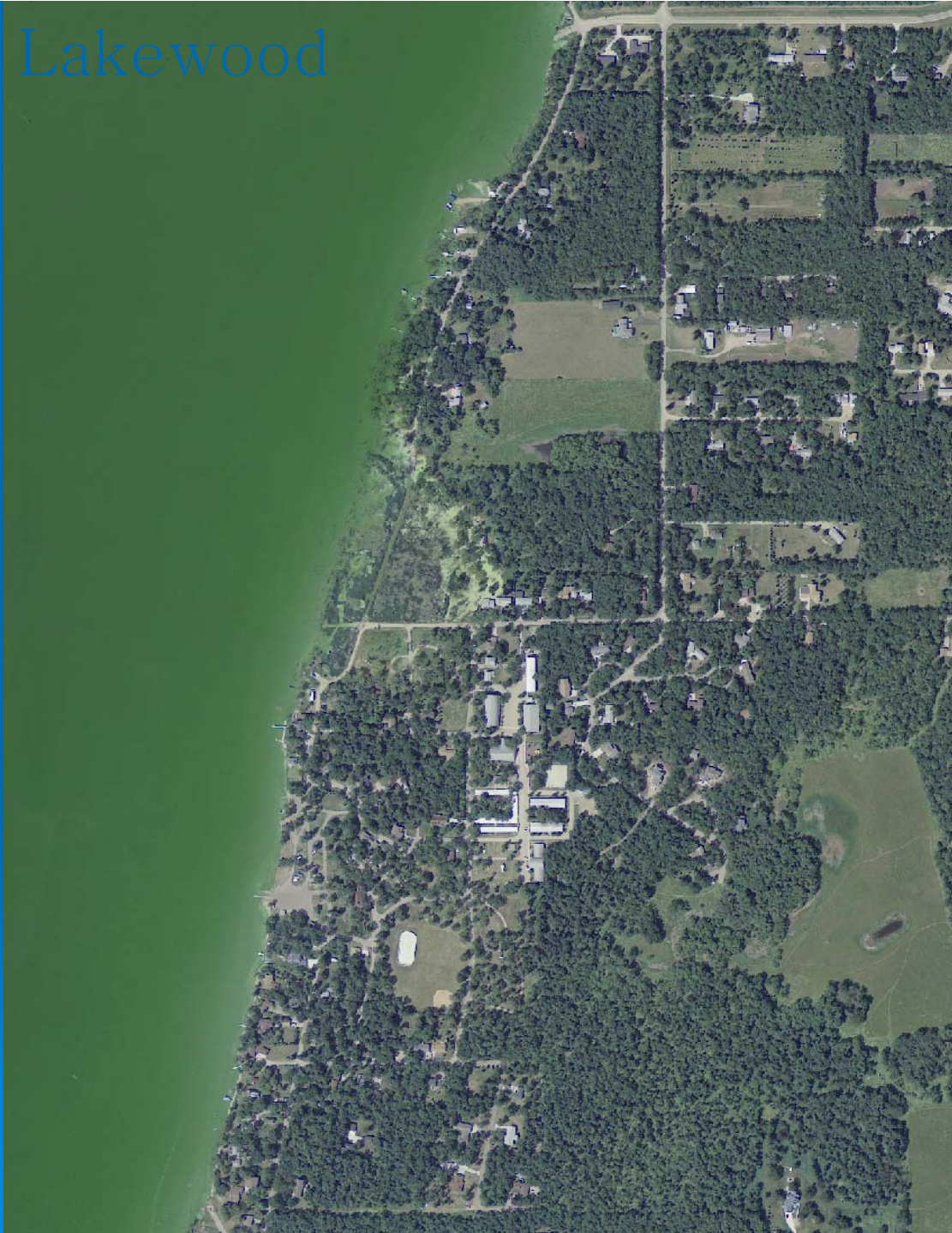


# Lakewood





# Lakewood

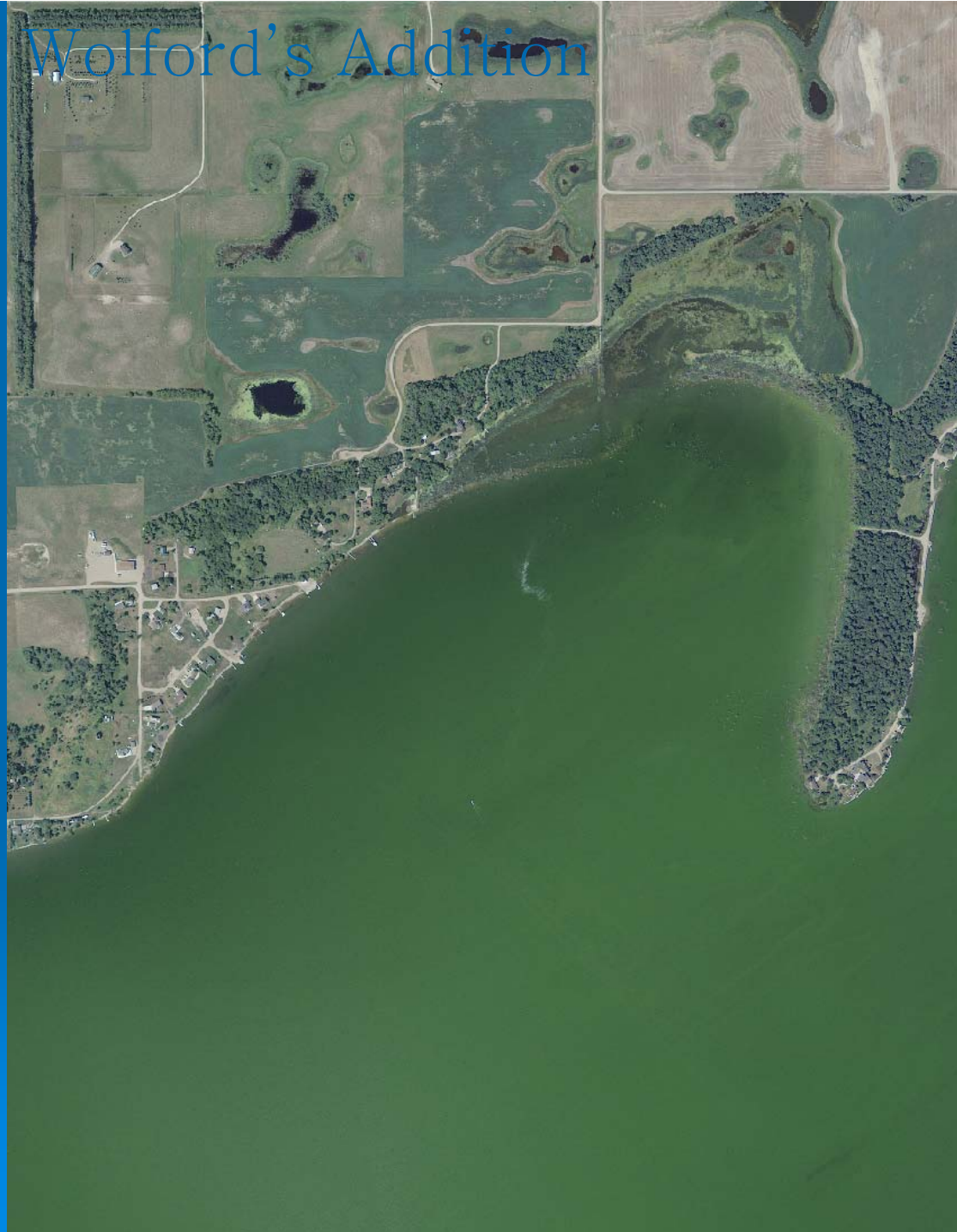


# Wolford's Addition

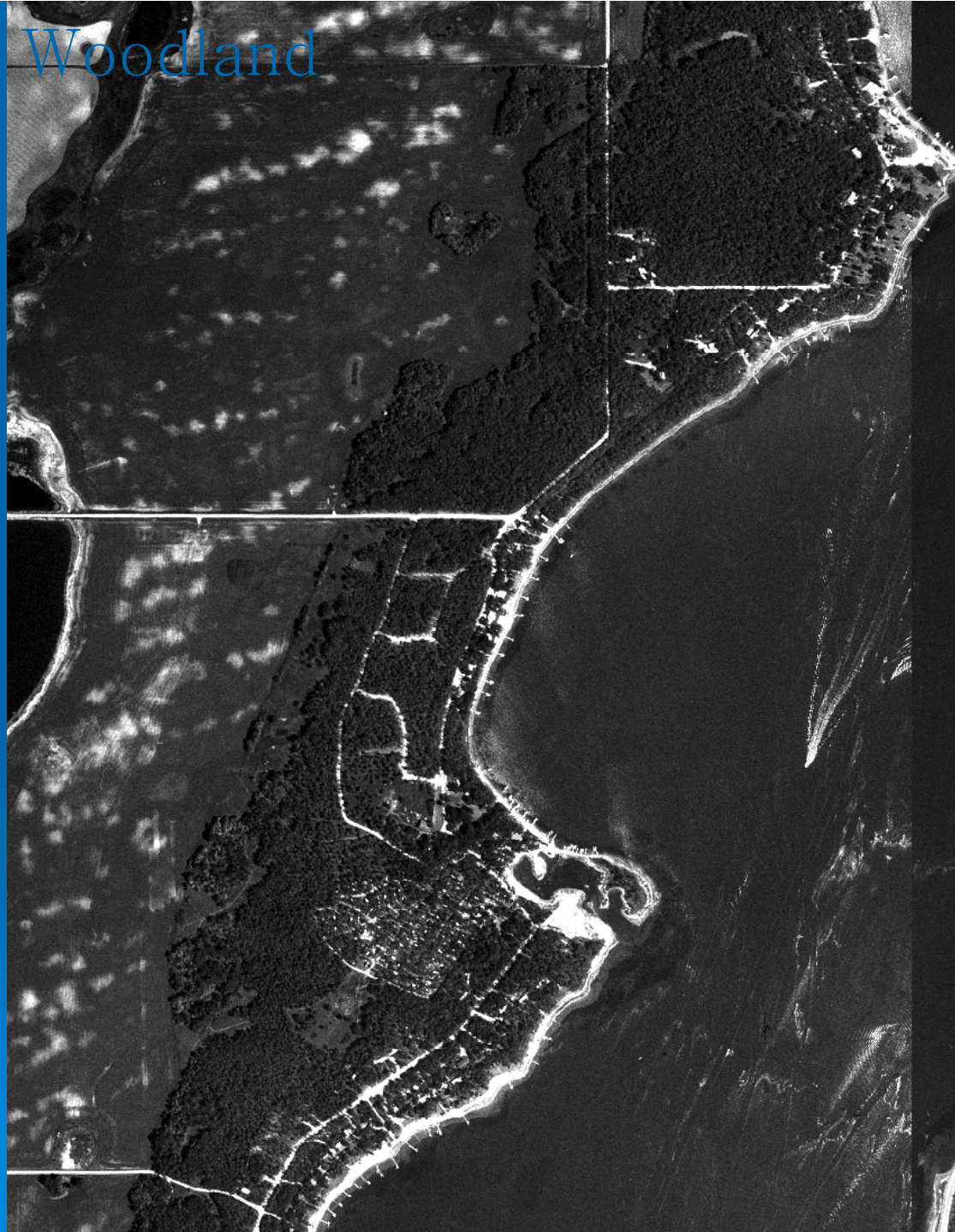




