

# Starry Stonewort Management in Minnesota

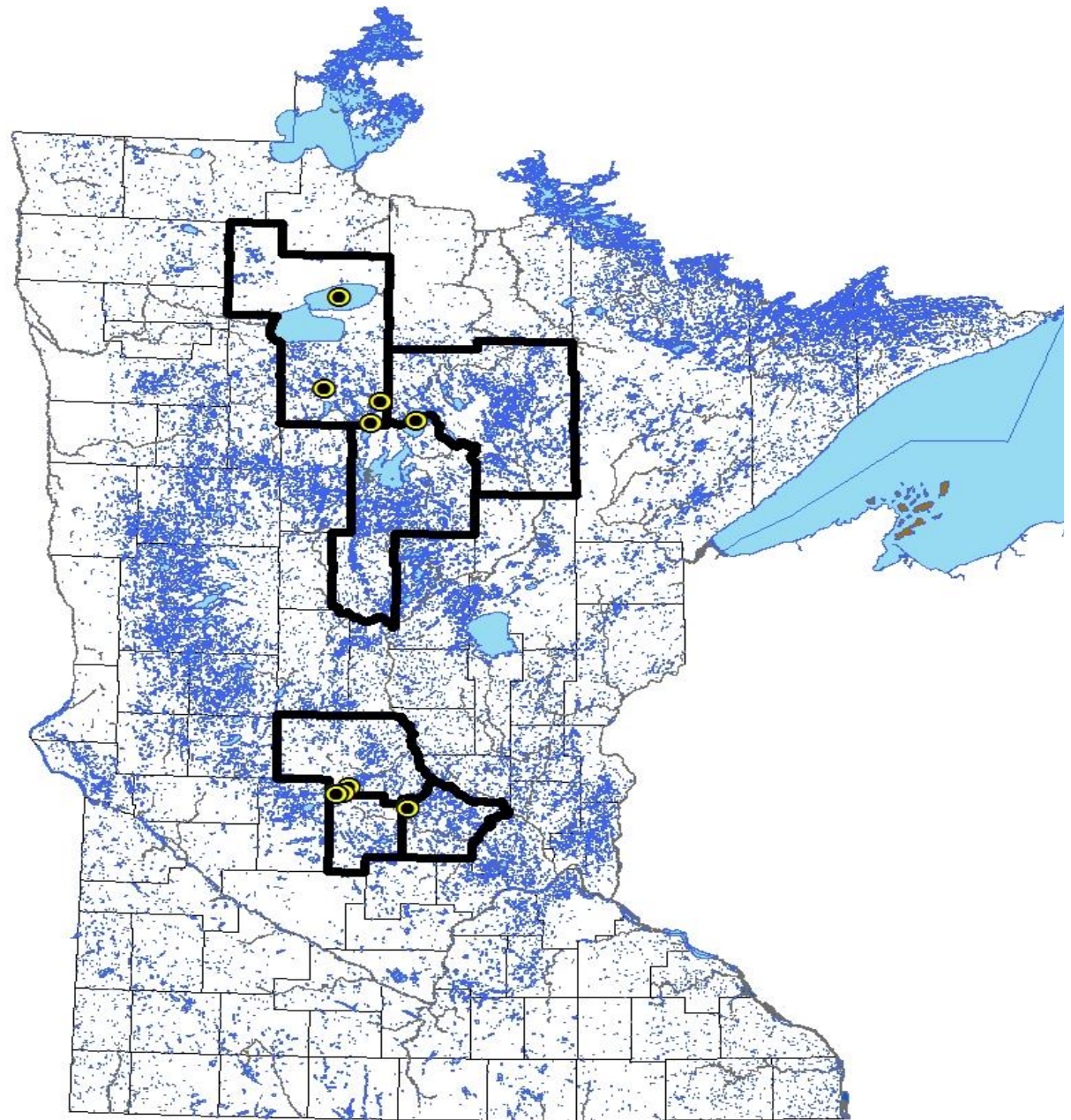
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Division of Ecological & Water Resources  
Minnesota DNR



