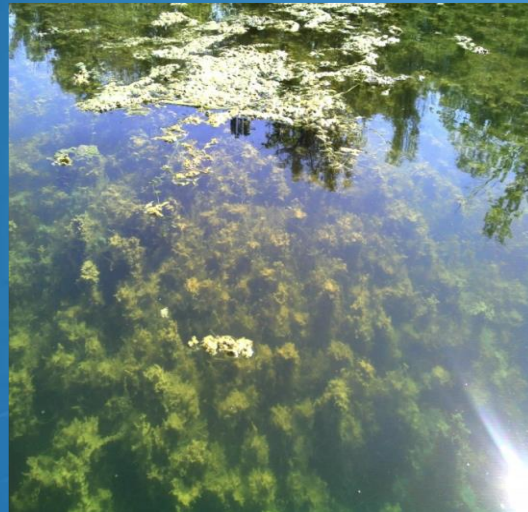


Starry Stonewort: A New Species of Concern in Minnesota



Christine Jurek, Tim Plude, Nicole Kovar, Courtney Millaway

Invasive Species Program
Minnesota Dept. of Natural Resources



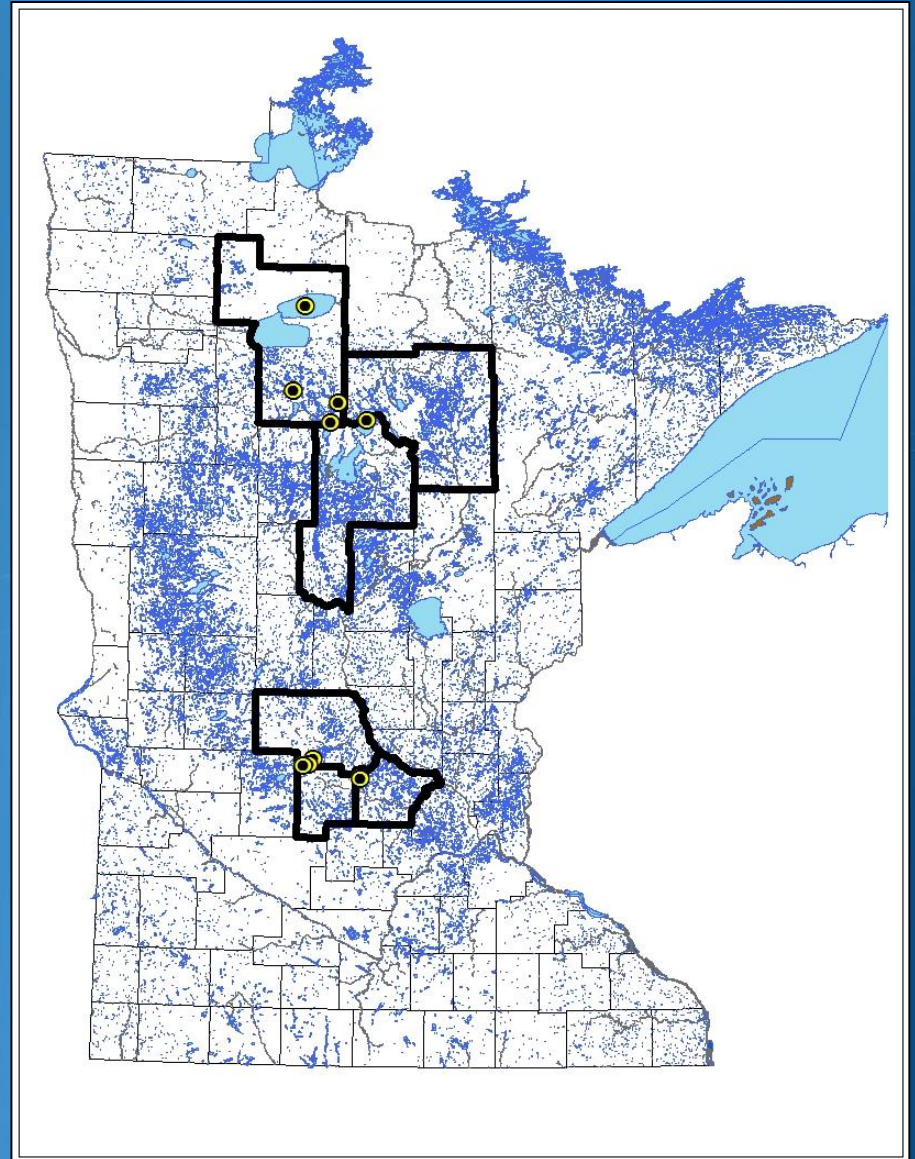
Distribution in Minnesota

● 2015

- Koronis
- Mud

● 2016