# Wolford's Addition

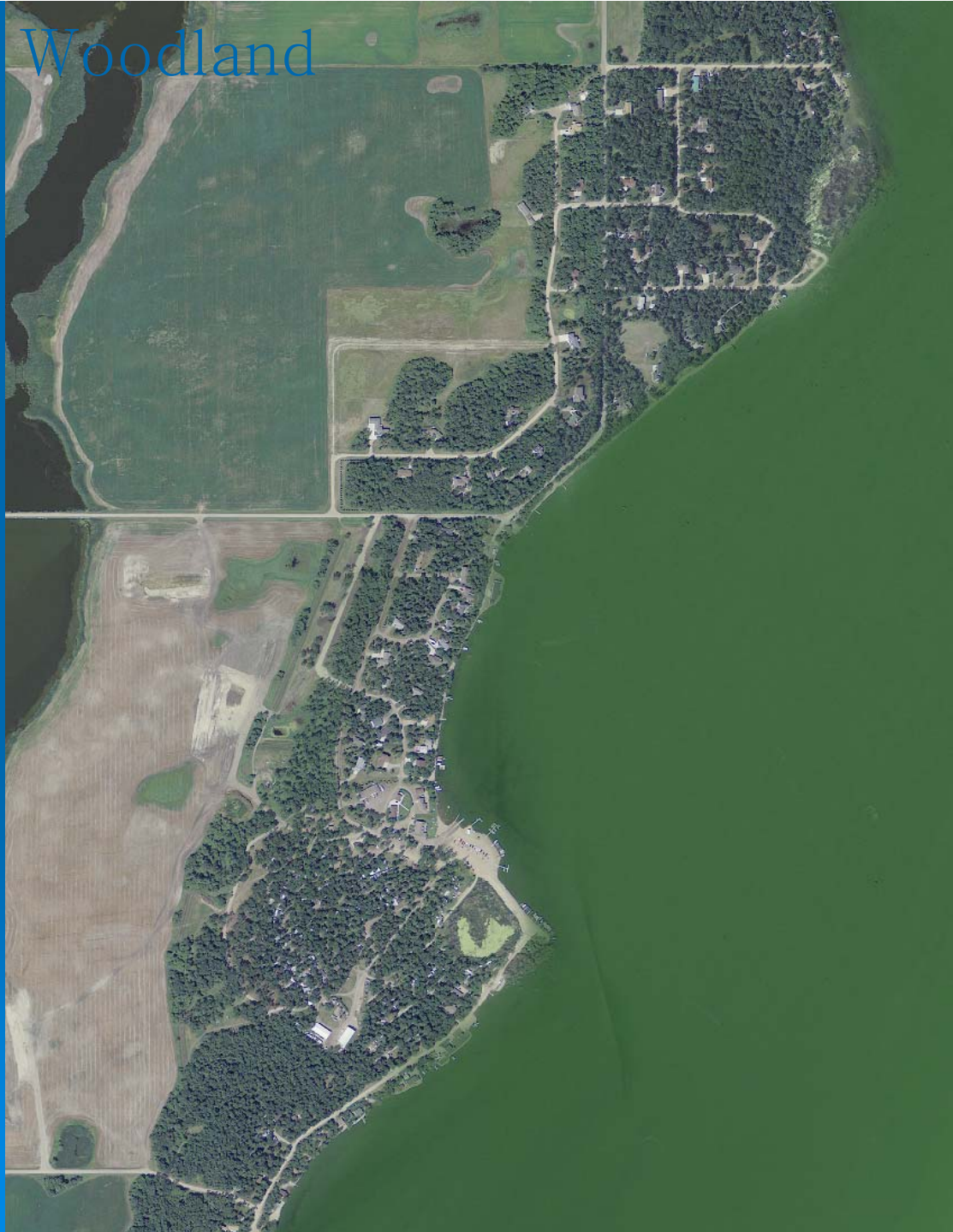


# Woodland





# Woodland

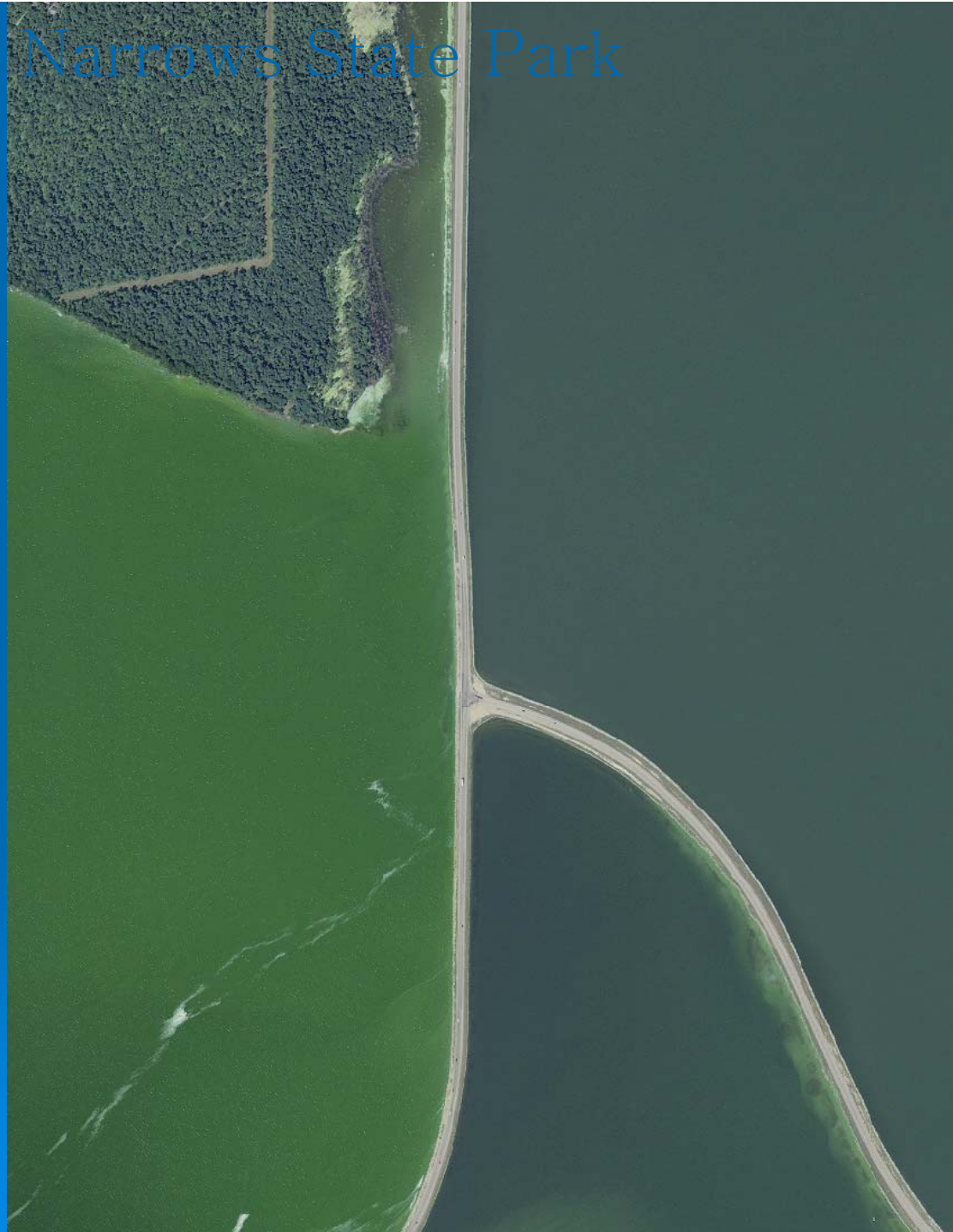


