

2017 UPDATE: AQUATIC INVASIVE SPECIES PUBLIC FORUM

March 30, 2017
1 pm - 3 pm
Free Public Event!

RSVP to Michelle Prosser by March 24, 2017
michelle.prosser@co.ramsey.mn.us or 651-266-7277

Discussion Topics

Water Quality in Ramsey County Lakes

John Manske:
Ramsey County Environmental Services

Survey Results & 2016 Inspection Report

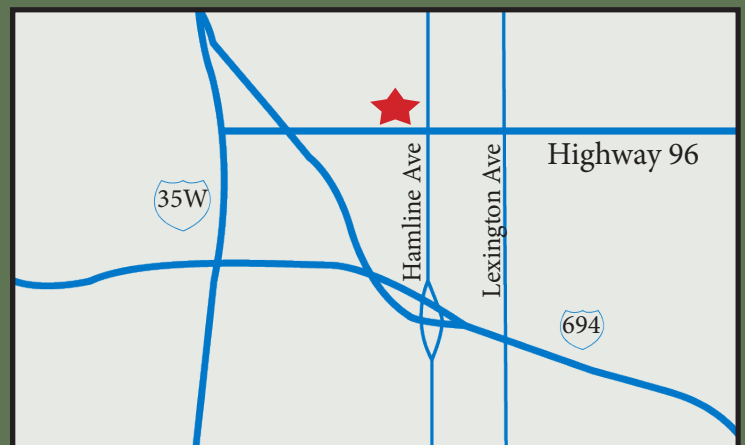
Michelle Prosser and Ann WhiteEagle:
Ramsey Conservation District

Ramsey County Aquatic Invasive Species Program Update

Michael Goodnature:
Ramsey County Parks and Recreation

Small Group Discussions

Location



Marsden Room
Ramsey County Public Works
1425 Paul Kirkwold Drive
Arden Hills, MN 55112

Hosted by:

Ramsey
Conservation District



Lakes to be discussed at the event:

Bald Eagle Lake
Island Lake
Lake Johanna

Lake Josephine
Long Lake
Lake McCarrons

Otter Lake
Lake Owasso
Lake Phalen

Silver Lake
Snail Lake
Spoon Lake

Turtle Lake
Lake Wabasso
White Bear Lake

Conservation Forum: Aquatic Invasive Species

Hosted by:

Ramsey
Conservation District



WATER QUALITY IN RAMSEY COUNTY

John Manske

Environmental Services, Lake Management



RAMSEY COUNTY LAKE MANAGEMENT WINTER MONITORING PROGRAM

- Dissolved oxygen monitoring/aerating
 - Como, Owasso, Island, Otter, Silver West, Beaver
- Chloride monitoring
 - Worked with MPCA to establish a state water quality standard for chloride. [TCMA Chloride Project Link](#)
 - A large number of lakes were categorized as impaired for aquatic life, or at high risk of becoming impaired.

