

A painting of a spring landscape. In the foreground, there are several trees with bare branches and some with yellowing leaves. A small pond is visible in the middle ground. The background shows a line of trees and a soft, hazy sky. The overall color palette is dominated by greens, yellows, and browns, suggesting a warm, spring atmosphere.

Minnesota's Spring Inventory

Greg Brick, Ph.D.
Minnesota Department of Natural Resources

Statewide Spring Inventory

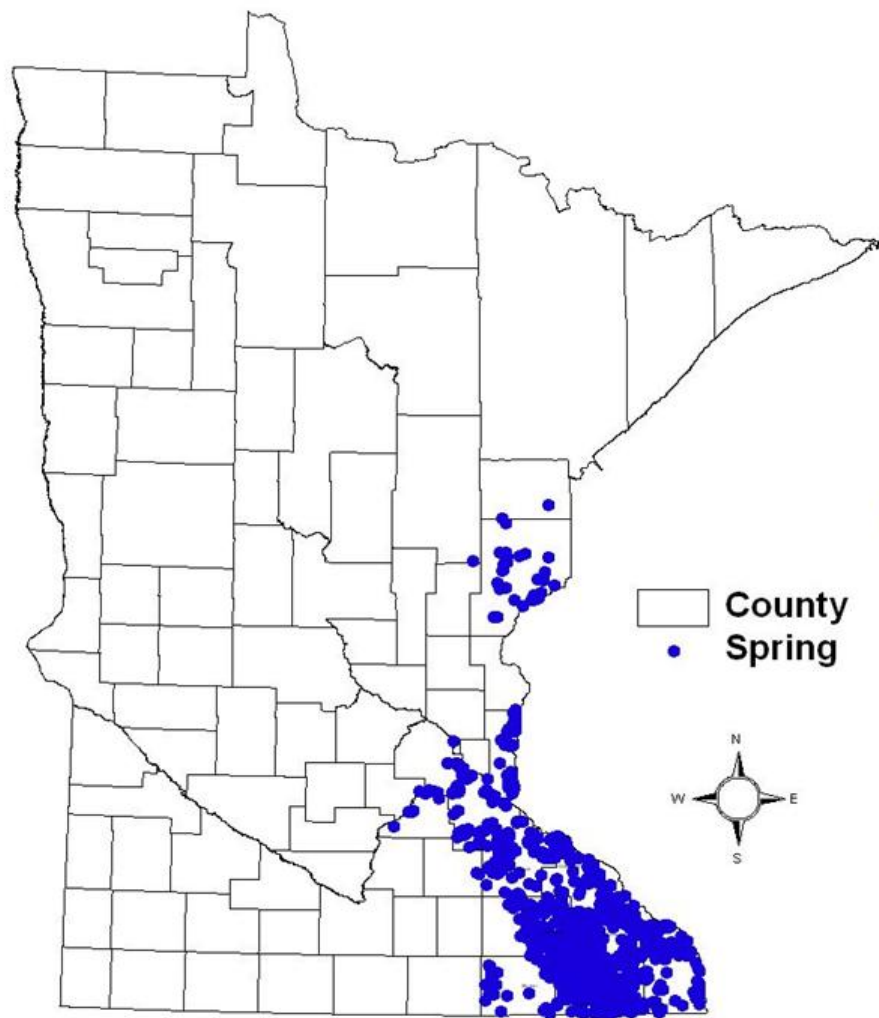
- Funded by LCCMR
- Legacy data
- Field verification
- Public lands



Funding for this project was provided by the
Minnesota Environment and Natural Resources Trust Fund and the Clean Water Fund.