# Narrows State Park





# Narrows State Park

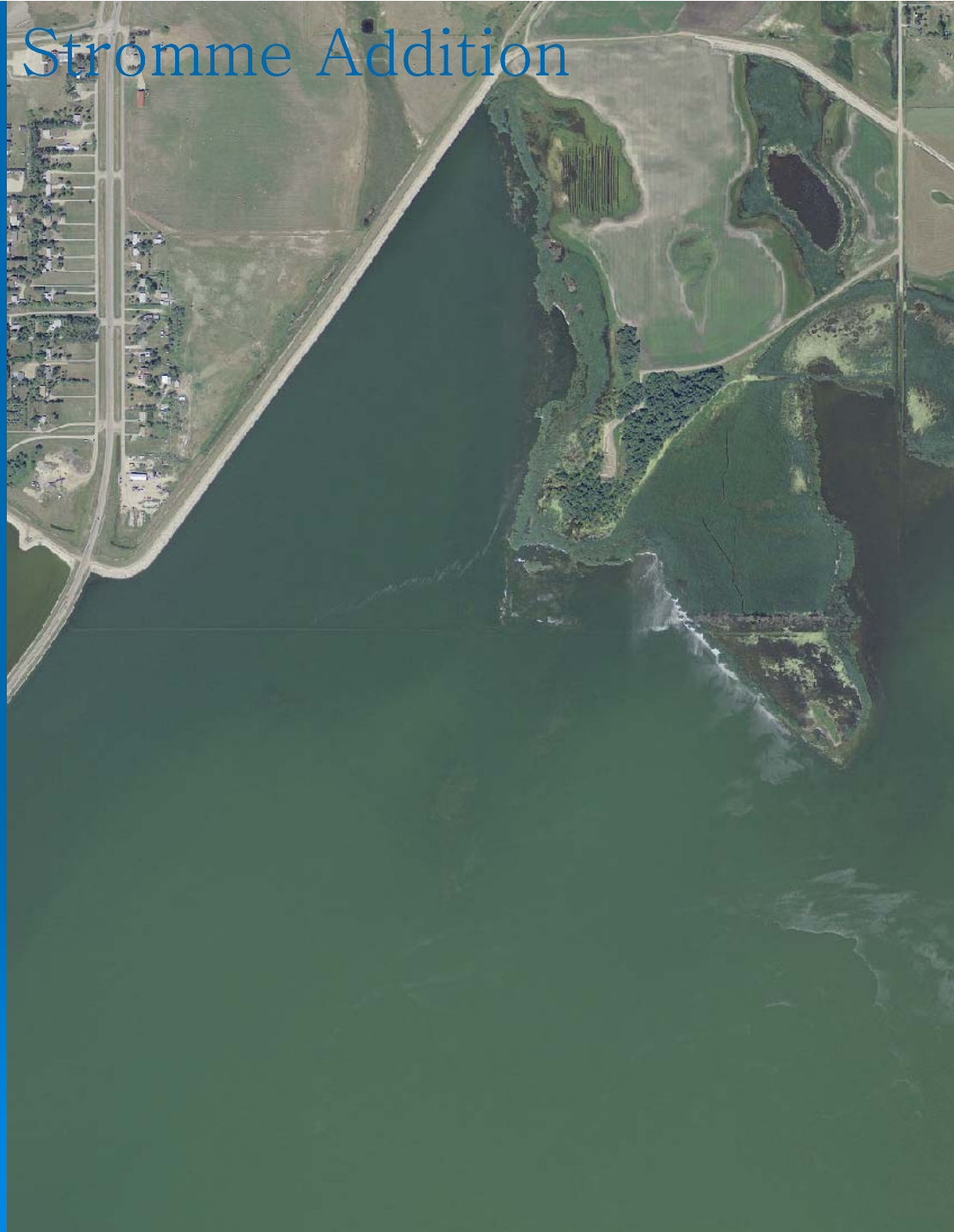


# Stromme Addition





# Stromme Addition

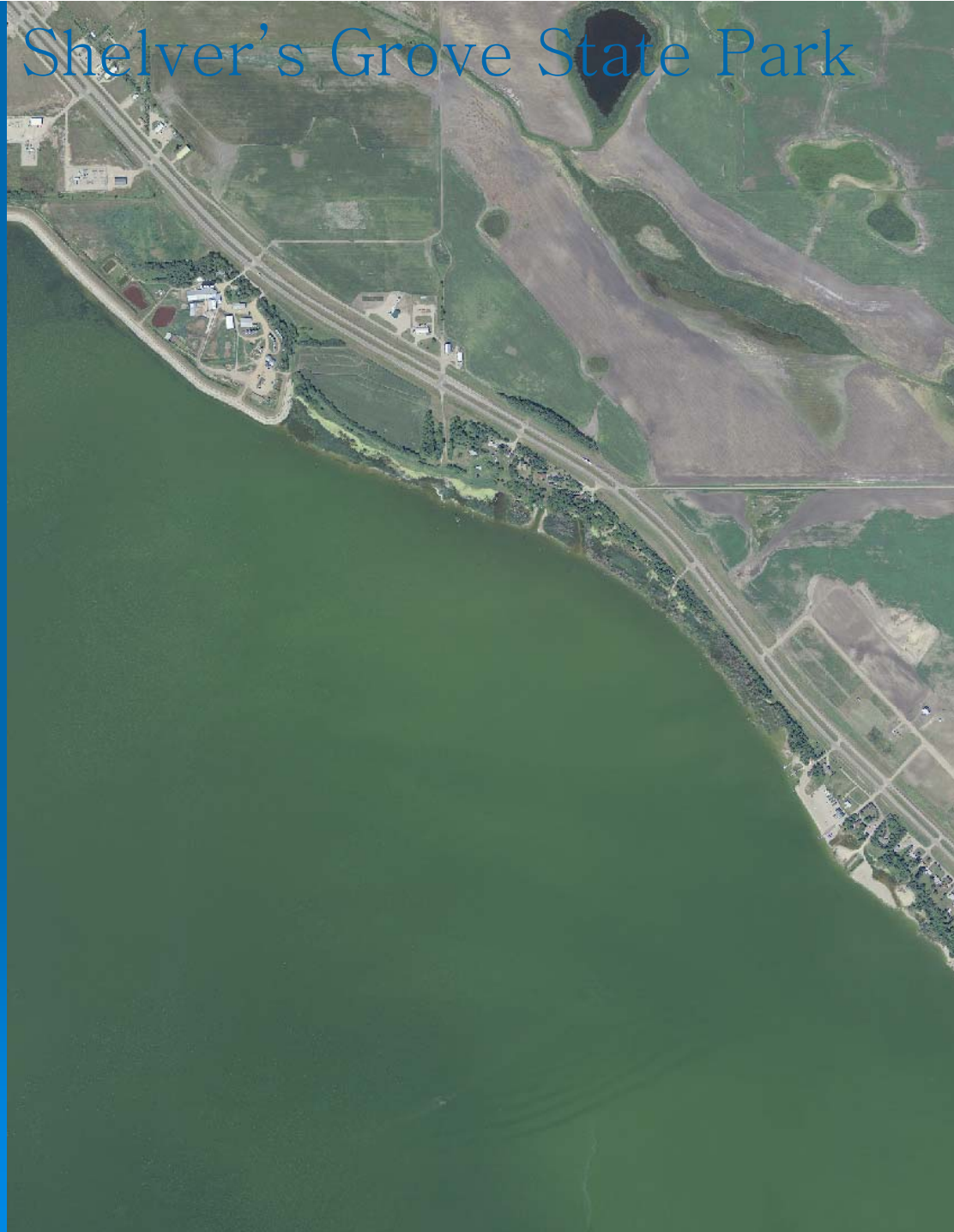