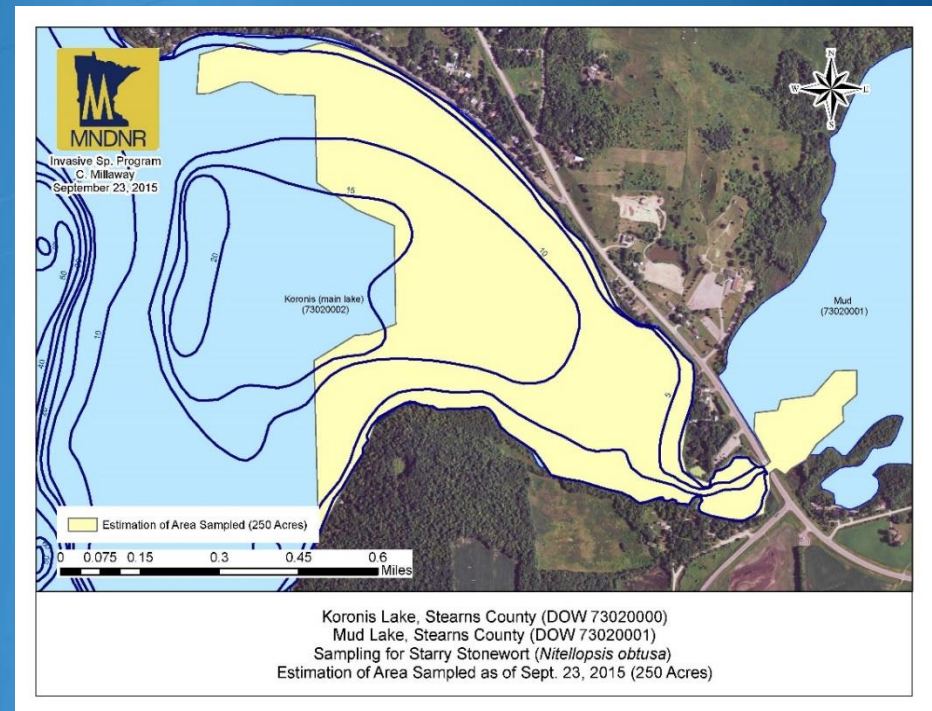
- Turtle
- Upper Red
- Cass
- Winnibigoshish
- Moose
- Rice
- West Sylvia



Koronis Lake

Stearns/Meeker Counties

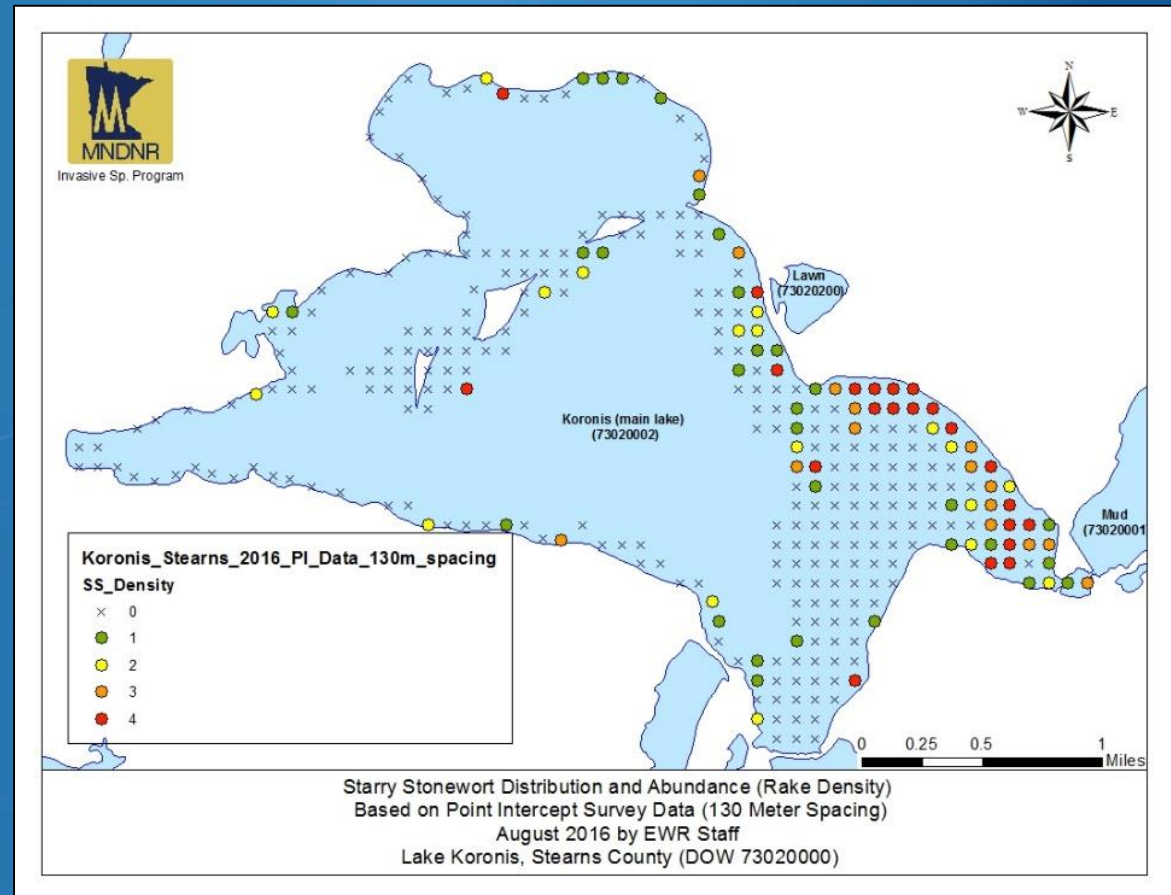
- 2,968 acres
- 1st MN listing
- Discovered:
 - Aug. 18, 2015
- Known extent:
 - Lake-wide delineation
 - >250 acres
 - Max depth: 15.1 ft.
 - Mud Lake