Average chloride concentration when exceeding 230 mg/L

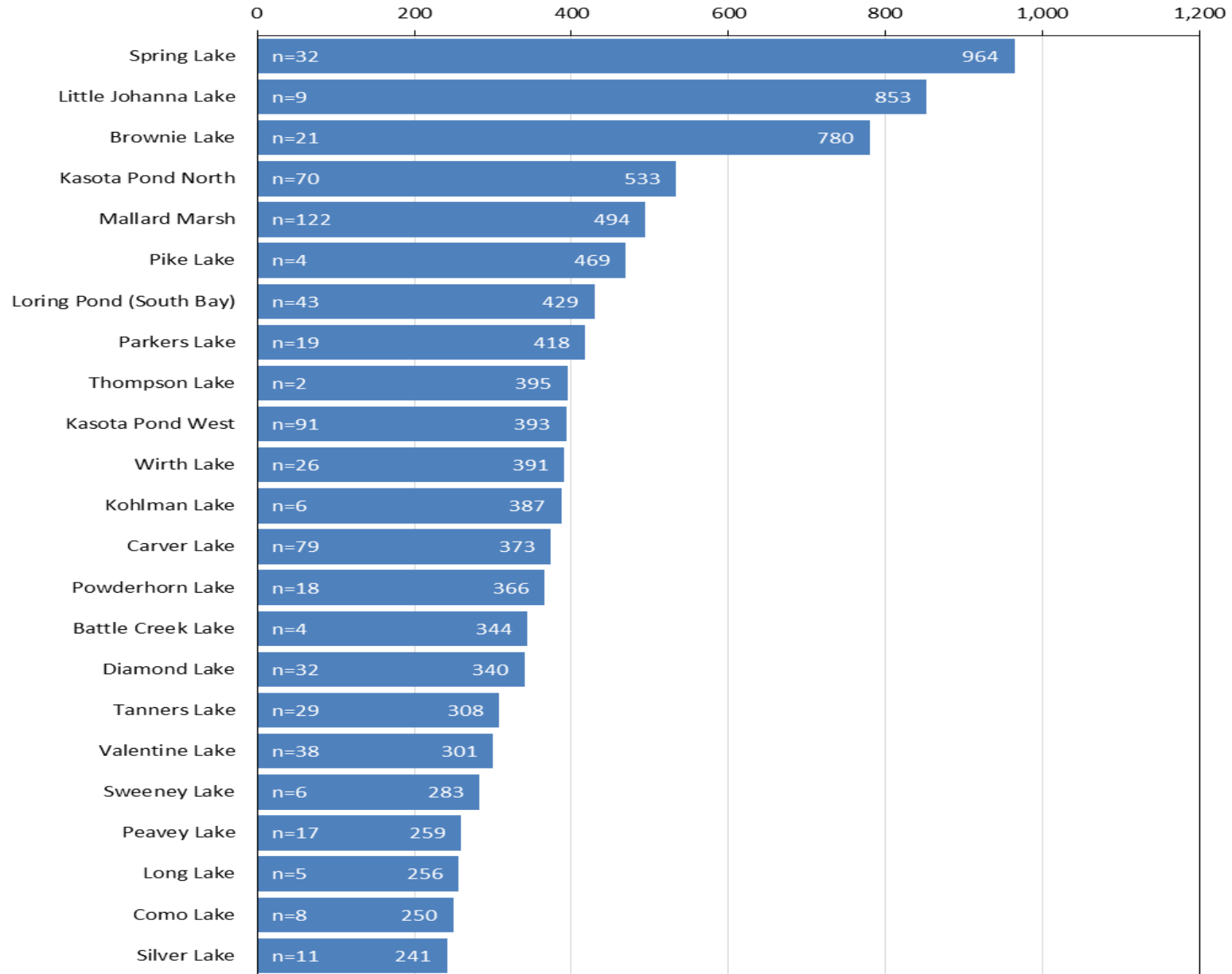
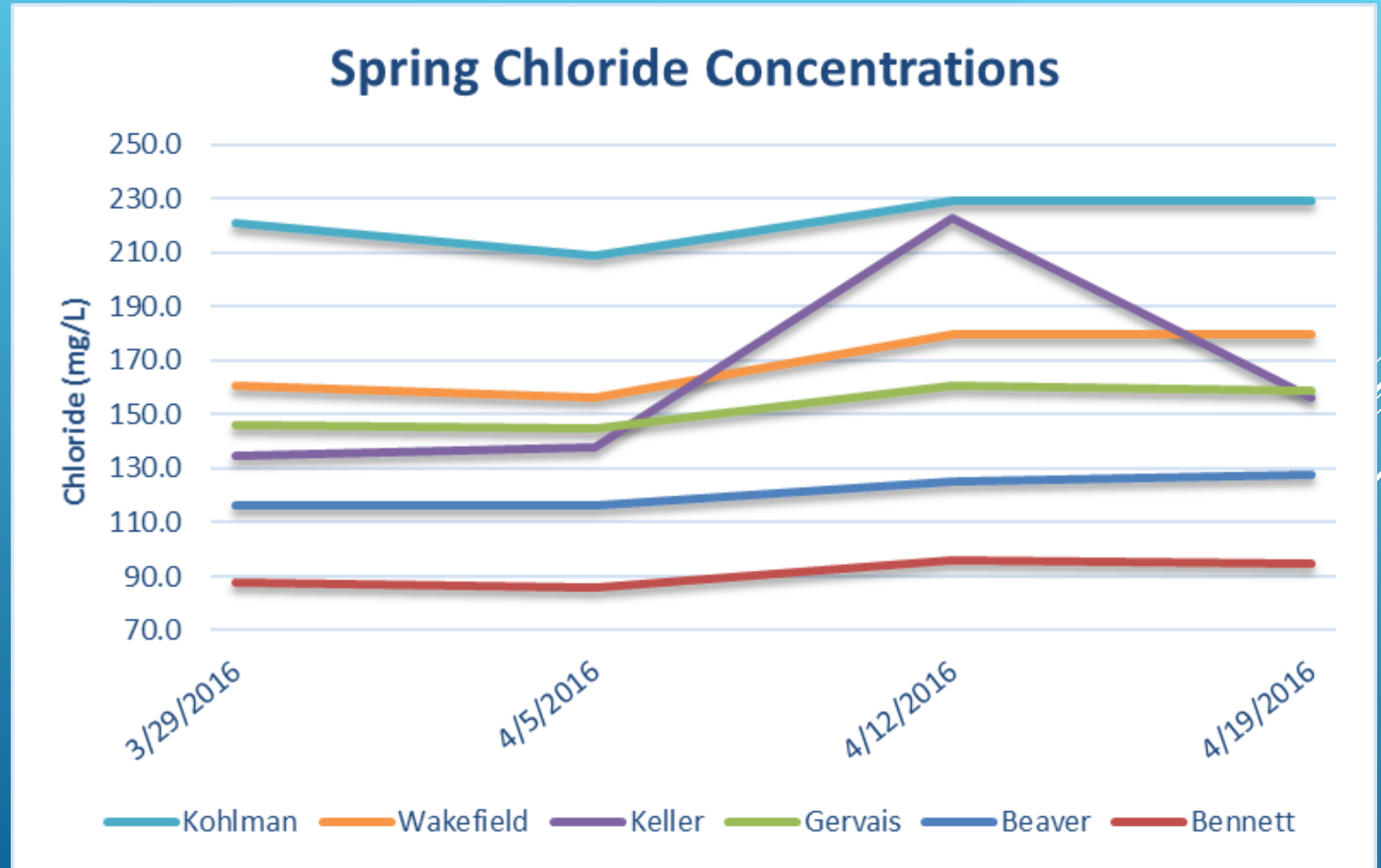