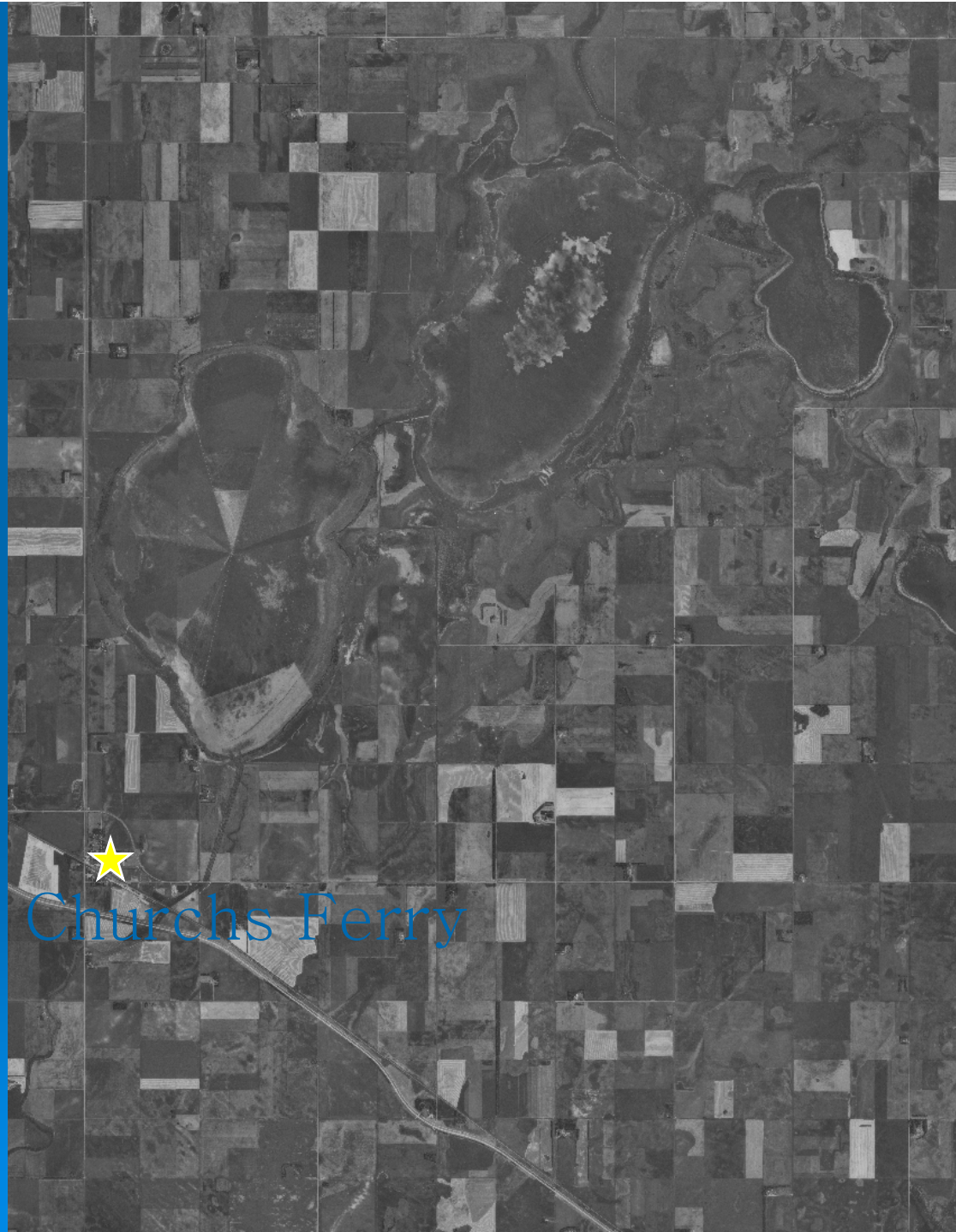
# Shelver's Grove State Park





# Shelver's Grove State Park

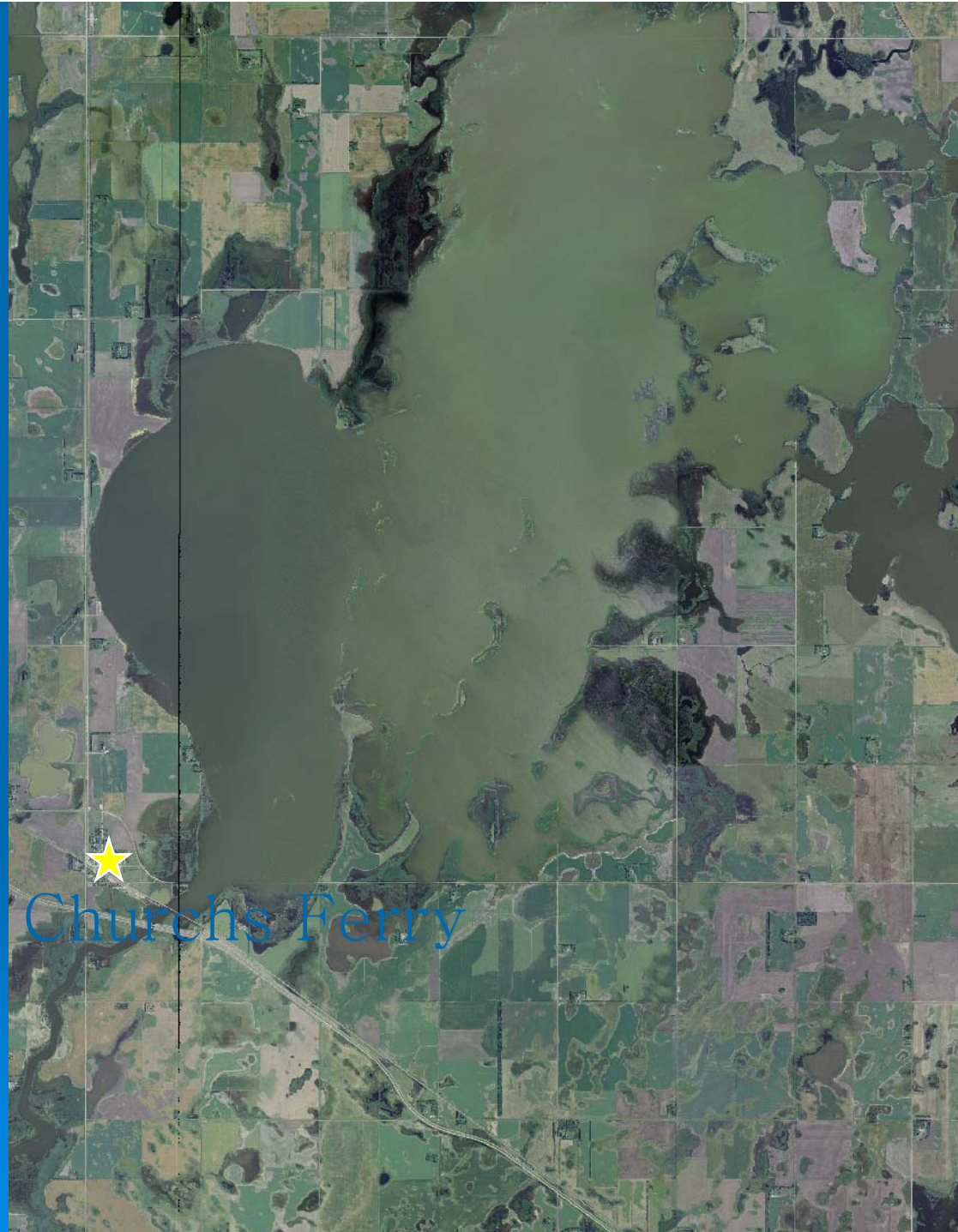




Churchs Ferry







Churchs Ferry



An aerial photograph showing a complex mosaic of agricultural fields, some with distinct patterns from plowing or planting. A yellow star is placed on a light-colored field in the center-right. The text 'Webster farm' is overlaid in blue, with the star positioned above the 'e' in 'Webster'.