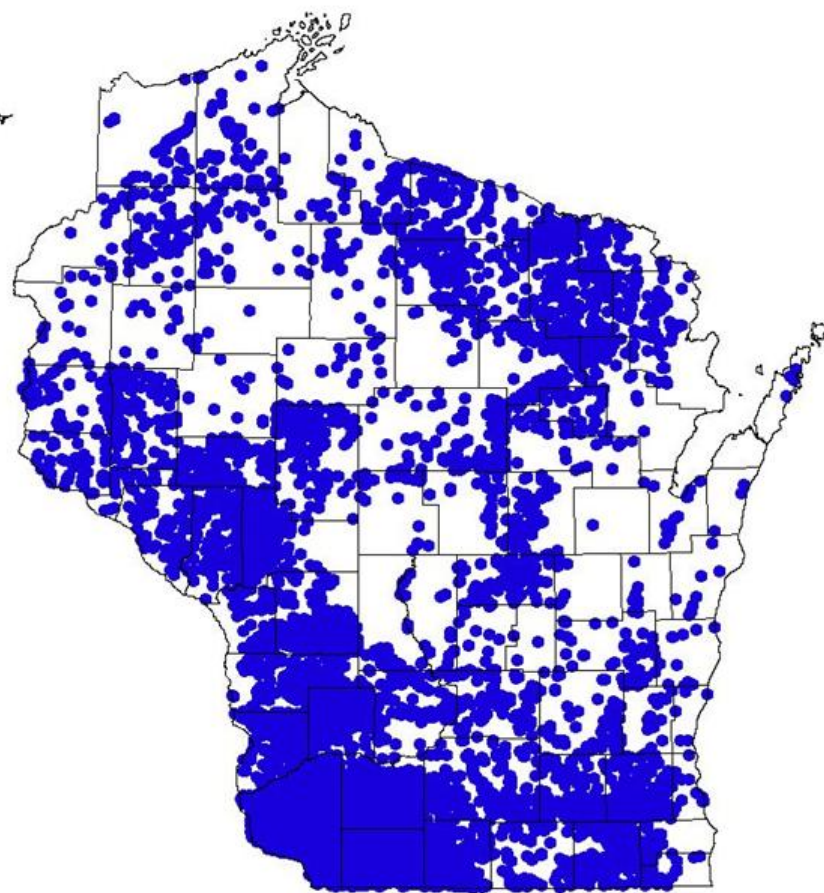


Minnesota



100 0 100 Miles

Wisconsin



70 0 70 Miles

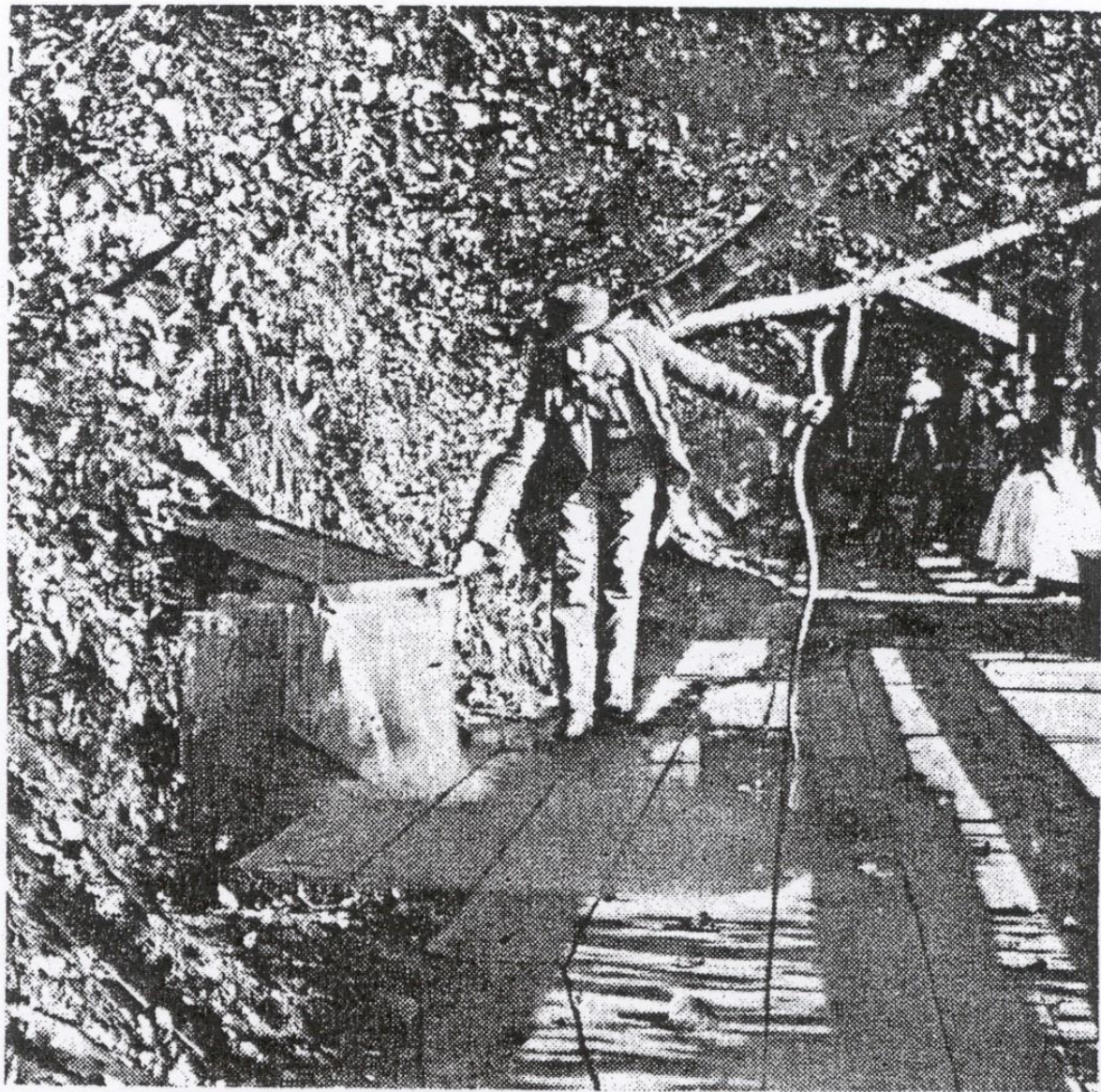
HISTORICAL



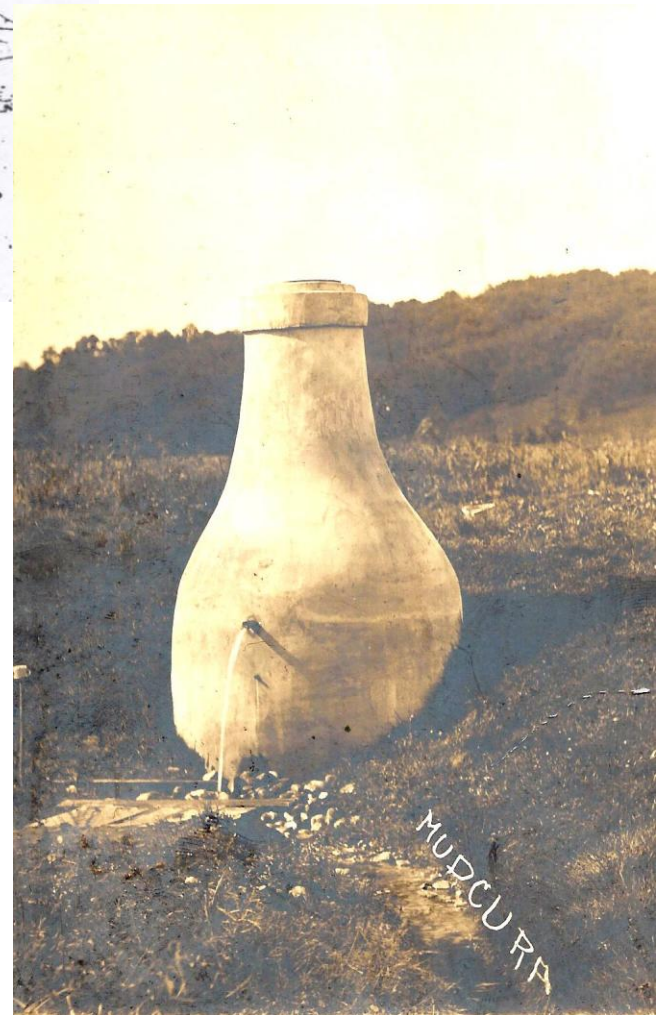
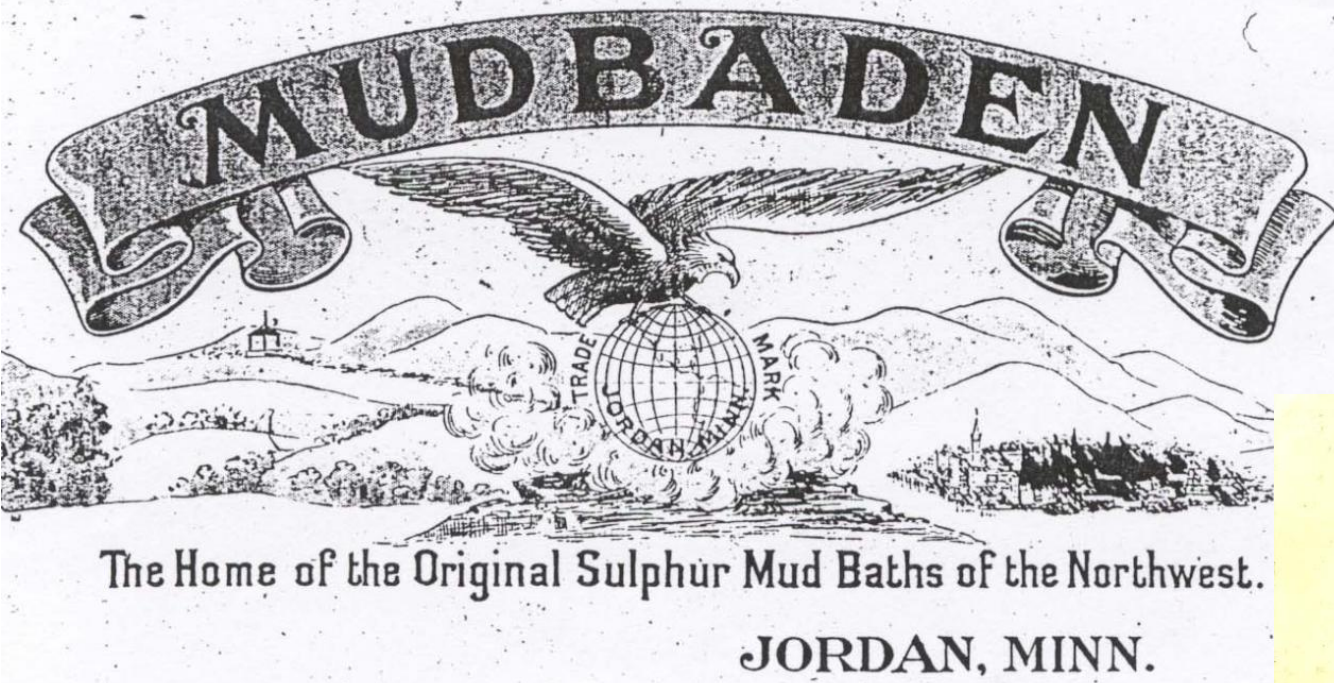
Camp Coldwater



Fountain Cave

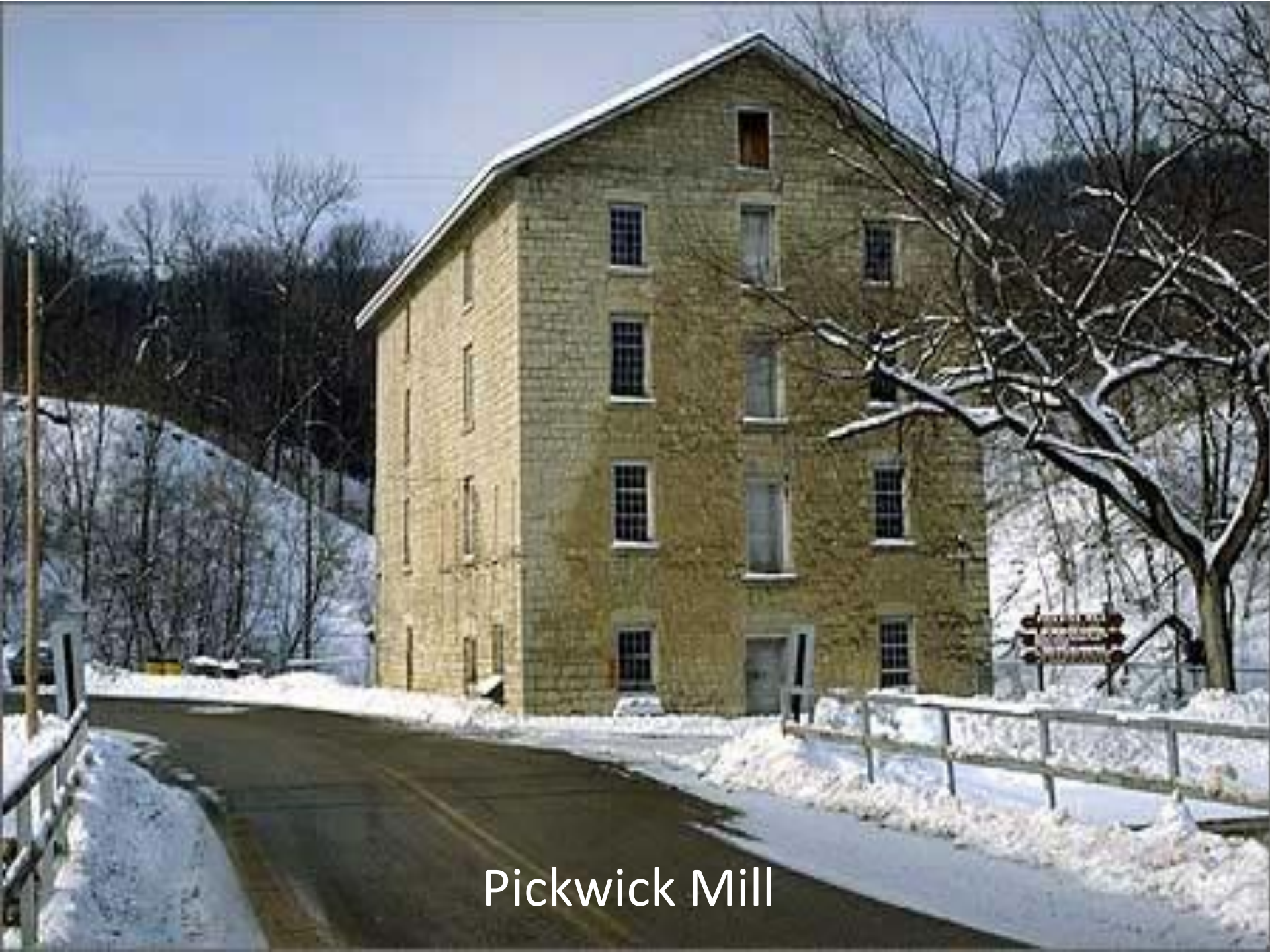


CHALYBEATE *Springs, St. Anthony, 1870*





Grand Marais



Pickwick Mill

A VALUABLE NATURAL RESOURCE



COLD SPRINGS

Since 1924

TROUT FARM

Where you always catch your limit!

