



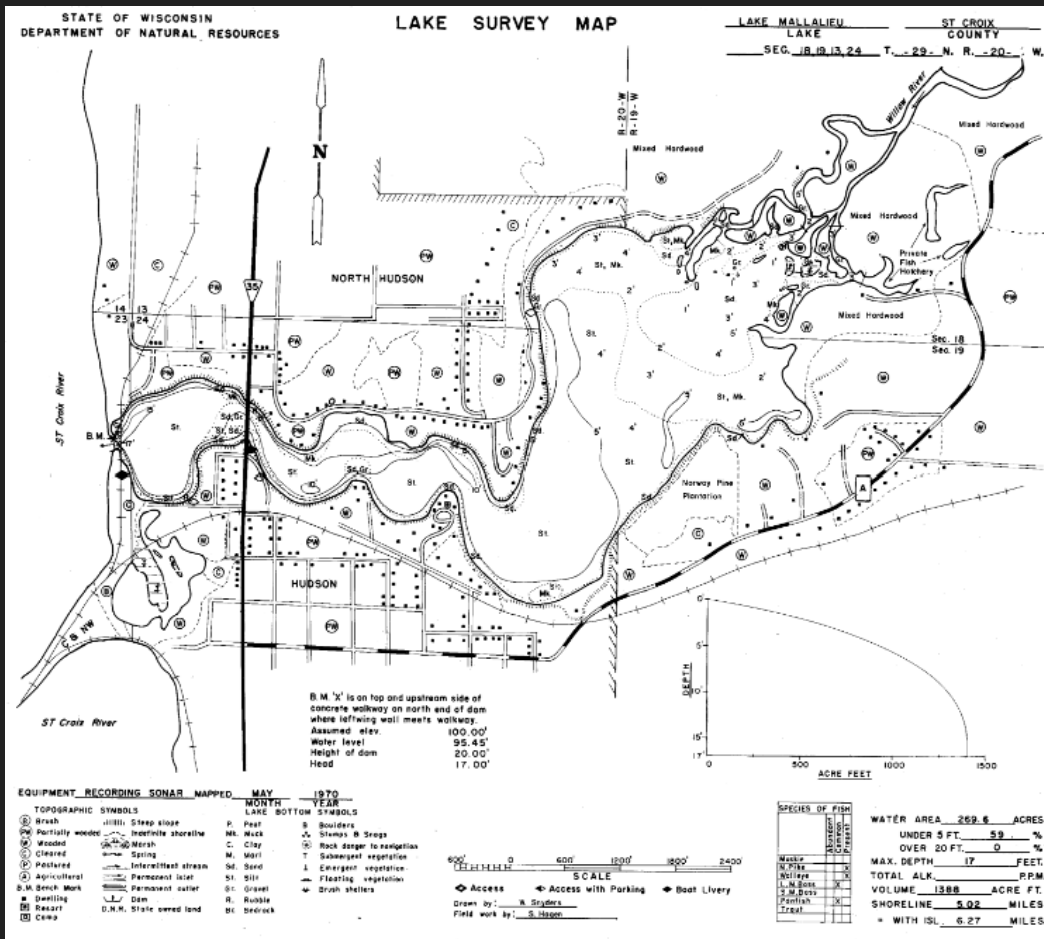
# Lake Mallalieu – Drawdown Discussion

*LMA and WDNR Meeting August 12, 2024*

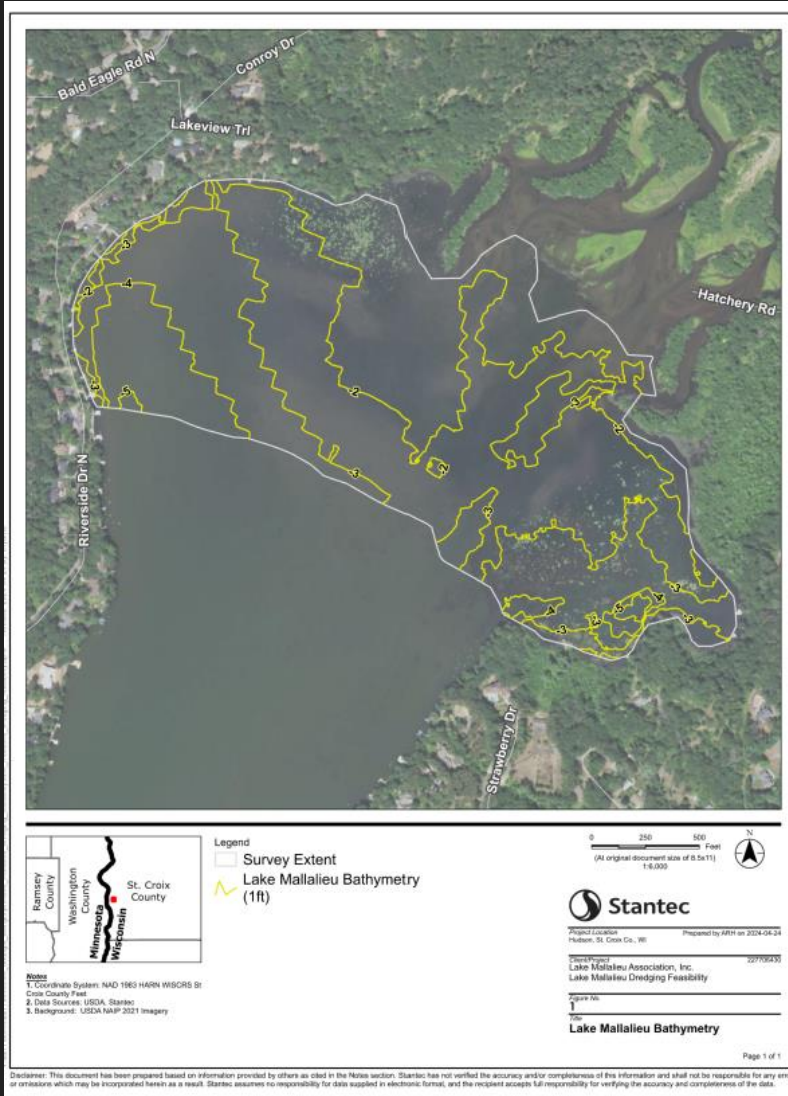


# Agenda

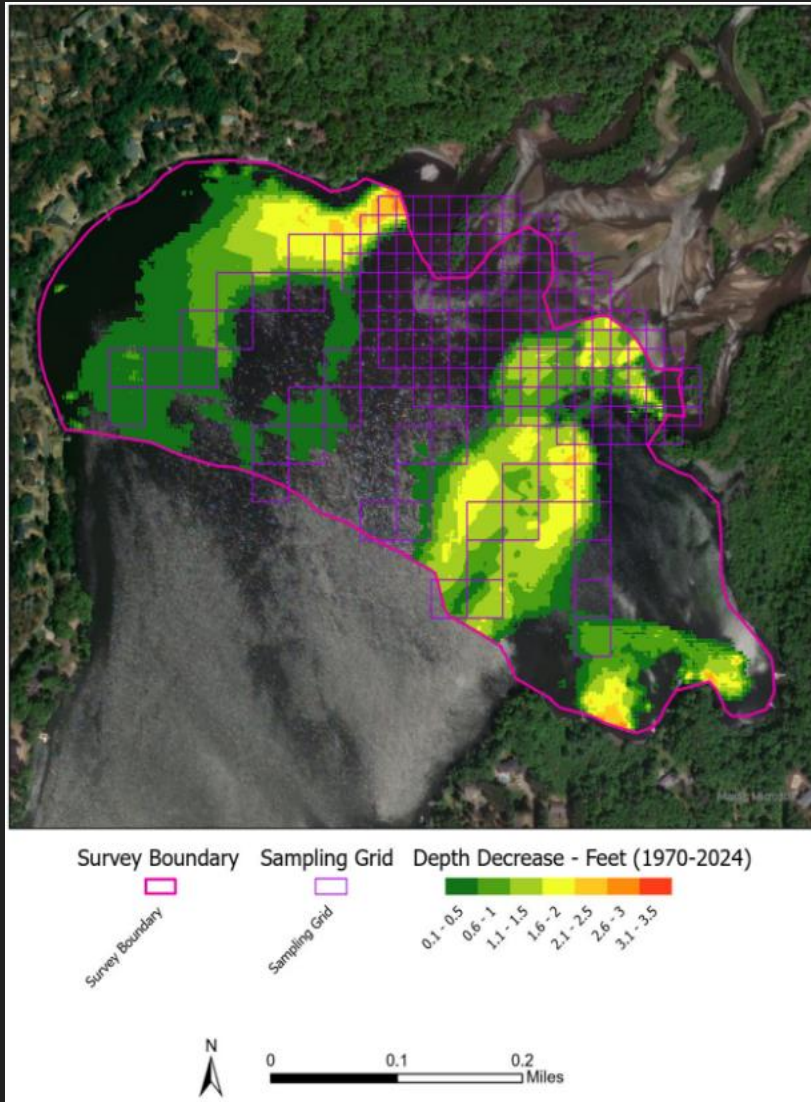
- Introductions
- Brief overview of recent bathymetric and soft sediment depth measurements
- Discussion of drawdown options for Lake Mallalieu
  - depth, timing, process, permitting
  - Other considerations
  - Action Items
  - Next Meeting on September 4, 2024