Webster  
farm







Webster  
farm

The image is an aerial photograph of a wetland or marshy area, characterized by various shades of green, brown, and purple, indicating different vegetation and water levels. A yellow star is placed on the map to mark a specific location. The text 'Webster farm' is written in blue, with the star positioned above the word 'Webster'.

# Webster farm – 1990





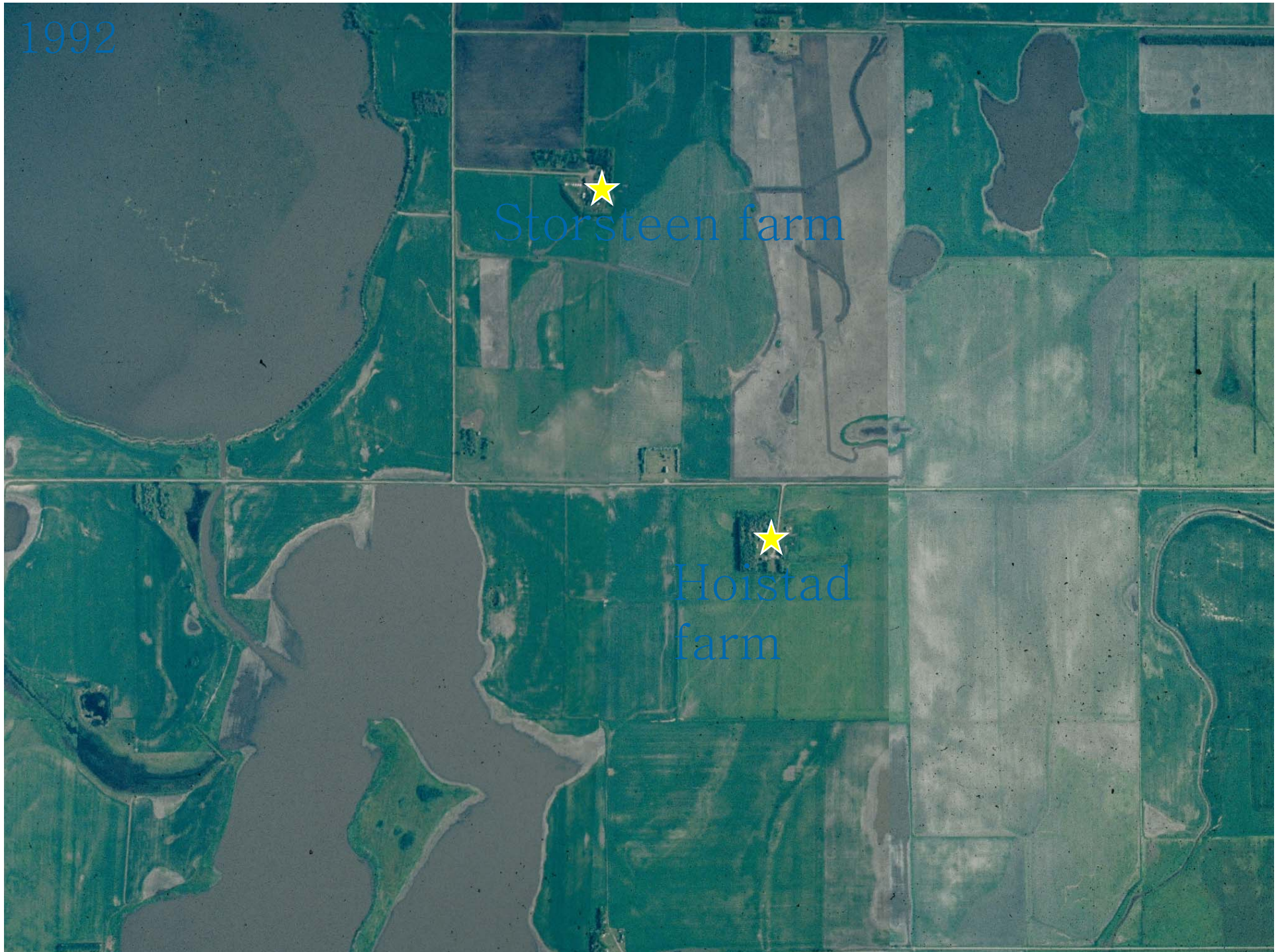
Homes razed to flooding



1992

★  
Storsteen farm

★  
Hoistad  
farm







★  
Storsteen farm

★  
Hoistad  