FISH HATCHERIES
ST. PAUL, MINN.





Swan Spring



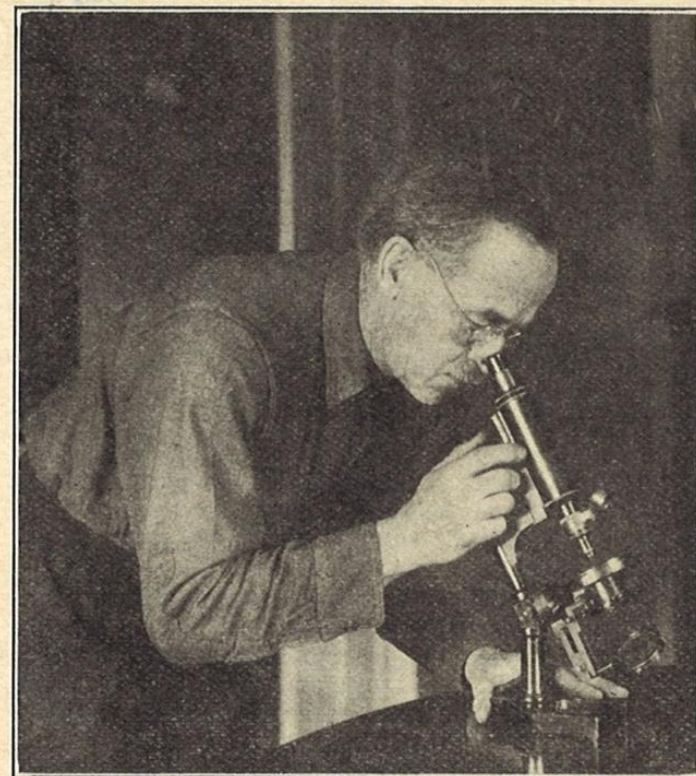
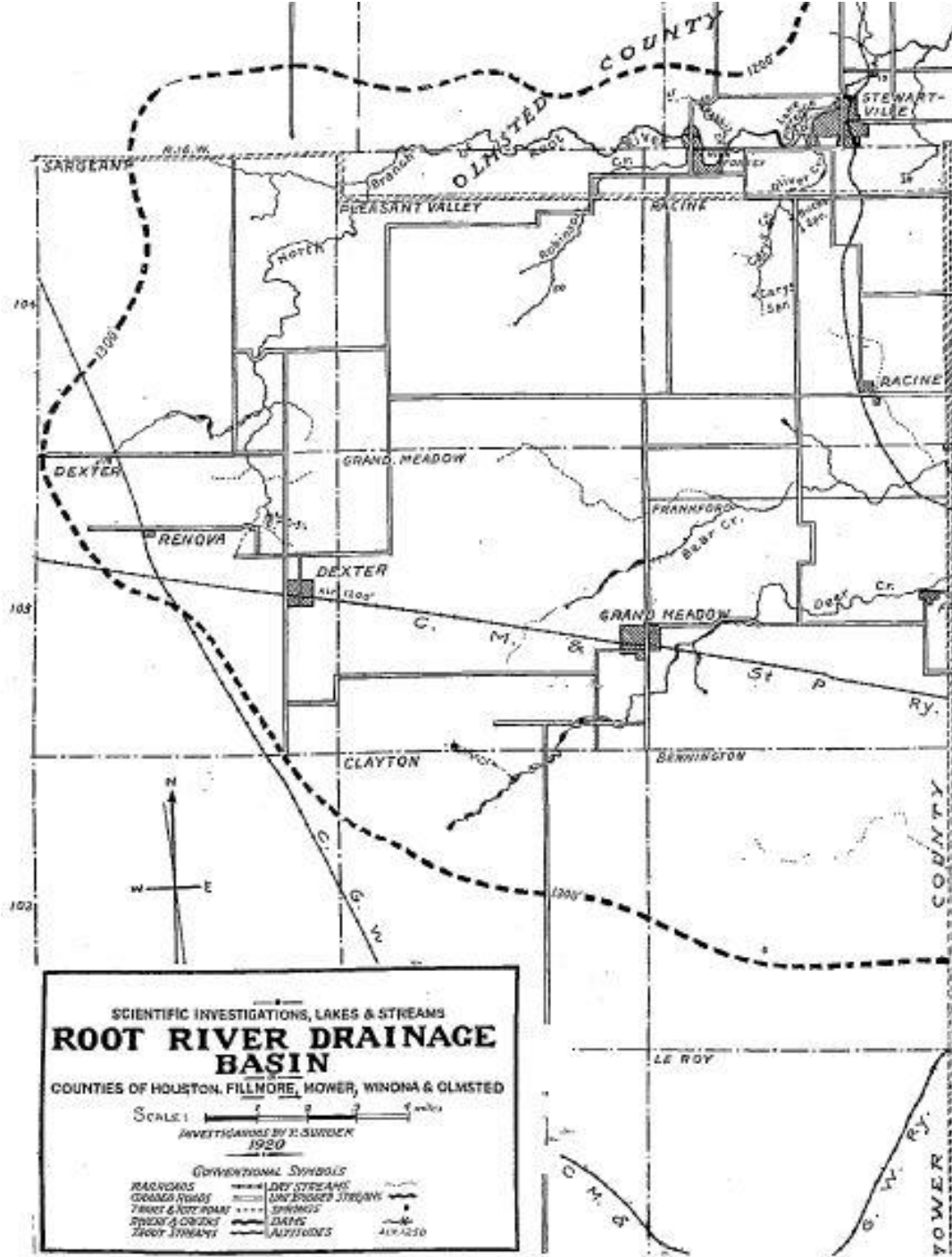