Table 2.TCMA Chloride Management Plan - MPCA 2015

LAKES WITH A HIGH RISK OF CHLORIDE IMPAIRMENT

- Beaver
- Bennett
- Crosby
- Gervais
- Johanna
- Keller
- McCarrons
- Wabasso
- Wakefield



WHERE DOES CHLORIDE COME FROM ?

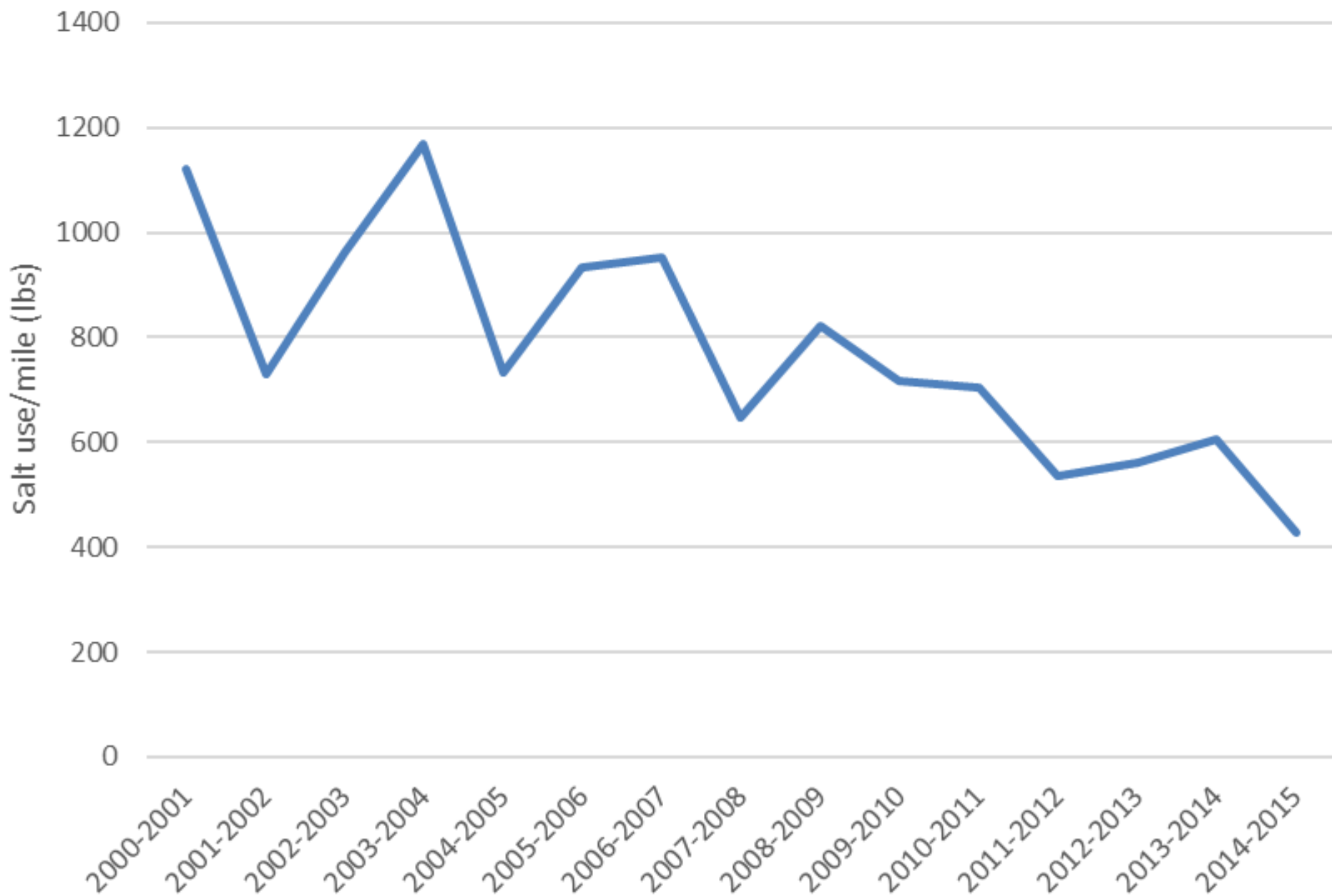
- Residential water softeners
- Winter maintenance of roads, sidewalks, and parking lots with rock salt
 - Ramsey County uses 16,000,000 lbs/year to deice roads
 - 700,000,000 lbs/year used in the Twin Cities Metro Area (1)

Table 1. Summary of annual road salt application amounts

User	Use (Tons)	Use %
MNDOT	80,797	23%
Counties	70,284	20%
Cities	114,314	33%
Commercial Bulk	66,349	19%
Packaged	17,460	5%
Total	349,204	100%



Salt Used Per Event




WHY IS CHLORIDE SO BAD?

- 1 Teaspoon of road salt can permanently pollute 5 gallons of water.
- There's no easy way to remove salt from water.
- Causes osmotic stress to organisms
- Decreases the biodiversity of sediment organisms and plants(2)
- Increases the release and transport of heavy metals(3)

Winter Maintenance Assessment tool

A decorative graphic consisting of several parallel white lines of varying lengths and orientations, located in the bottom right corner of the slide.

RAMSEY COUNTY LAKE MANAGEMENT SUMMER MONITORING PROGRAM

- 30 lakes sampled at deepest point
 - Sampled 8 times between May 1st – September 30th
 - Samples taken for laboratory analysis
 - Depth profile taken
 - Dissolve Oxygen, Temperature, Conductivity, pH
 - Aquatic vegetation monitoring
 - AIS monitoring
- 