# Distribution in Minnesota

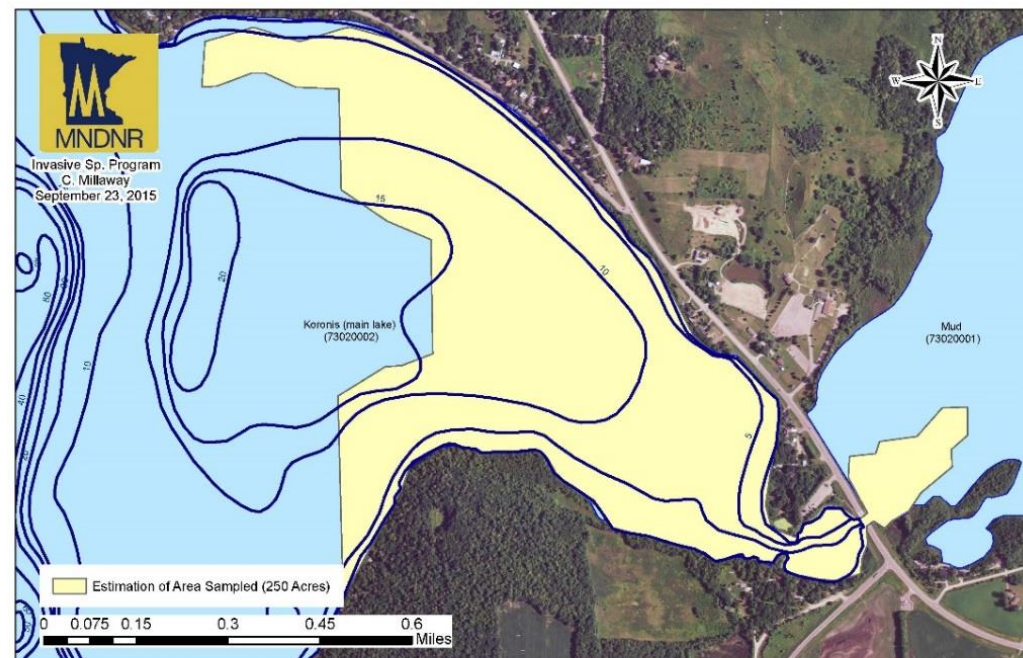
- 2015
  - Koronis
  - Mud
- 2016
  - Turtle
  - Upper Red
  - Cass
  - Winnibigoshish
  - Moose
  - Rice
  - West Sylvania



# Koronis Lake

## Stearns/Meeker Counties

- 2,968 acres
- 1<sup>st</sup> MN listing
- Discovered:
  - Aug. 18, 2015
- Known extent:
  - Lake-wide delineation
    - >250 acres
- Actions:
  - Multiple herbicide treatments at access
  - 6.6 acre test plots
    - Harvester
    - Copper
    - Reference sites