Koronis Lake

Stearns/Meeker Counties

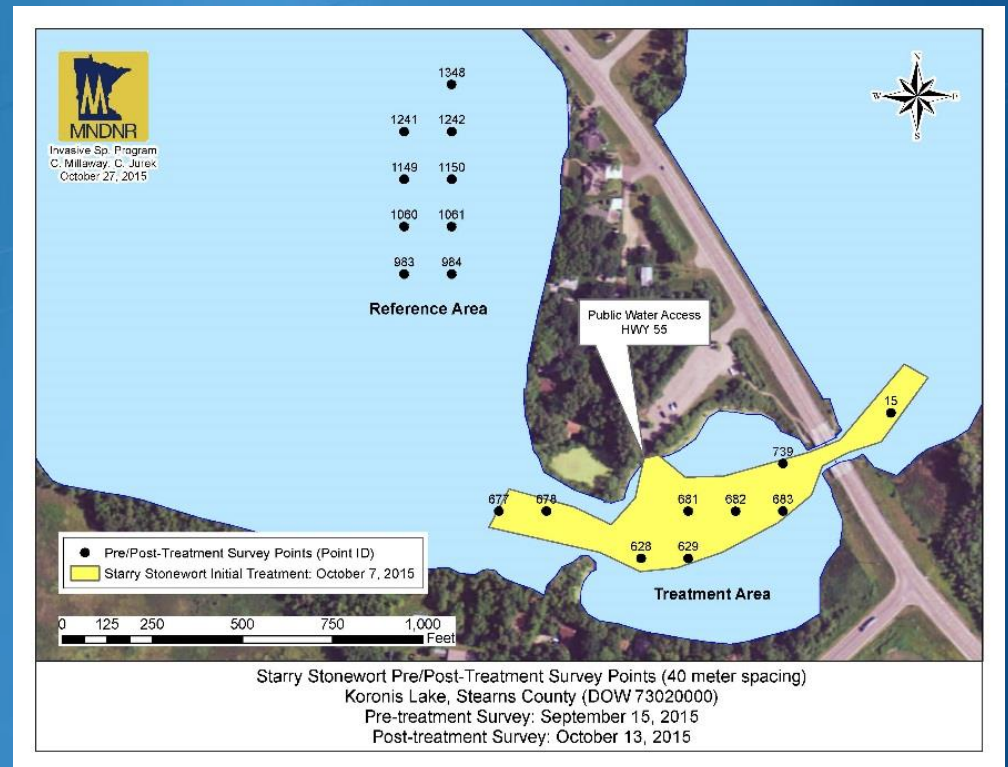
- Actions:
 - Continuous monitoring
 - Point-intercept surveys
 - 2015 PI: 17%
 - 2016 PI: 30%



Koronis Lake

Stearns/Meeker Counties

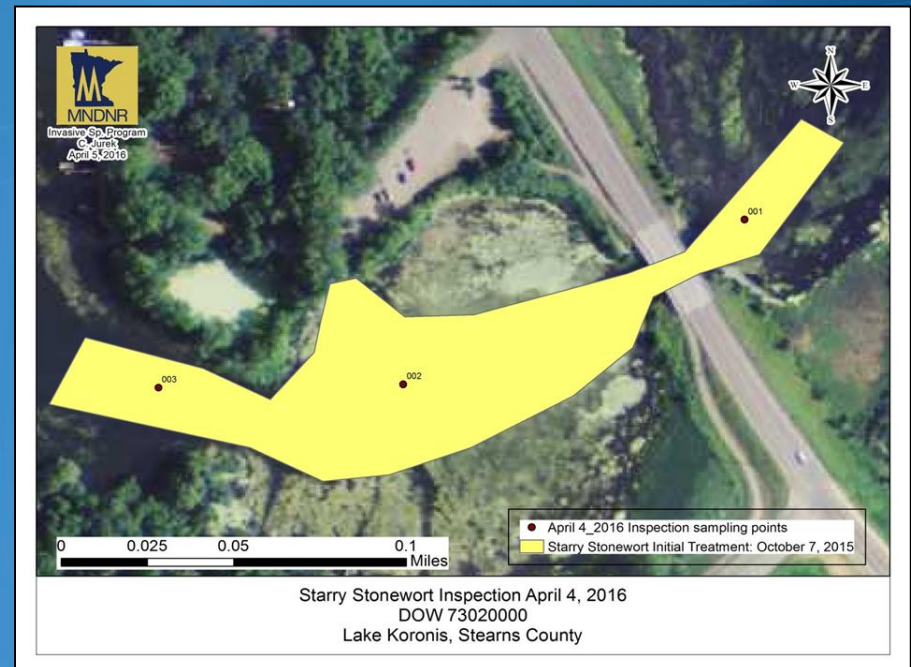
- Actions:
 - Management focus
 - DNR access: reduce biomass, spread
 - Pre/post treatment monitoring
 - Relative abundance
 - Frequency