Carver's Cave

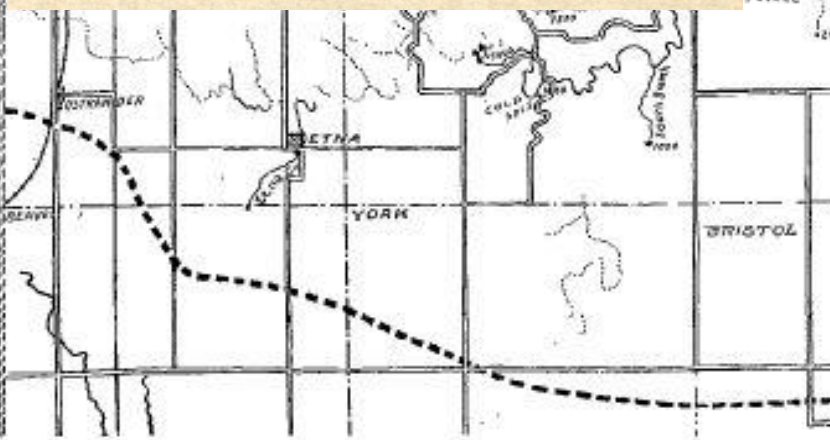


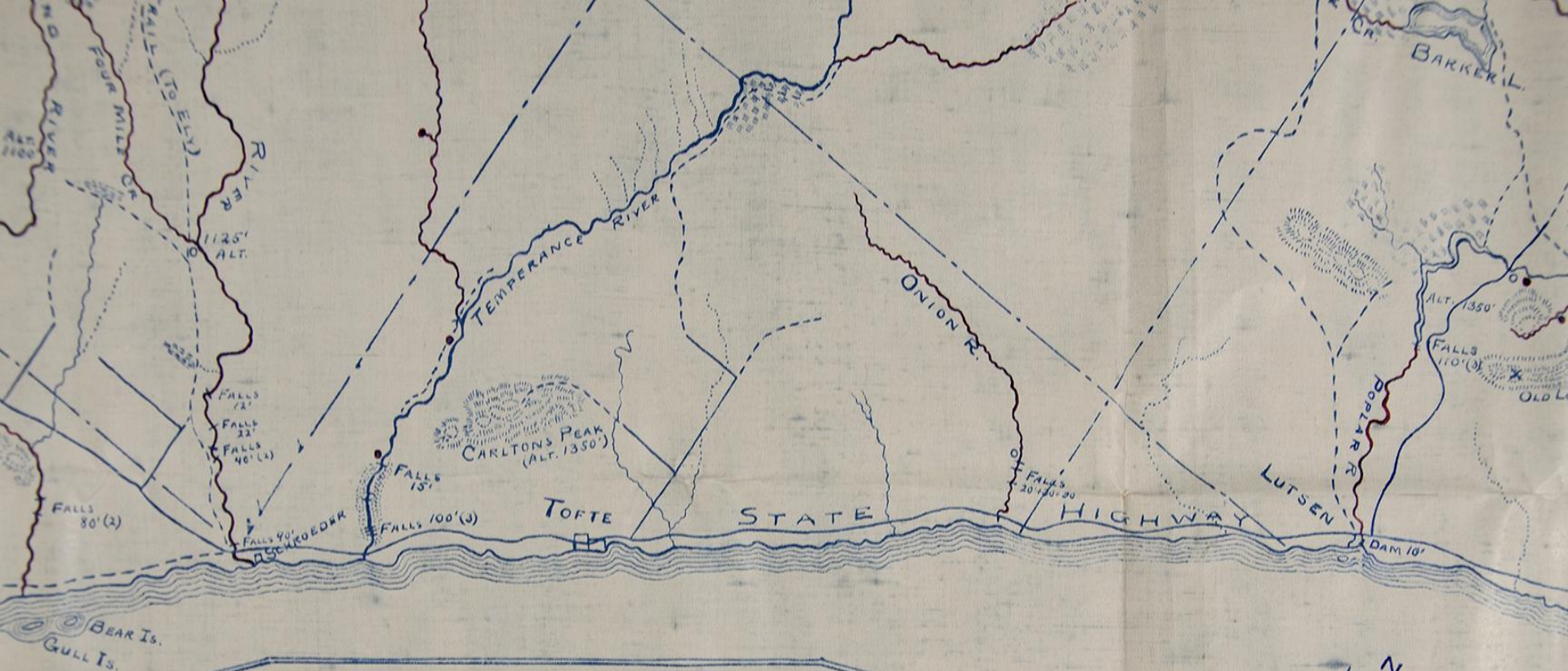
Calcareous Fens

SURVEYS



An intimate portrait of the author,
 Thaddeus Surber





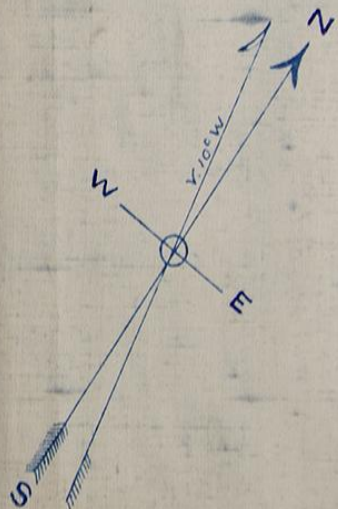
MINNESOTA
GAME & FISH DEPARTMENT
SURVEY & INVESTIGATIONS

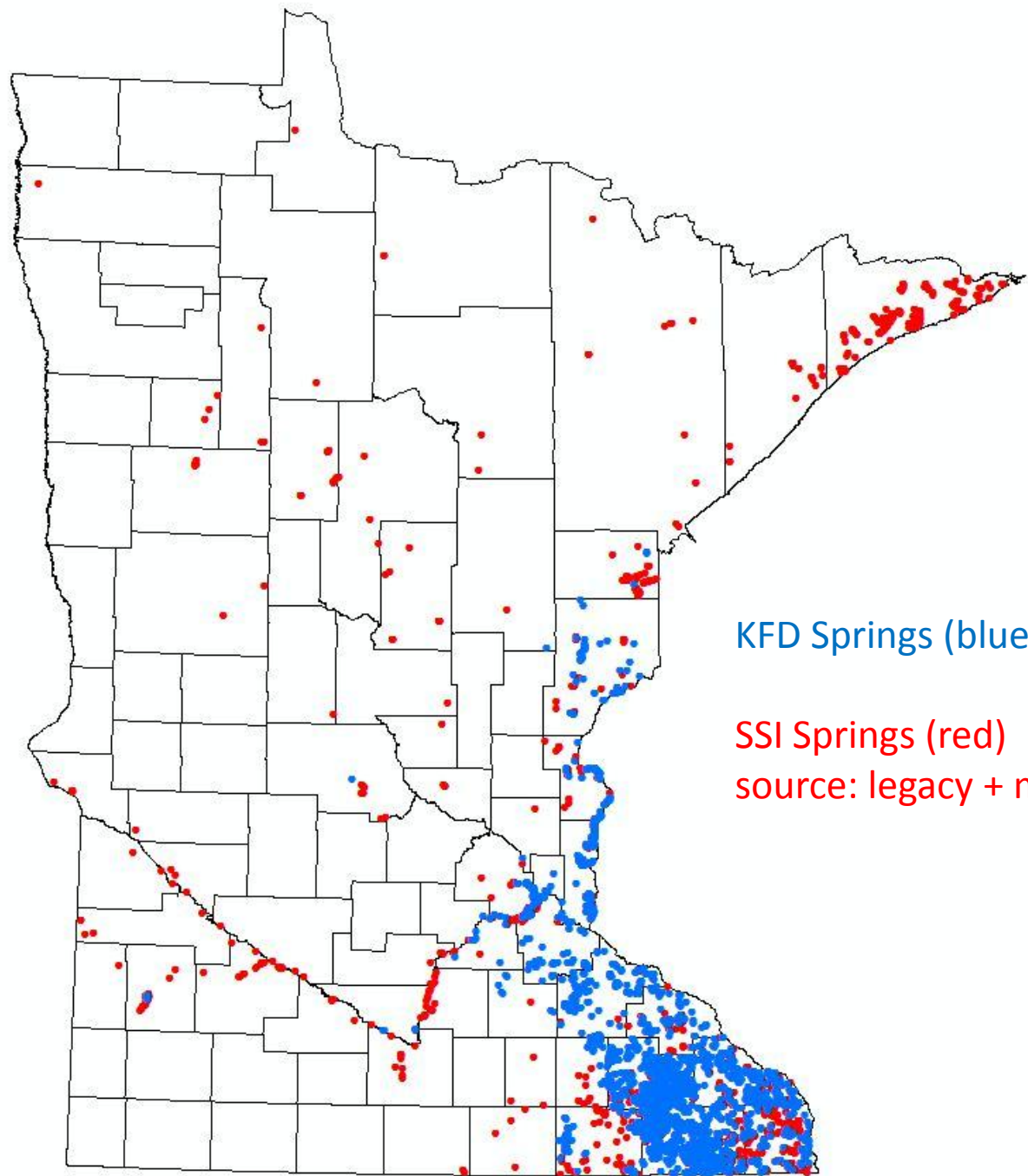
(10)

STREAMS TRIBUTARY TO LAKE SUPERIOR

BAPTISM RIVER TO DEVILS TRACK RIVER

INVESTIGATIONS BY T. SURBER -- 1922





KFD Springs (blue)