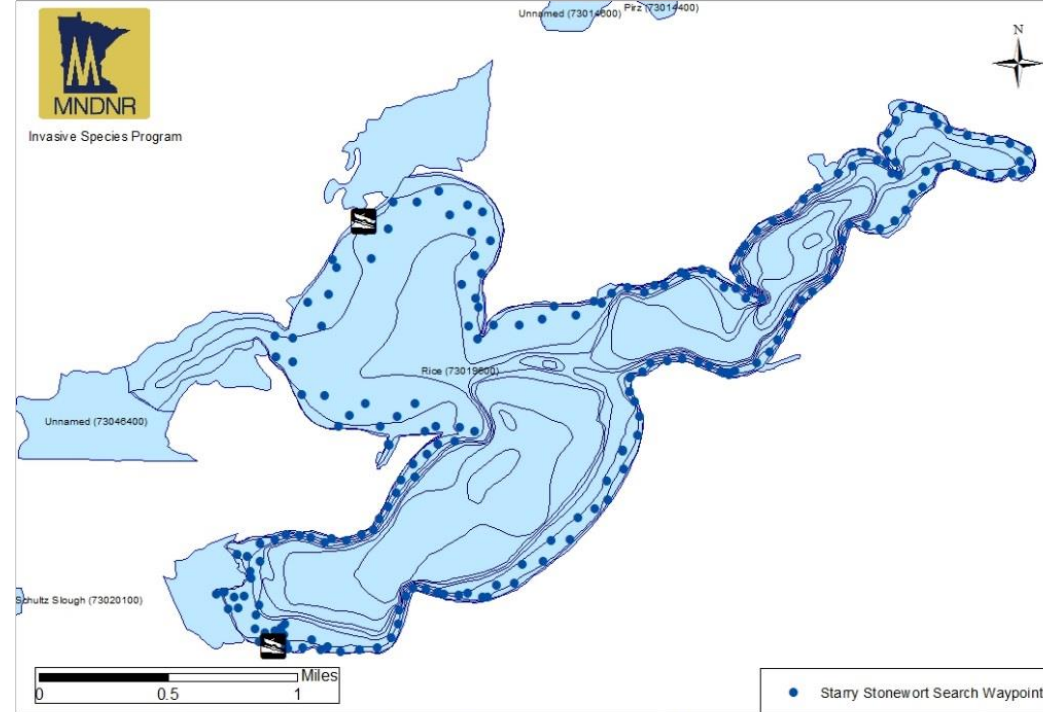


Koronis Lake, Stearns County (DOW 73020000)  
Mud Lake, Stearns County (DOW 73020001)  
Sampling for Starry Stonewort (*Nitellopsis obtusa*)  
Estimation of Area Sampled as of Sept. 23, 2015 (250 Acres)

# Rice Lake

## Stearns County

- 1,509 acres
- Discovered:
  - Aug. 31, 2016
- Known extent:
  - 0.15 acres  