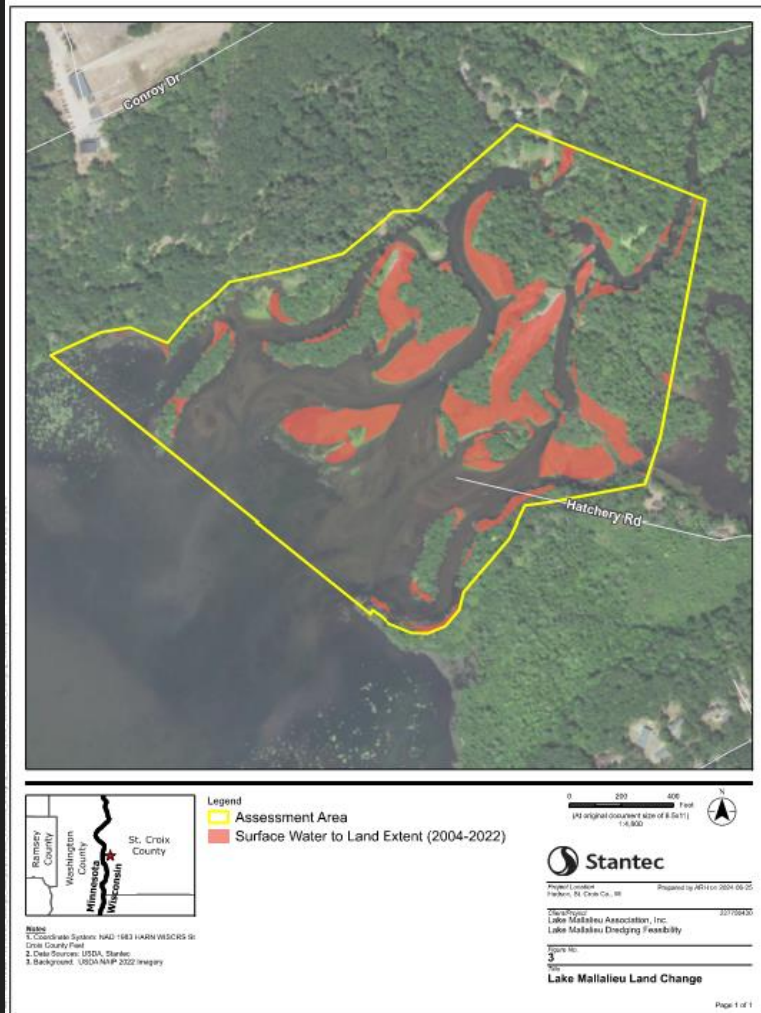
- Bathymetry map from 1970.
- Not in digital form.
- Fair degree of uncertainty in map details due to technological limitations at that time



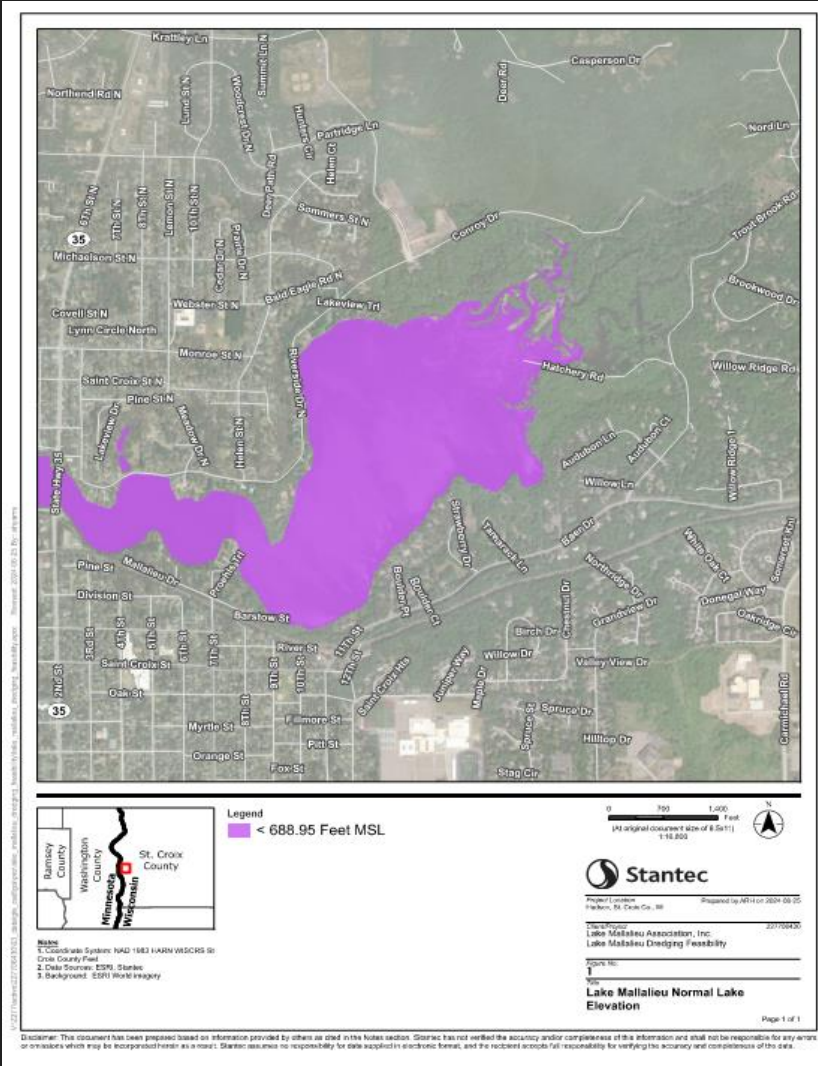
- Bathymetry data collected in May 2024
- Bathymetric surveys could not be completed further upstream than the extent shown on the map due to water levels < 1 ft.