SSI Springs (red)
source: legacy + mapped

SPRING CLASSIFICATION

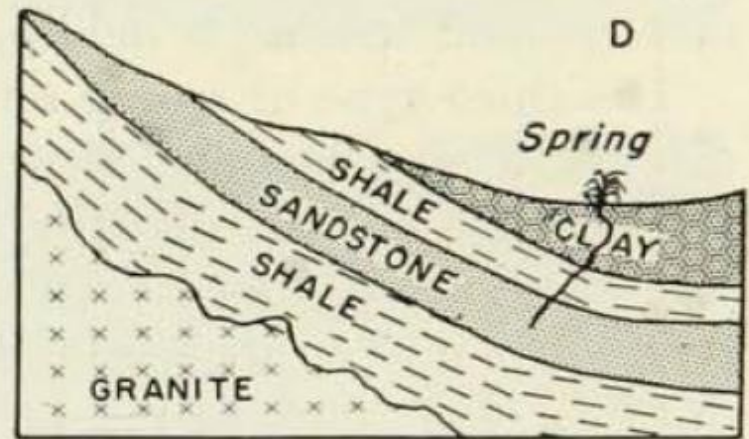
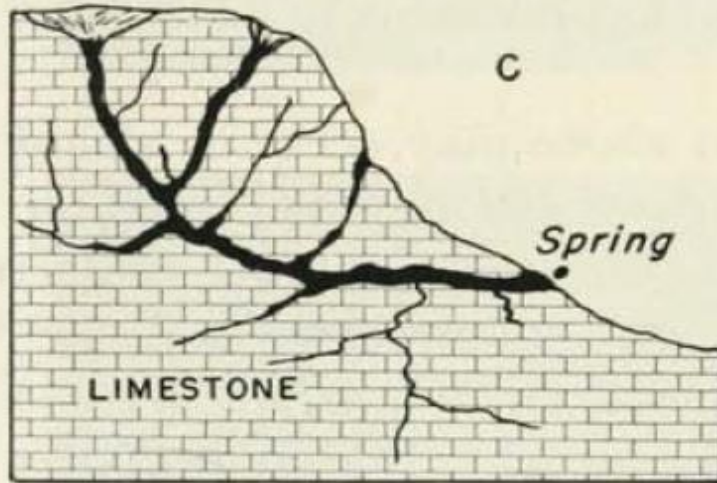
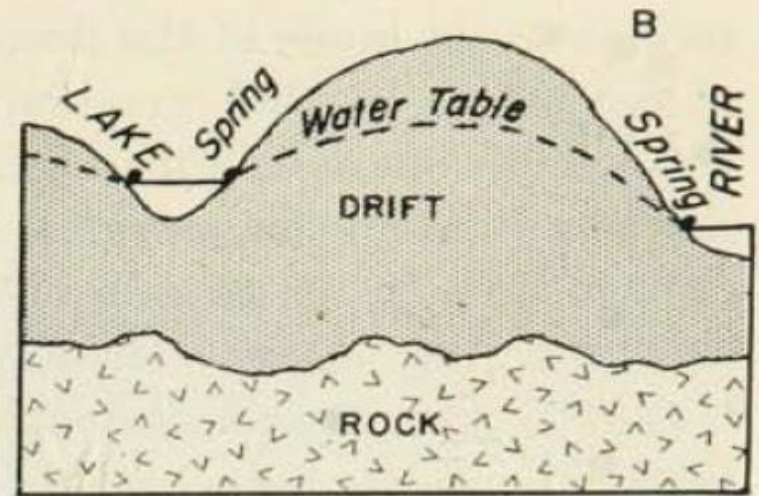
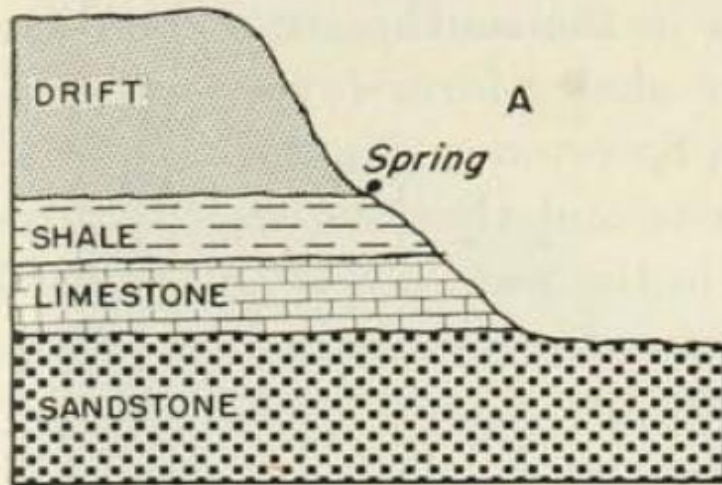


Figure 26. Diagrams showing some structures favorable for the formation of springs.



Contact Spring



WATSON CREEK CAVE
WYKOFF MINN



Fluvial



Littoral Spring

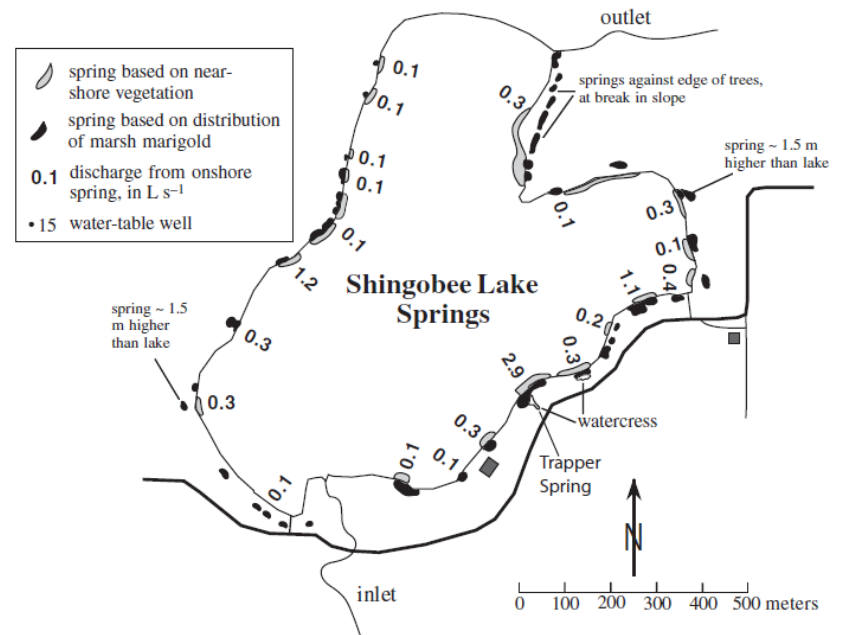


BIOLOGY

Amphipod



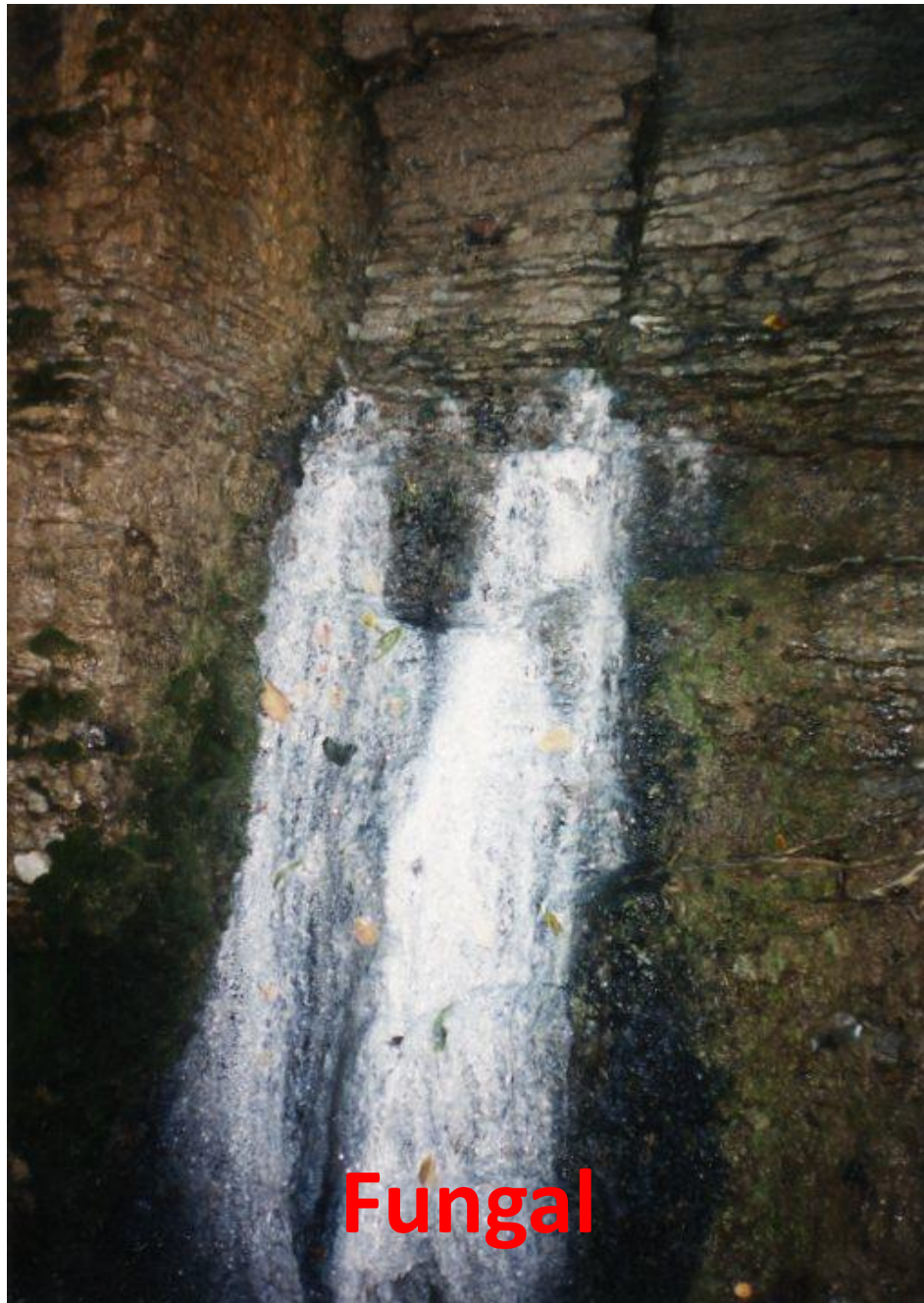
Marsh Marigolds



From Rosenberry et al (2000)