(360 ft. perimeter)
- Actions:
  - Lake-wide delineation
  - Pre/post treatment monitoring
  - Barrier
  - Suction Dredge
  - Pesticide treatment
    - Copper (granular)/ diquat
    - Cu concentrations



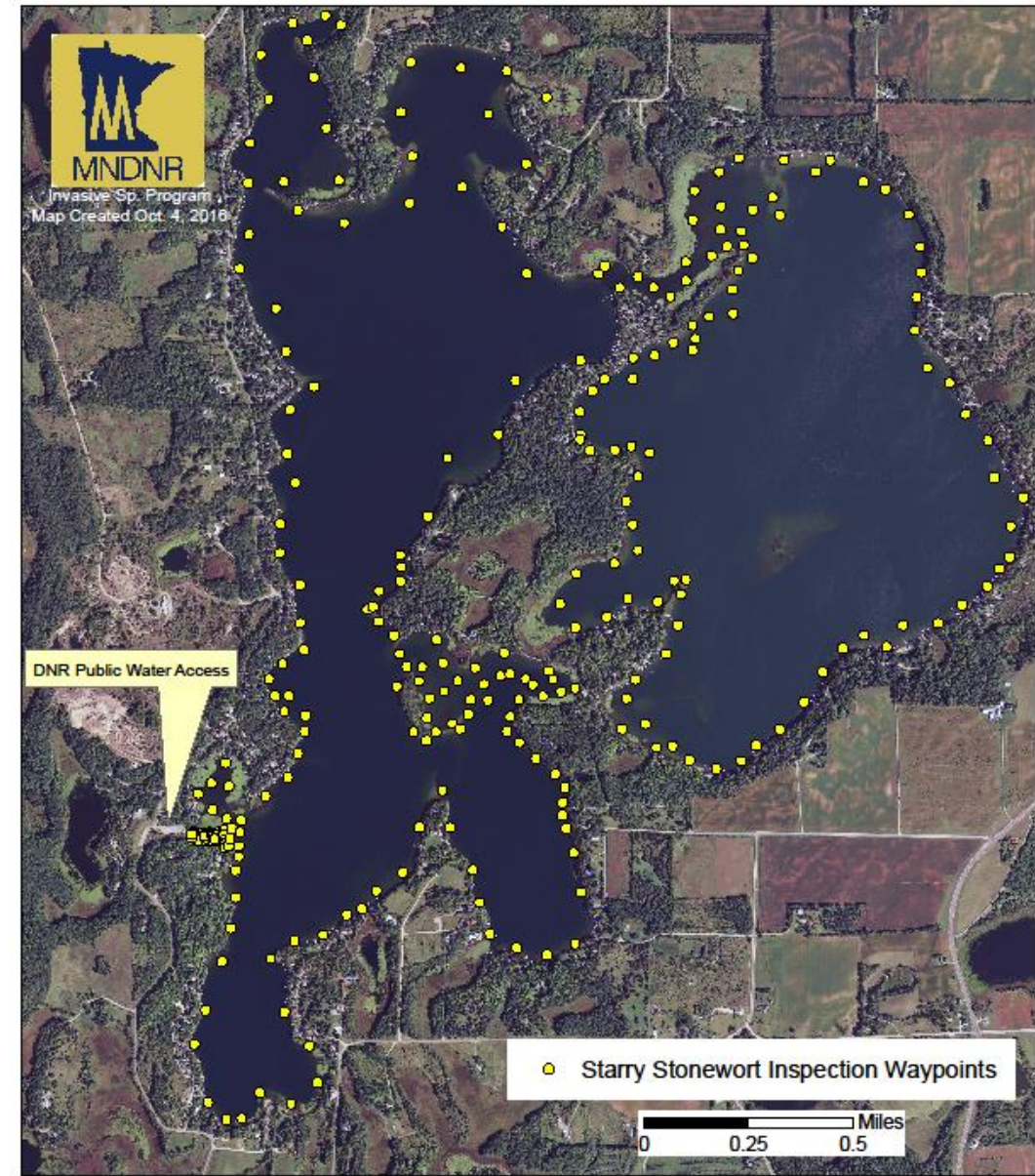
Rice Lake, Stearns 73019600  
Starry Stonewort Meander Search  
August 31 and September 1, 2016