Koronis Lake

Stearns/Meeker Counties

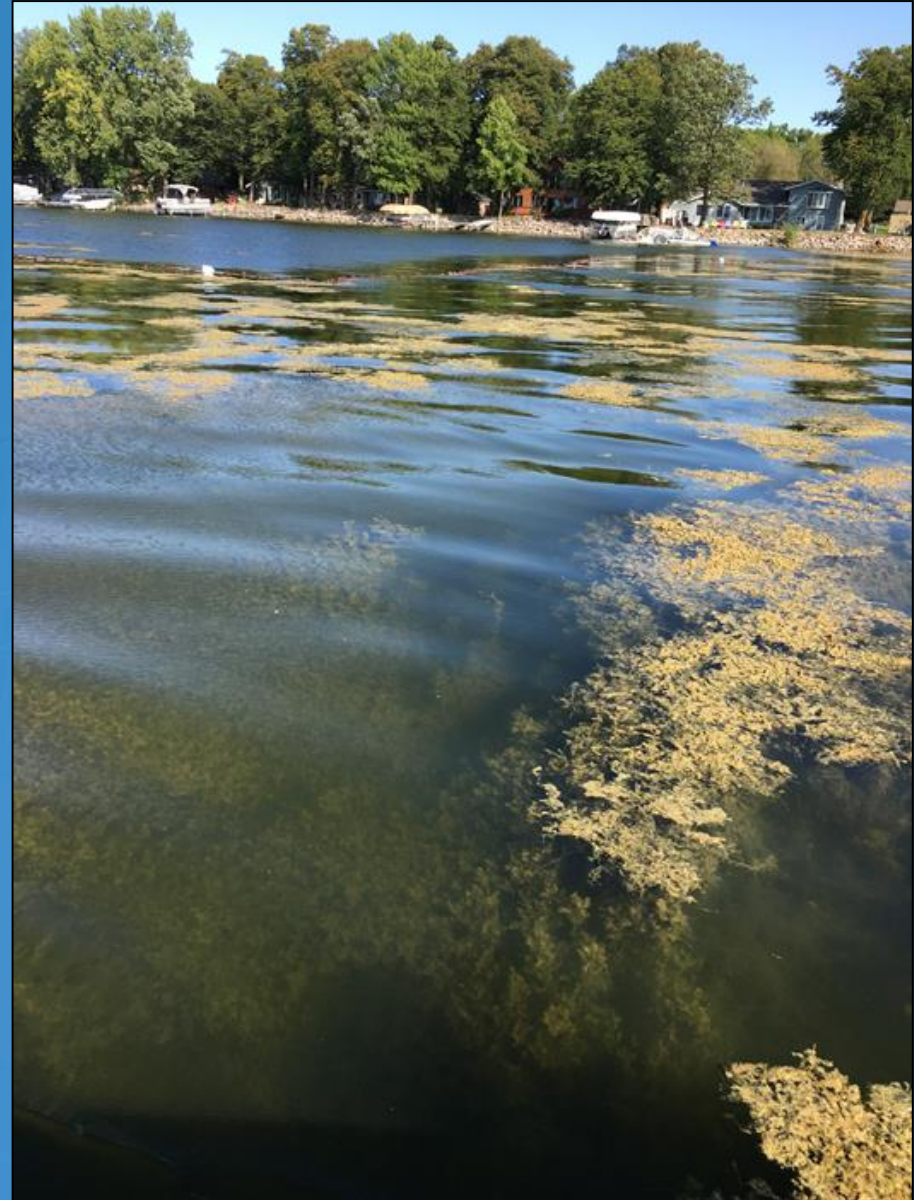
- Actions cont' :
 - Pesticide treatment at PWA
 - 4 acre plot
 - Fall 2015: liquid copper/hydrothall 191
 - Spring 2016: granular copper
 - Cu concentration monitoring
 - Observations