RAMSEY COUNTY LAKE MANAGEMENT LABORATORY

Phosphorus

Nitrogen

Chloride

Chlorophyll A

Turbidity

Phytoplankton

Zooplankton

Zebra Mussel Veliger



Lake	2016	2015	2014	2013	2012
BALD EAGLE	A	B	C	C	C
BEAVER	B	B	B	B	B
BENNETT	C	C	C	D	D
COMO	D	D	D	D	D
CROSBY	C	C	D	C	C
GERVAIS	B	B	C	C	C
ISLAND NORTH	C	C	B	B	N/A
ISLAND SOUTH	B	B	B	B	B
JOHANNA	B	A	B	B	B
JOSEPHINE	B	B	B	B	B
KELLER	B	B	C	B	C
KOHLMAN	B	B	C	C	C
Little Crosby	B	C	D	B	B
LOEB	A	B	B	A	A
LONG	D	D	D	D	D
LONG	B	C	C	C	C
MCCARRON	A	A	B	A	A
OTTER	A	A	A	A	A
OWASSO	B	B	B	C	C
PHALEN	A	A	B	B	B
ROUND(NR PHALEN)	A	B	C	B	B
SILVER E	C	C	C	D	D
SILVER W	C	B	C	C	C
SNAIL	A	A	A	A	A
TURTLE	A	A	A	A	A
TWIN	B	B	C	B	B
VALENTINE	D	D	D	C	C
WABASSO	A	A	A	A	A
WAKEFIELD	C	D	C	C	C
WHITE BEAR	A	A	A	A	A