# West Sylvania Lake

## Wright County

- 904 acres
  - East Sylvania: 669 acres
- Discovered:
  - Sept. 26, 2016
- Known extent:
  - 0.07 acres  
(400 ft. perimeter)
- Actions:
  - Lake-wide delineation
  - Pre/post treatment monitoring
  - Barrier
  - DASH
  - Copper treatment

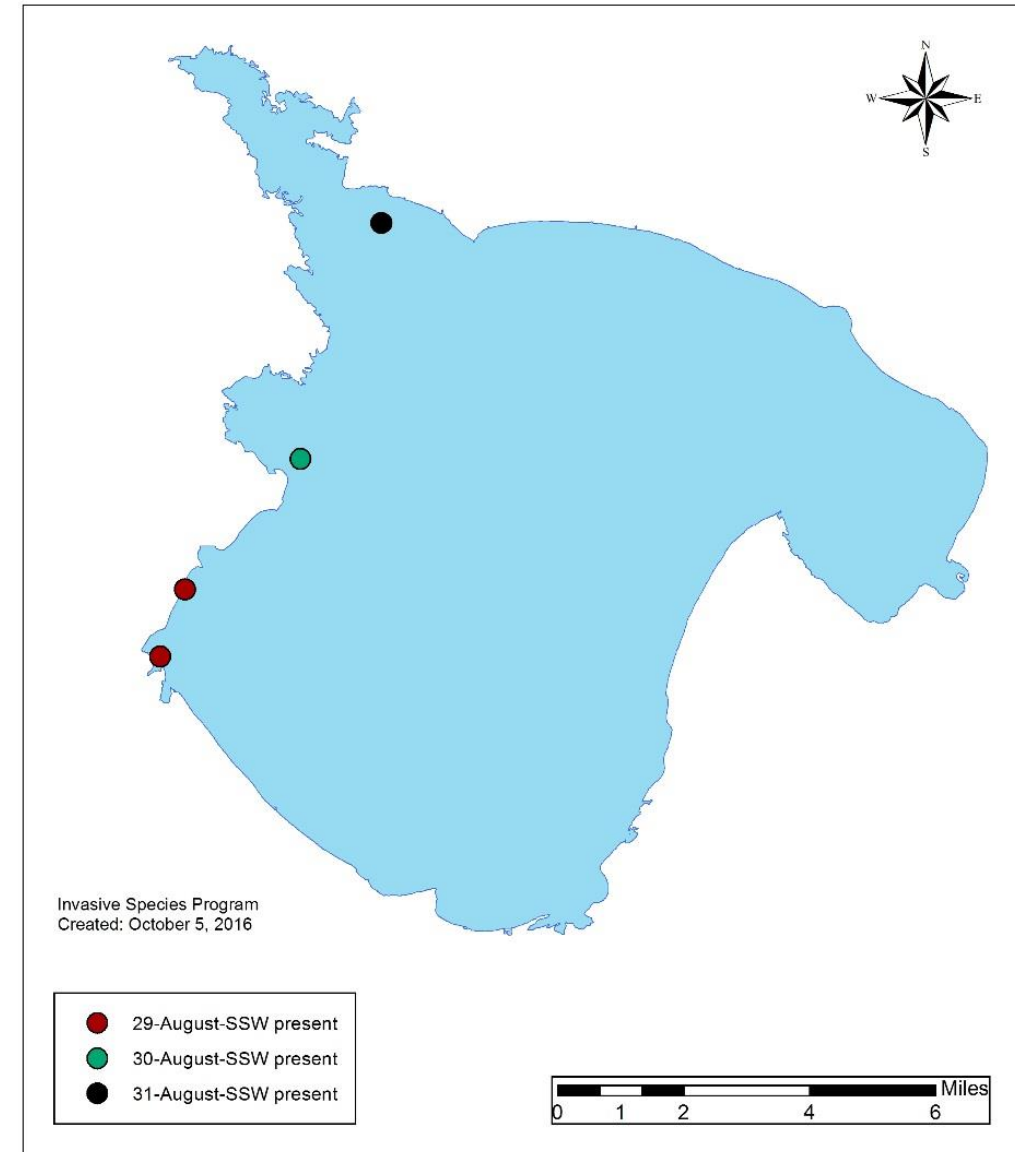


West and East Lake Sylvania, Wright County  
(DOW# 86027900 and 86028900)  
Starry Stonewort Inspection Waypoints  
Inspection Date: September 29, 2016

# Winnibigoshish Lake

## Cass and Itasca Counties

- 56,471 acres
- Discovered:
  - Aug. 29, 2016
- Known extent:
  - West shore
- Actions:
  - Monitoring population