Koronis Lake

Stearns/Meeker Counties

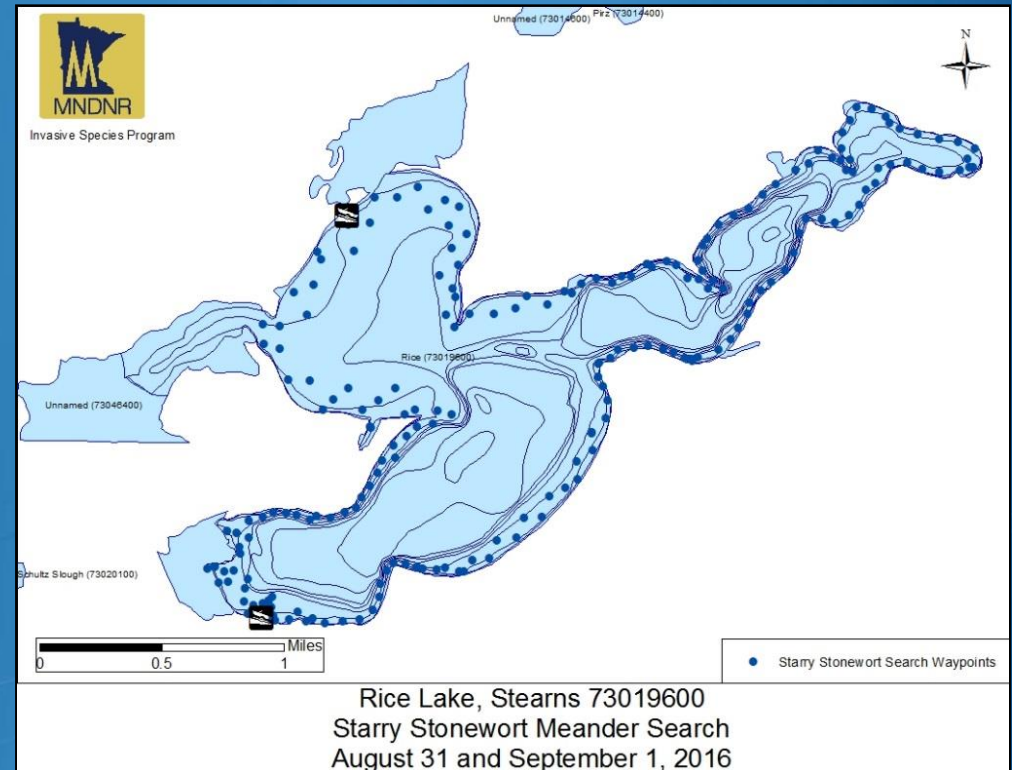
- Actions cont' :
 - KLA
 - Harvester/Divers
 - Copper (liquid/granular)



Rice Lake

Stearns County

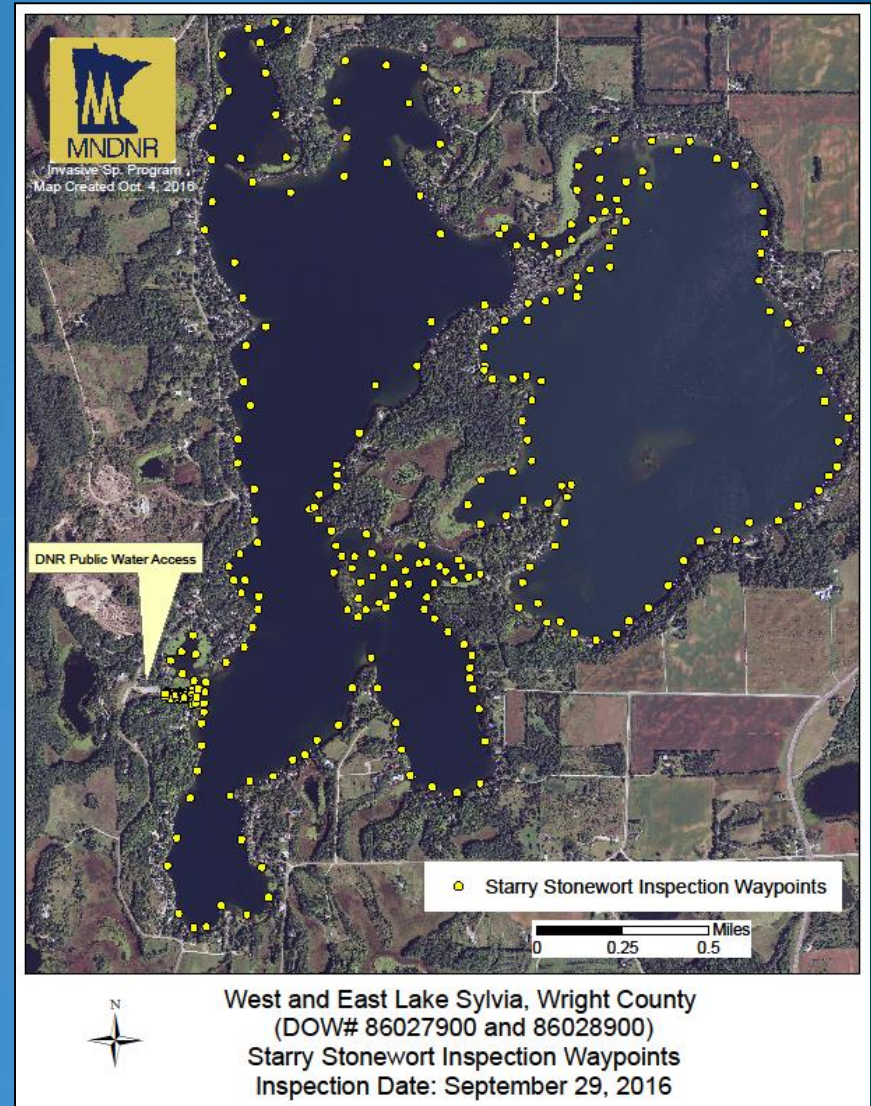
- 1,509 acres
- Discovered:
 - Aug. 31, 2016
- Known extent:
 - 0.15 acres
(360 ft. perimeter)
- Actions:
 - Lake-wide delineation
 - Pre/post treatment monitoring
 - Barrier
 - Suction Dredge
 - Pesticide treatment
 - Copper (granular)/ diquat
 - Cu concentrations