Silver Lake Carp Removal 2014 + 2015

73% reduction in the # of individuals

1,086 to 294

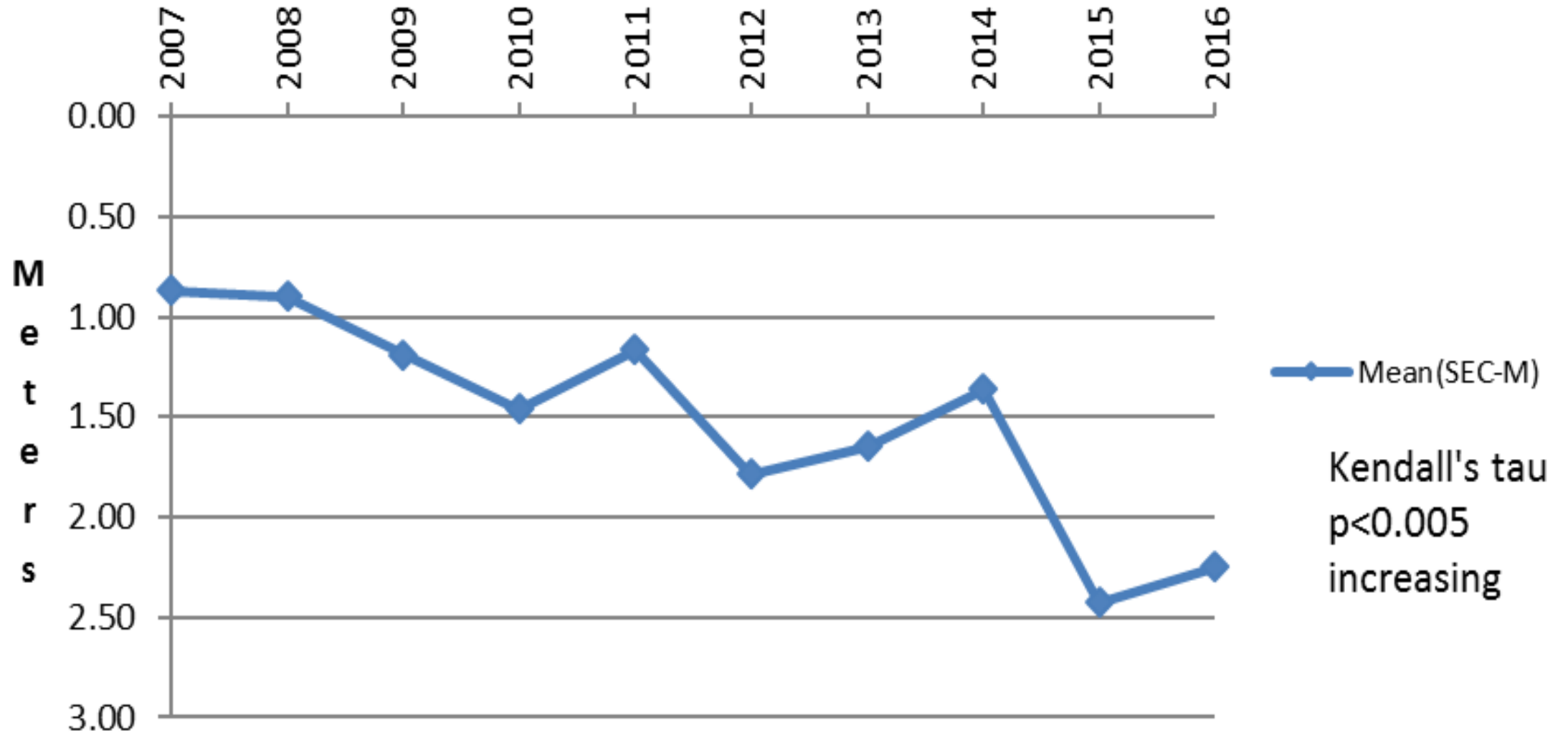
61% reduction in biomass

8,992 lbs to 3,498 lbs

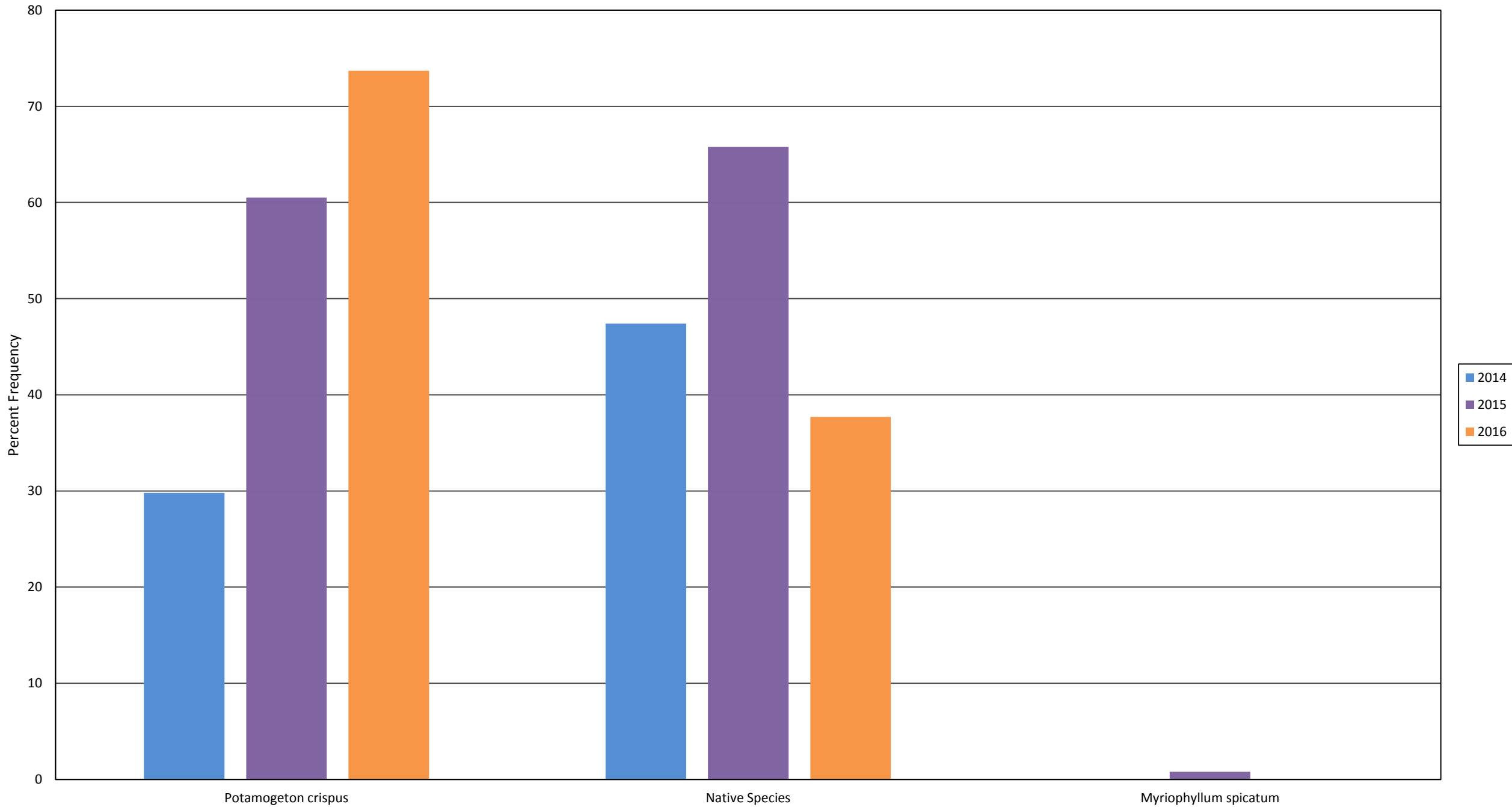
147 lbs/acre to 56 lbs/acre

AVERAGE SECCHI DISK READING

Silver West Lake Last 10 Years



Silver West Lake - Early Summer Aquatic Plant Survey



Lake	2016	2015	2014	2013	2012
BALD EAGLE	A	B	C	C	C
BEAVER	B	B	B	B	B
BENNETT	C	C	C	D	D
COMO	D	D	D	D	D
CROSBY	C	C	D	C	C
GERVAIS	B	B	C	C	C
ISLAND NORTH	C	C	B	B	N/A
ISLAND SOUTH	B	B	B	B	B
JOHANNA	B	A	B	B	B