# Turtle Lake Beltrami County

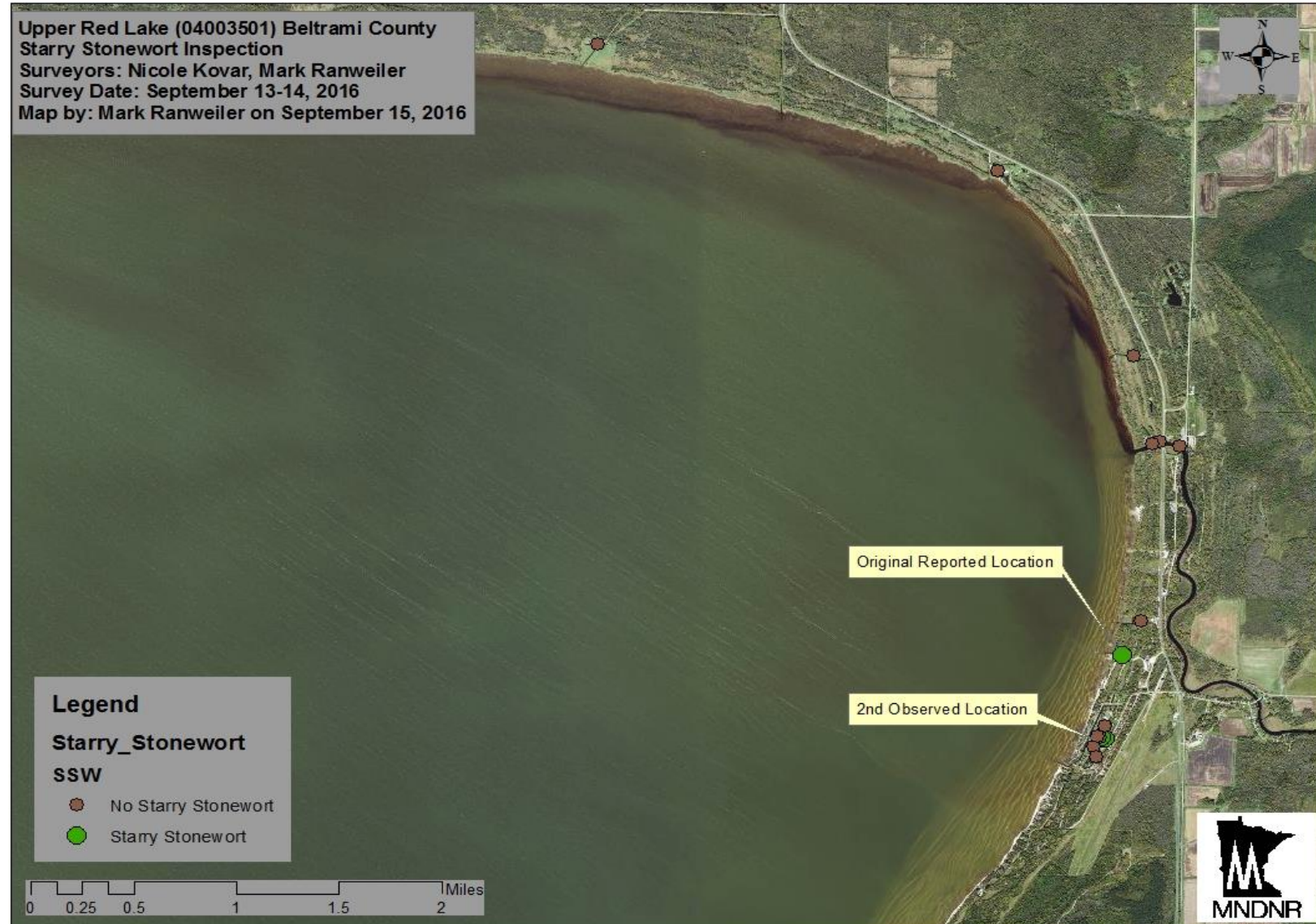
- 1, 606 acres
- Discovered:
  - Aug. 05, 2016
- Known extent:
  - ~0.75 acres
- Actions:
  - Lake-wide Delineation
  - Barrier
  - Suction Dredging
  - Copper treatment
  - TBD-Excavation of near shore missed areas



# Upper Red Lake

## Beltrami County

- 119, 294 acres
- Discovered:
  - Aug. 18, 2016
- Known extent:
  - Two Private Harbors
  - 1<sup>st</sup> Harbor- 0.7acres
  - 2<sup>nd</sup> Harbor- ~0.03 acres
- Actions:
  - Harbor Searches
  - 1<sup>st</sup> Harbor treatment:
    - Copper
    - Copper/Flumioxazin
  - 2<sup>nd</sup> Harbor:
    - TBD