West Sylvia Lake

Wright County

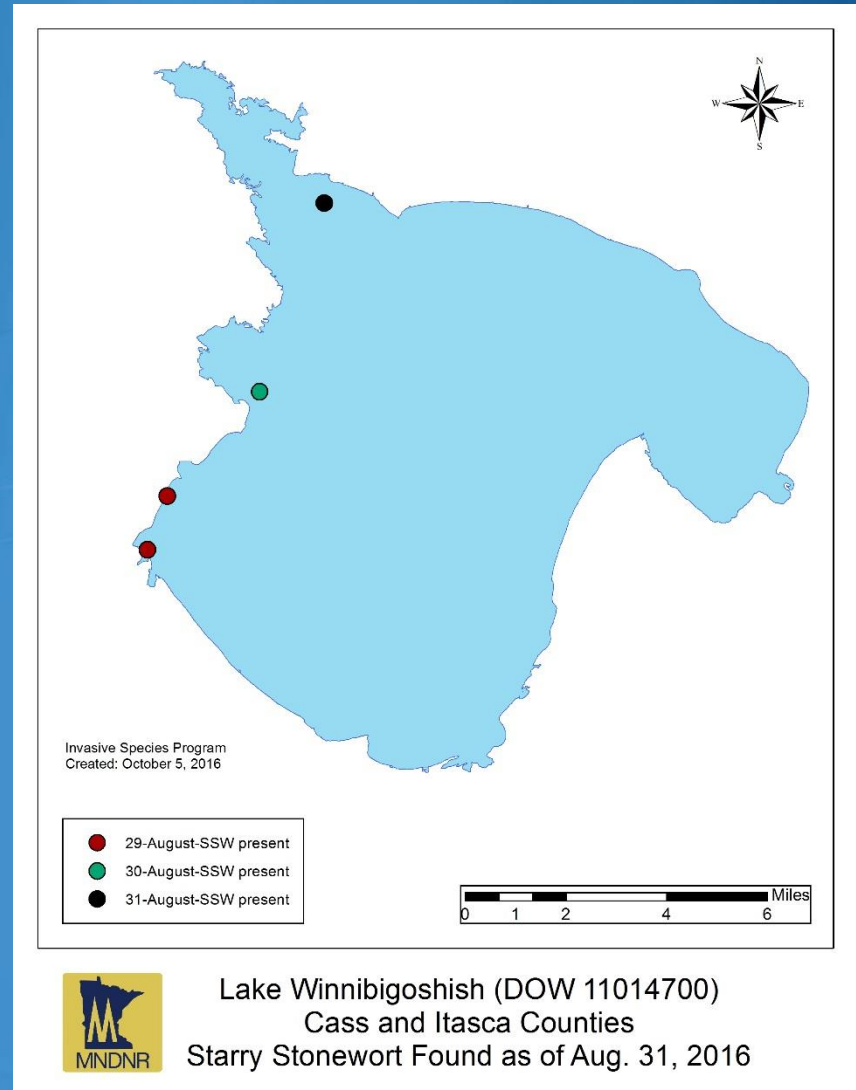
- 904 acres
 - East Sylvia: 669 acres
- Discovered:
 - Sept. 26, 2016
- Known extent:
 - 0.07 acres
(400 ft. perimeter)
- Actions:
 - Lake-wide delineation
 - Pre/post treatment monitoring
 - Barrier
 - DASH
 - Copper treatment