Bacterial Floccs

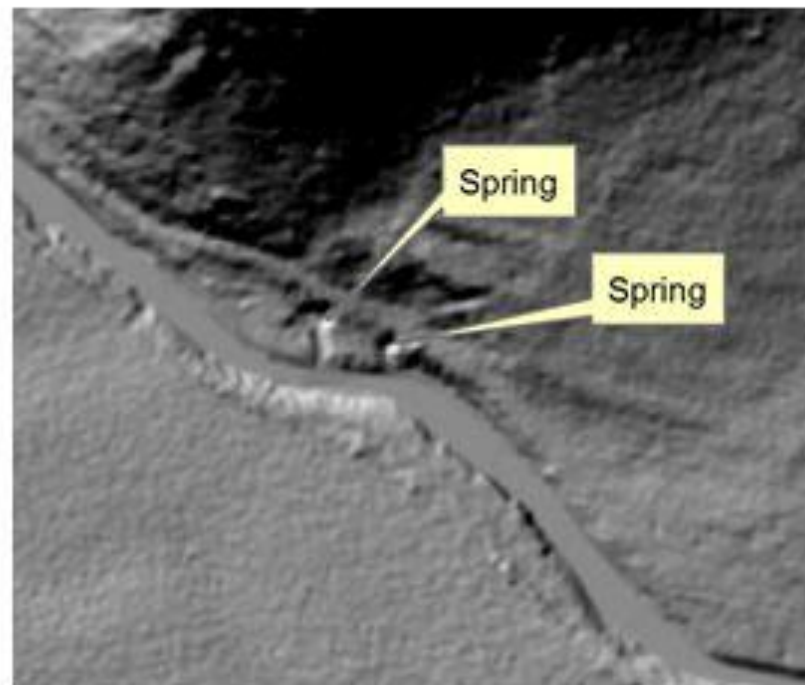


Fungal

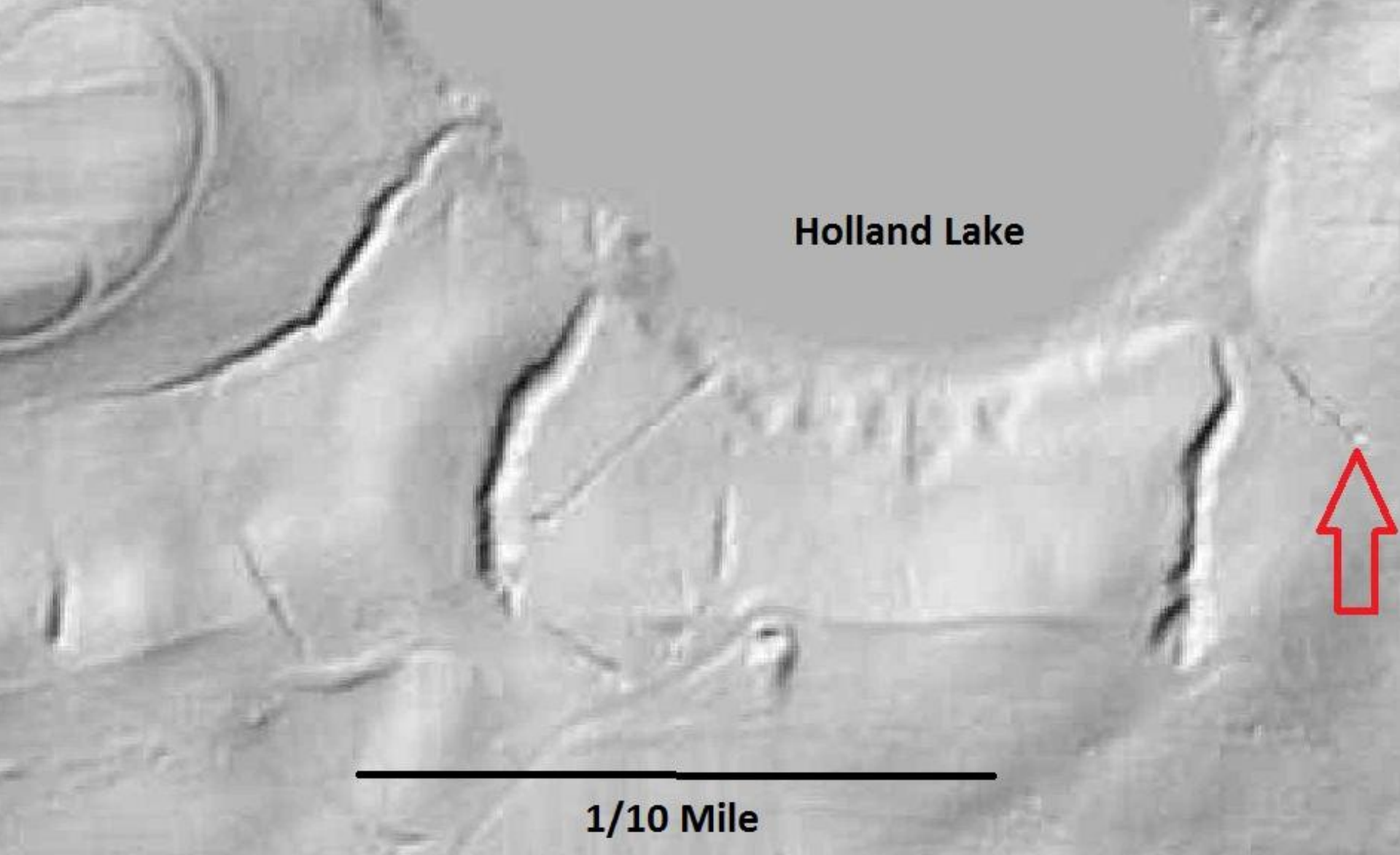
TOOLS



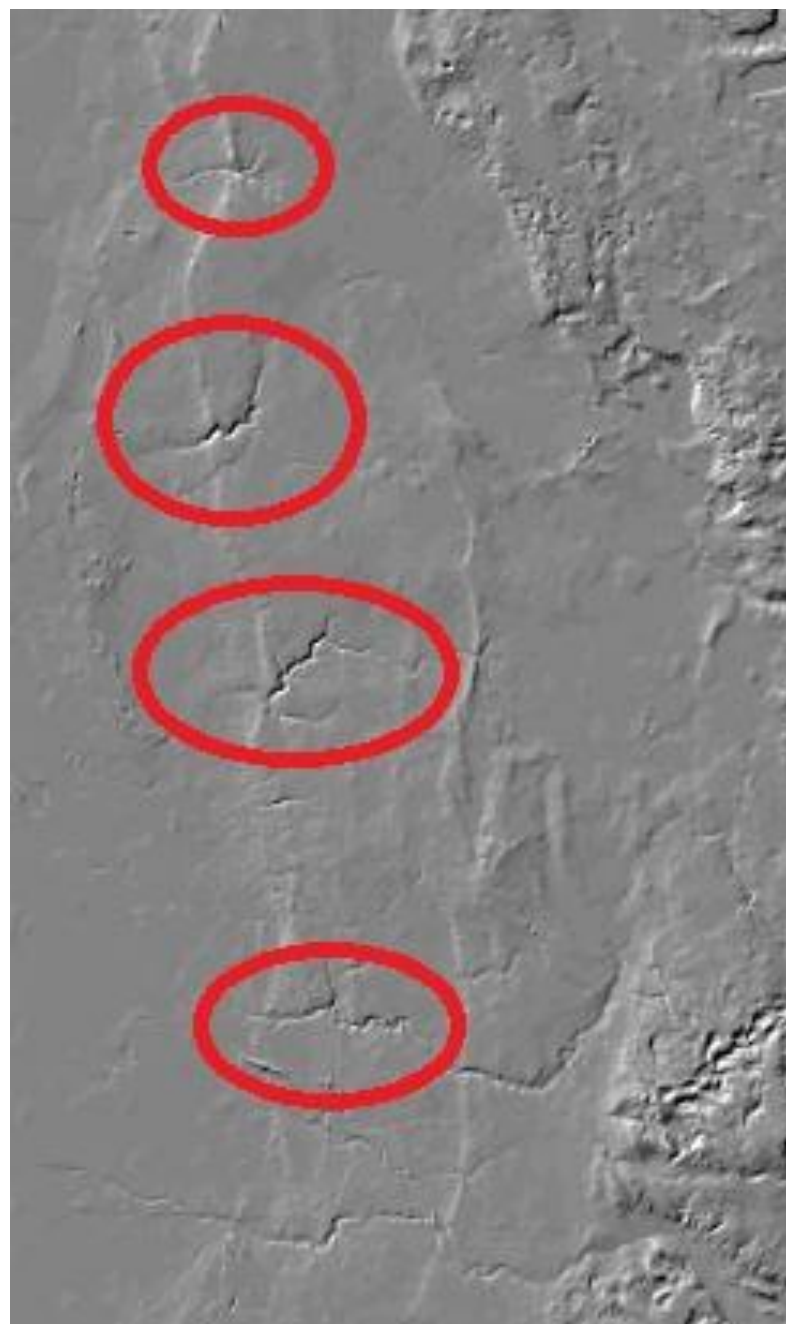
Color IR aerial photo



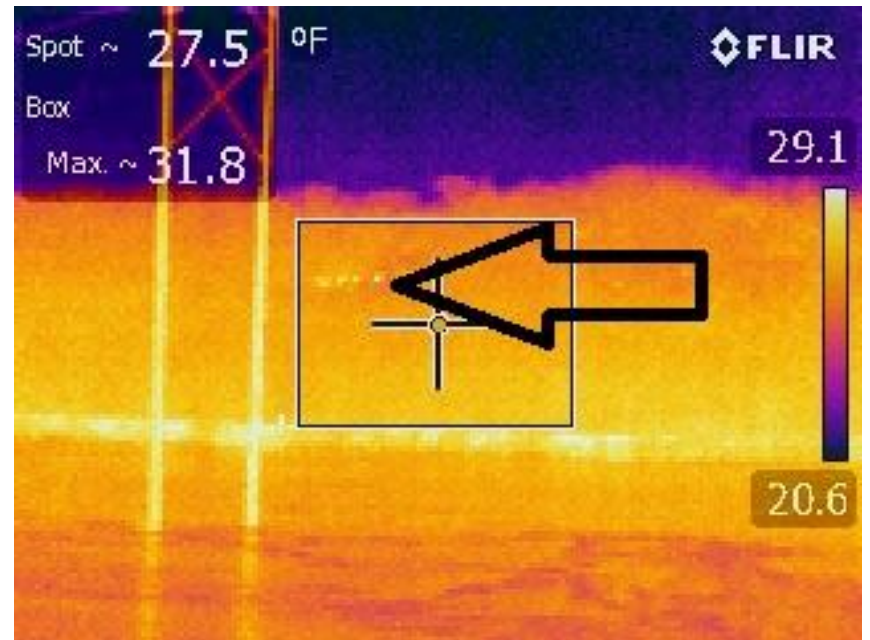
One meter LiDAR hillshade



Lebanon Hills Regional Park



FLIR



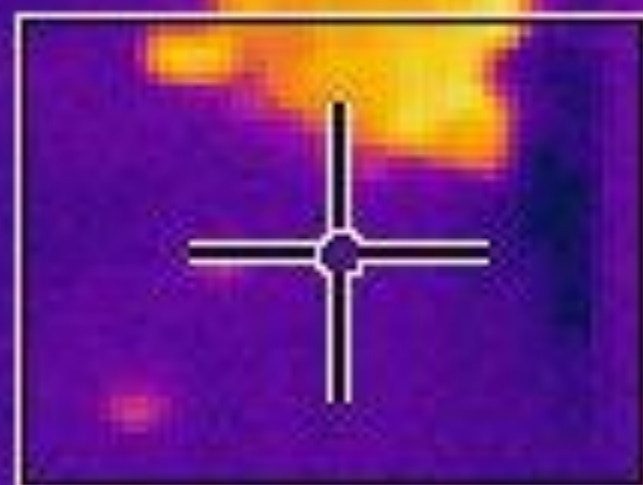
Spot ~ 57.6 °F

 FLIR

Box

Max. ~ 70.5

72.1



54.8

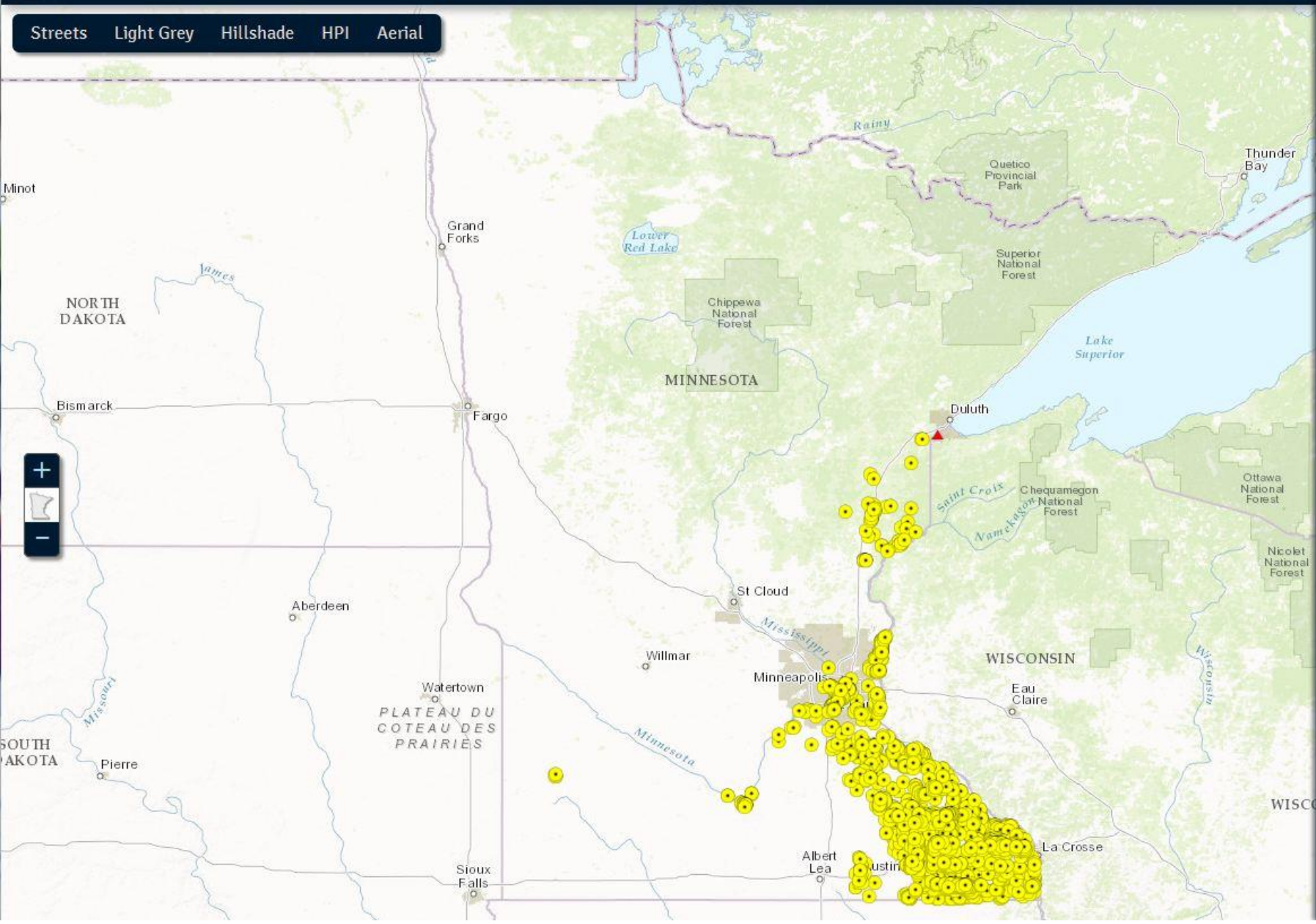
DATA MANAGEMENT



Tablet

SPRINGS INVENTORY SYSTEM

Streets Light Grey Hillshade HPI Aerial

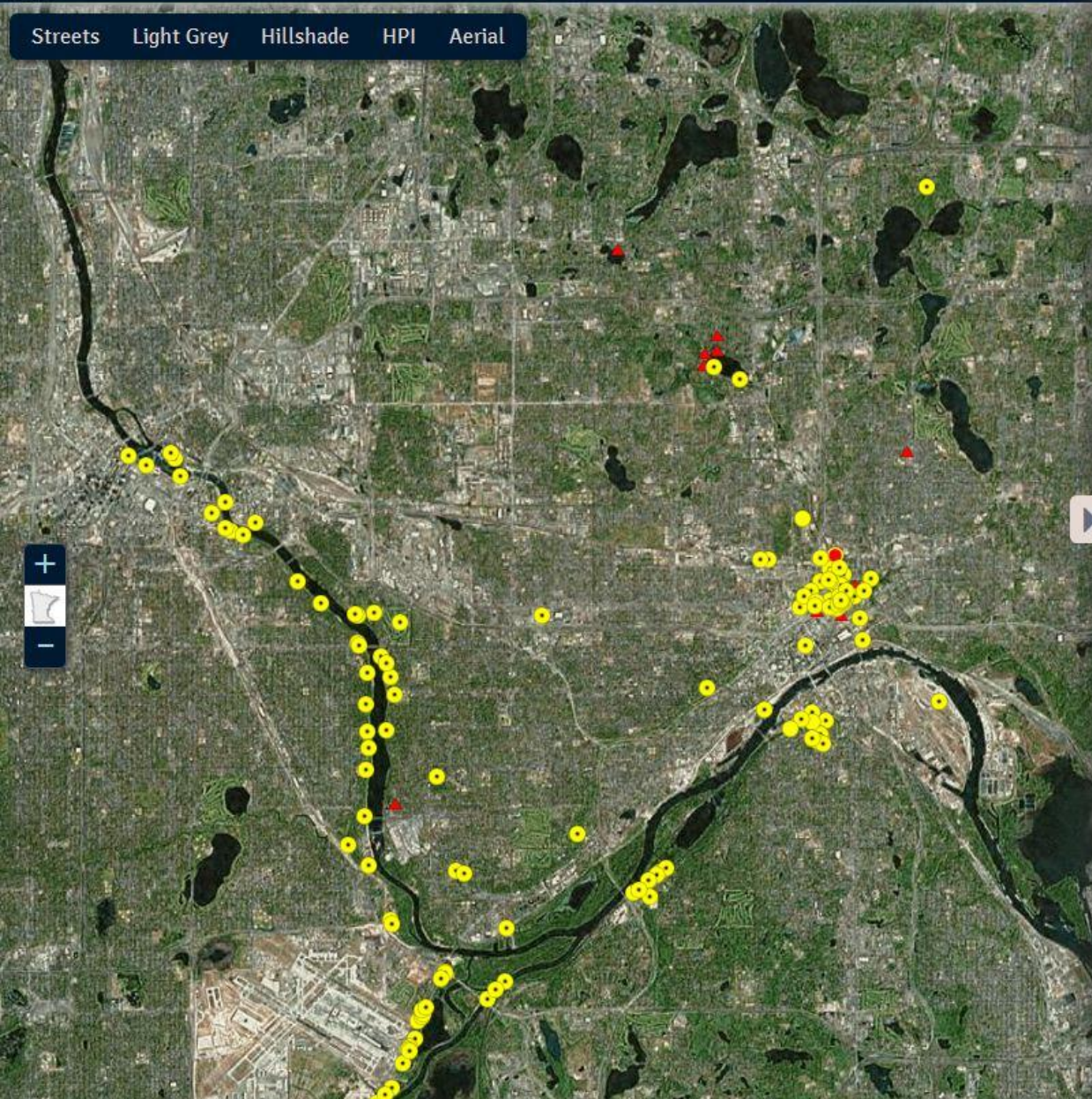


- Legend
- Search
- Add Spring

Logout

SPRINGS INVENTORY SYSTEM

Streets Light Grey Hillshade HPI Aerial



Springs Inventory Map Key

- Spring—Not field verified
- Spring
- ▲ Candidate Spring
- 123 Spring
- Citizen Spring

Legend

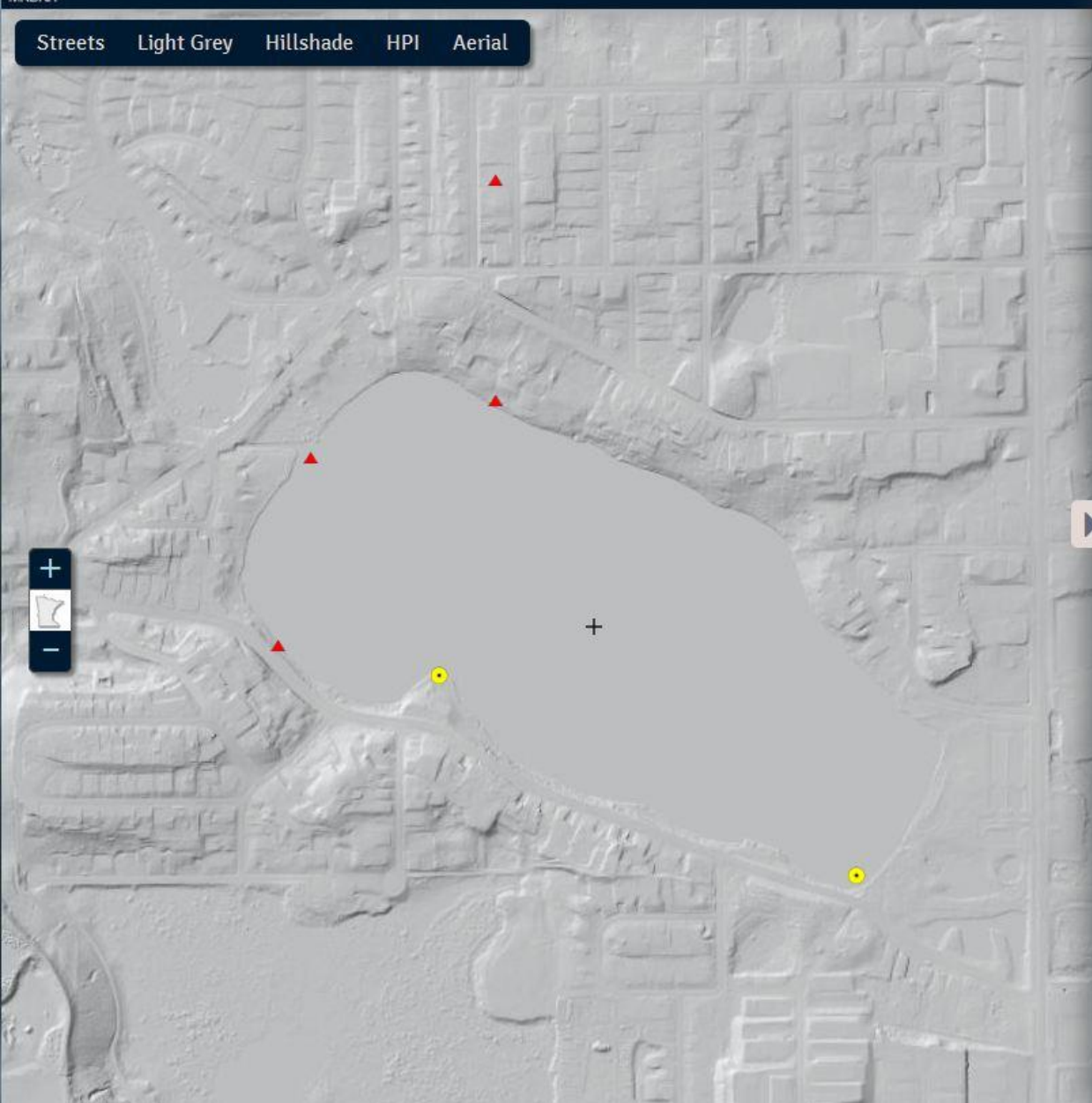
Search

Add Spring

Logout

SPRINGS INVENTORY SYSTEM

Streets Light Grey Hillshade HPI Aerial



Click 'Add Spring' when Done

Survey Name:

Spring Name:

Field Checked Date:

Field Checked:

Unknown

Status:

Digitized on map

Relate ID =

Feature:

spring

Feature Subtype:

Spring

Feature Arrangement:

Single

Spring Type:

Contact Bedding Plane - visible

Spring Type Comment:

Lithology:

Limestone / Dolomite

Lithology Comment:

Legend

Search

Add Spring

Logout


Citizen Science App: Help with beta testing!



Verizon 6:46 AM 99% State of Minnesota

1. Enter Information

Observation Date:



Enter the date of your spring observation.

Spring Name:

Enter the spring name if known.

Year round flow?

Enter yes or no if the spring flows year round.

Origin of spring:

Where does the spring originate from?

General Comments:


Enter any observation comments or describe 'other' things here.

Verizon 6:47 AM 99% State of Minnesota

General Comments:

Enter any observation comments or describe 'other' things here.


Email Address (Optional):



Enter your email address if you would like to be notified when the spring has been added to the statewide spring database. Do not enter if you are younger than 18 years old.

Phone Number (Optional):

Enter your phone number if you don't mind having the DNR contact you with questions about the spring. Do not enter if you are younger than 18 years old.

 **Attach any photos of the spring here.**

QUESTIONS

Contacts

Minnesota River valley and north of that: **gregory.brick@state.mn.us**

South of the Minnesota River corridor: **jeff.green@state.mn.us**

The screenshot shows a web browser window with the URL www.dnr.state.mn.us/waters/groundwater_section/mapping/springshed.html. The browser's address bar includes navigation icons, a search bar, and a list of bookmarks: Most Visited, Getting Started, MNDNR Intranet, MNDNR, Suggested Sites, and Web Slice Gallery. The website header features the Minnesota Department of Natural Resources logo, a search bar, and a navigation menu with links: RECREATION, DESTINATIONS, NATURE, EDUCATION & SAFETY, LICENSES, PERMITS & REGULATIONS, EVENTS CALENDAR, and ABOUT DNR. The main content area displays the breadcrumb trail: Home > Ecological and Water Resources (Waters) > Groundwater > County Atlas Mapping >. Below this, the text "County Geologic Atlas Program" is followed by a vertical line and the title "Karst and Springs".

Minnesota Department of Natural Resources CONTACT US

Search...

MNDNR

RECREATION DESTINATIONS NATURE EDUCATION & SAFETY LICENSES, PERMITS & REGULATIONS EVENTS CALENDAR ABOUT DNR

Home > Ecological and Water Resources (Waters) > Groundwater > County Atlas Mapping >

County Geologic Atlas Program

Karst and Springs



**ENVIRONMENT
AND NATURAL RESOURCES
TRUST FUND**