# Cass Lake

## Beltrami County

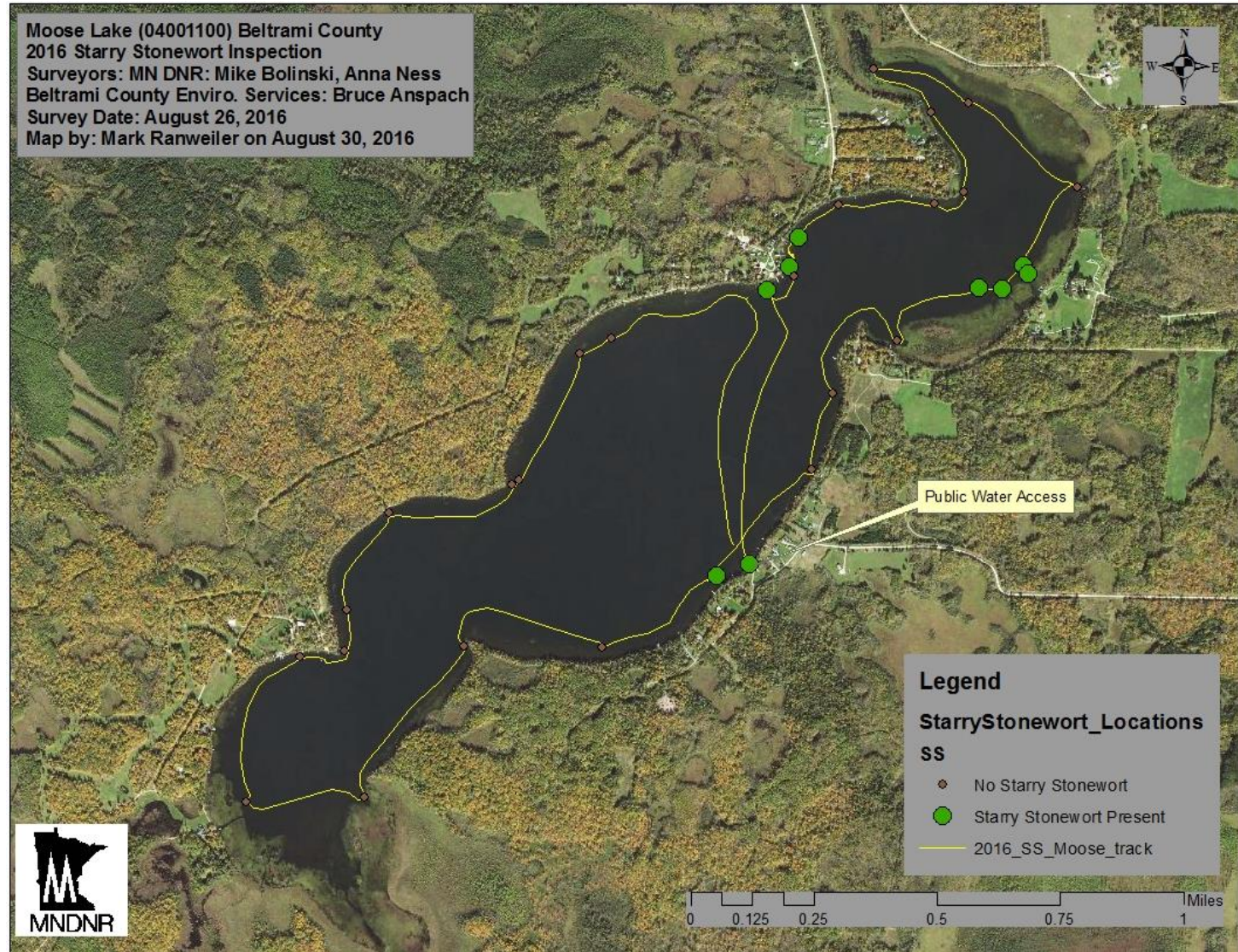
- 15,958 acres
- Discovered:
  - Aug. 22, 2016
- Known extent:
  - 2.0 acres
- Actions:
  - Copper treatment



# Moose Lake

## Beltrami County

- 600 acres
- Discovered:
  - Aug. 26, 2016
- Known extent:
  - Dense areas found
  - Not localized
- Actions:
  - MAISRC research lake



# 2017 Plans

- Following up on Fall 2016 treatments
- Keep diligent about active searches and creating watchful eyes (staff & partners) \*Starry Trek- Aug 5\*
- Minnesota Aquatic Invasive Species Research Center- will continue to complete field studies and observations (Moose & Koronis will be the main focus)
- Work with partners proposing treatments- with a DNR team review of proposals (pilot projects) & grants available for treatment monitoring

# Questions?

Thanks to my fellow DNR colleagues:



Christine Jurek  
Nicole Kovar  
Rich Rezanka  
Mark Ranweiler