Winnibigoshish Lake

Cass and Itasca Counties

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



Turtle Lake

Beltrami County

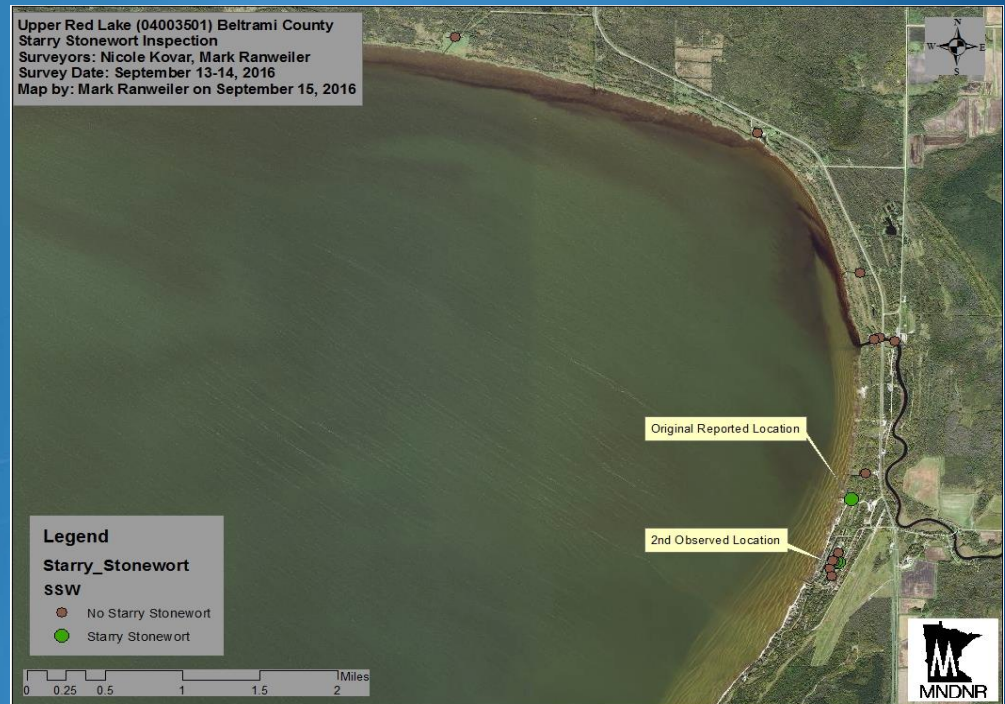
- 1, 606 acres
- Discovered:
 - Aug. 05, 2016
- Known extent:
 - ~0.75 acres
- Actions:
 - Lake-wide Delineation
 - Barrier
 - Suction Dredging
 - Copper treatment
 - TBD-Excavation of near shore missed areas



Upper Red Lake

Beltrami County

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



Cass Lake

Beltrami County

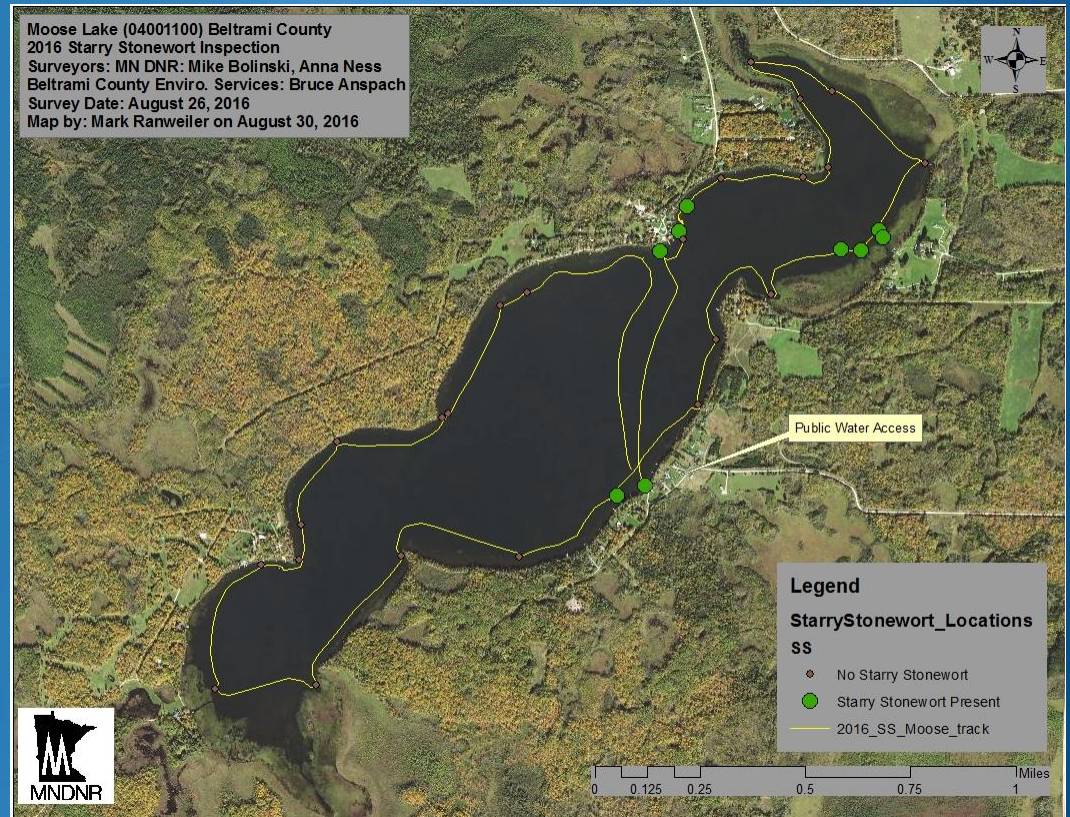
- 15,958 acres
- Discovered:
 - Aug. 22, 2016
- Known extent:
 - 2.0 acres
- Actions:
 - Copper treatment