farm



# Storsteen farm – 1990



The 1990  
Peace  
Garden State



# Storsteen farm – 2010





Devils Lake

Stump Lake

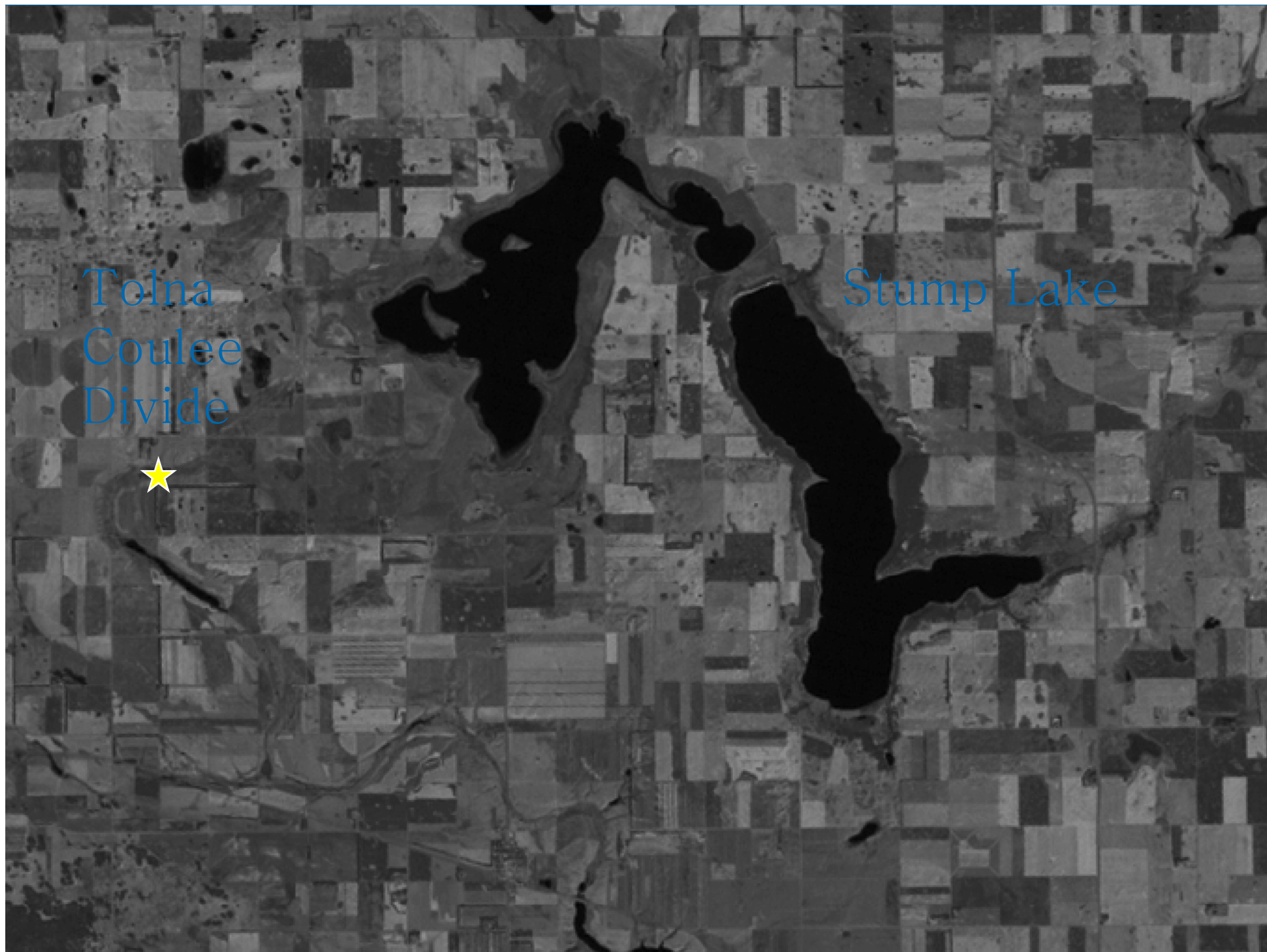




Devils Lake

Stump Lake





Tolna  
Coulee  
Divide

Stump Lake





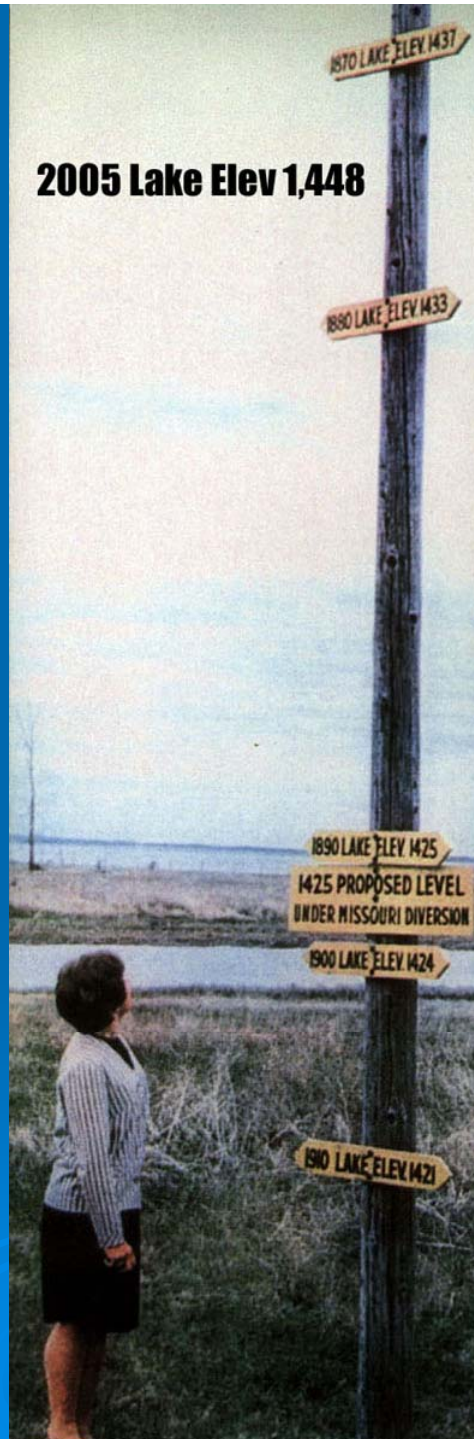
Tolna  
Coulee  
Divide



Stump Lake



**2005 Lake Elev 1,448**





# QUESTIONS?



# Contact Information

- Jeff Frith
- Devils Lake Basin Joint Water Resource Board
- [www.dlbasin.com](http://www.dlbasin.com)
- [manager@dlbasin.com](mailto:manager@dlbasin.com)
- 701-662-7076