- We compared the 1970 bathymetry map to the bathymetry data collected in May 2024.
- Caveat: The 1970 map had to be manually digitized so there is a fair degree of uncertainty around each depth assumption.

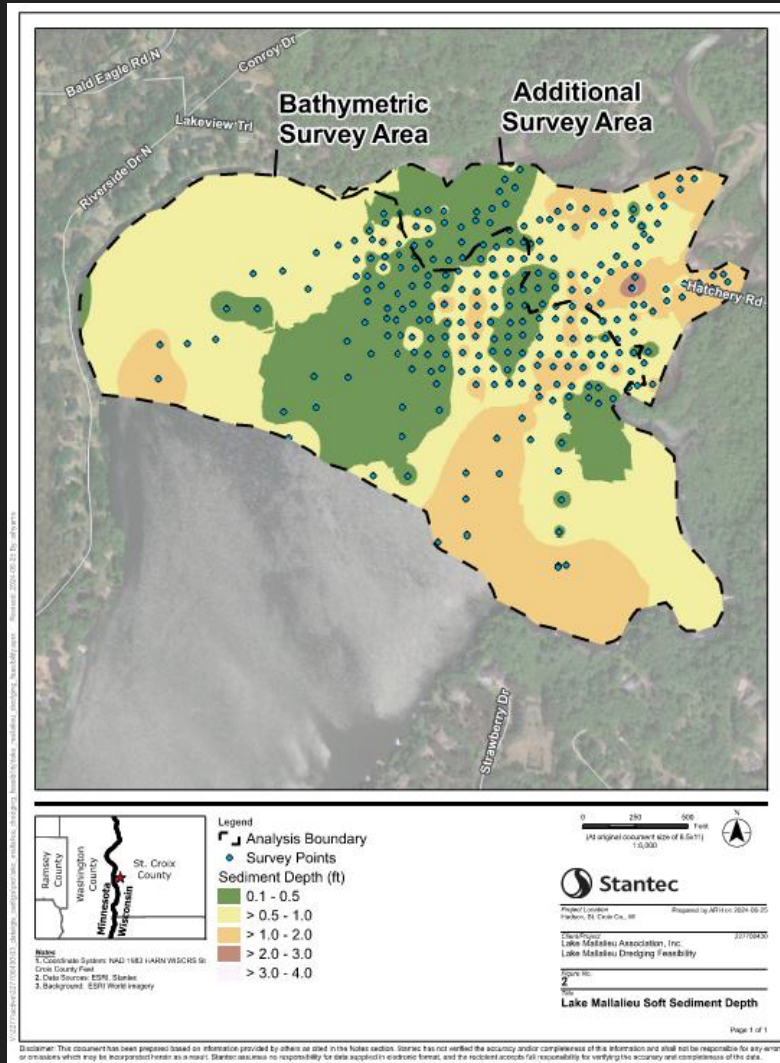


- We applied the same technique to the braided channels upstream
- We assumed 1-ft water depths under current conditions
- The map on the left shows the estimated change in landform from 1970 to 2024
- The orangish-red areas indicate where land currently exists that was previously underwater as of 1970
- Caveat: the minimum operating level of the Lake Mallalieu dam was not put into order until 1983.



- Because this is an impoundment with ordered water levels, the boundary of the impoundment (Lake Mallalieu) is at the highest ordered operating level.
  - Normal Water Level of 688.95 feet MSL
- This elevation will be the boundary of Lake Mallalieu for Waterways permitting purposes regardless of whether the dam is currently operated at that level





- Map shows vertical depth ranges of soft sediment measurements
- Depths in b/t survey points were interpolated
- More confidence in locations nearest the survey point
- Sediment accumulation is highly spatially variable and not very deep
- Uncertainty:
  - Depth of soft sediment from dam breach or natural riverine sediment transport vs previous organic matter layer