Moose Lake

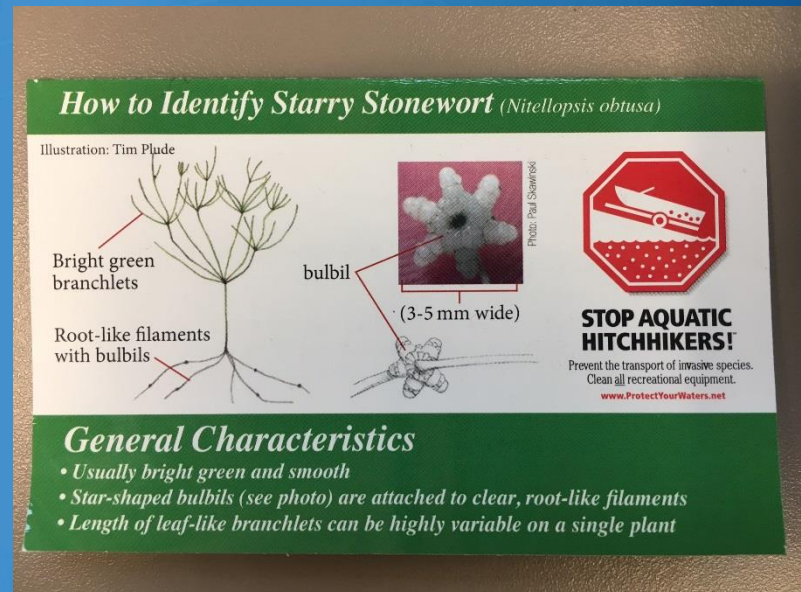
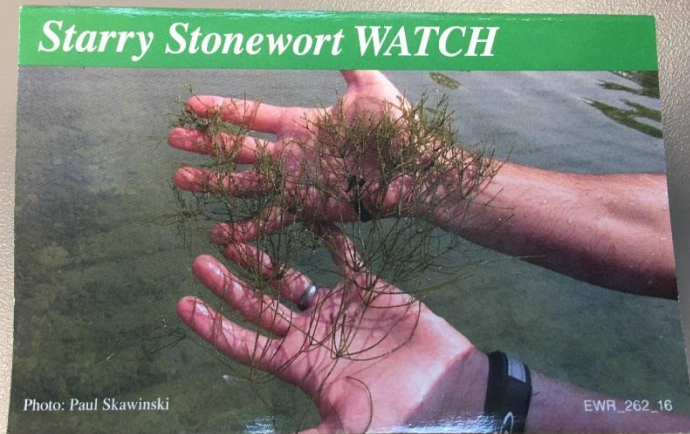
Beltrami County

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



Outreach and Prevention Efforts

- Watch cards, factsheets
- PWA searches (214 lakes)
- Increase watercraft inspectors



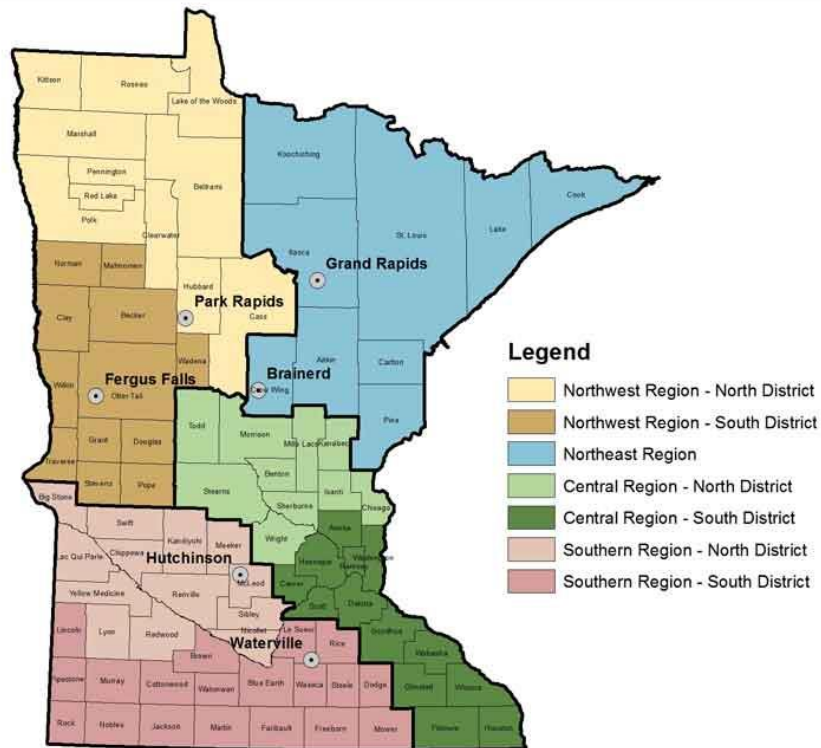
Future Actions

- Evaluate current monitoring efforts
- Monitor regrowth of SSW
- Monitor native plants
- Continue SSW PWA searches
- Collaborate with MAISRC and other partners on research projects to expand knowledge of SSW

Thank you

Minnesota Department of Natural Resources

DNR Division of Ecological and Water Resources - Invasive Species Specialists by District



Region 1:

nicole.kovar@state.mn.us

218-732-8960

Turtle, Red, Moose, Cass

Counties: Beltrami, Cass

Region2:

richard.rezanka@state.mn.us

218-328-8821

Winnibigoshish

Counties: Cass, Itasca

Region 3: Chris Jurek

christine.Jurek@state.mn.us

320-223-7847

Koronis, Rice, Sylvia

Counties: Stearns, Wright

Region 4: Tim Plude

timothy.plude@state.mn.us

320-234-2550