JOSEPHINE	B	B	B	B	B
KELLER	B	B	C	B	C
KOHLMAN	B	B	C	C	C
Little Crosby	B	C	D	B	B
LOEB	A	B	B	A	A
LONG	D	D	D	D	D
LONG	B	C	C	C	C
MCCARRON	A	A	B	A	A
OTTER	A	A	A	A	A
OWASSO	B	B	B	C	C
PHALEN	A	A	B	B	B
ROUND(NR PHALEN)	A	B	C	B	B
SILVER E	C	C	C	D	D
SILVER W	C	B	C	C	C
SNAIL	A	A	A	A	A
TURTLE	A	A	A	A	A
TWIN	B	B	C	B	B
VALENTINE	D	D	D	C	C
WABASSO	A	A	A	A	A
WAKEFIELD	C	D	C	C	C
WHITE BEAR	A	A	A	A	A

BALD EAGLE ALUMINUM SULFATE TREATMENT



Project Engineer:



Contractor:



Treatment 1: 2014

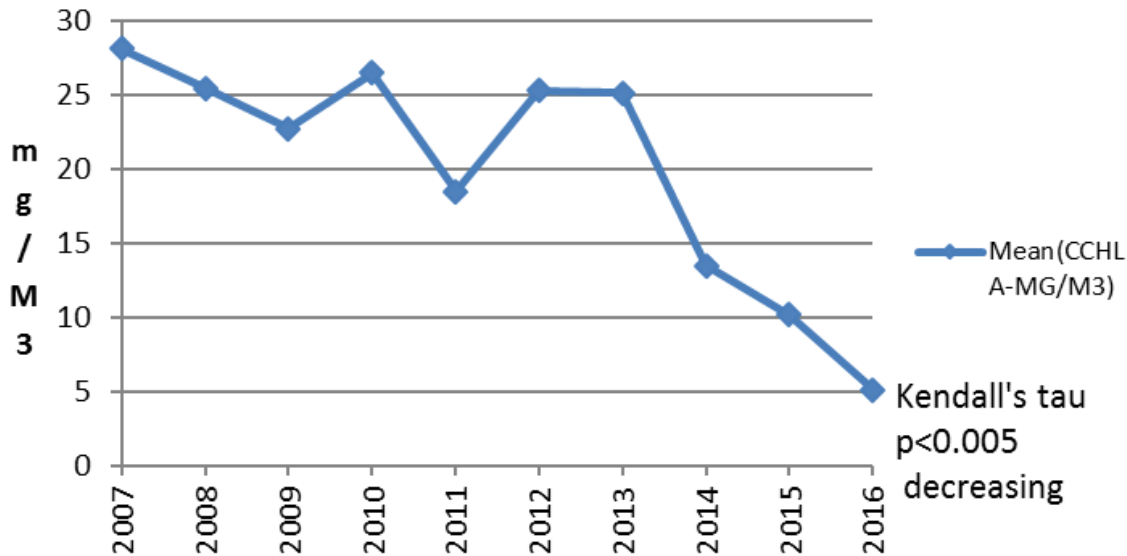
Treatment 2: 2016

The largest alum treatment in MN

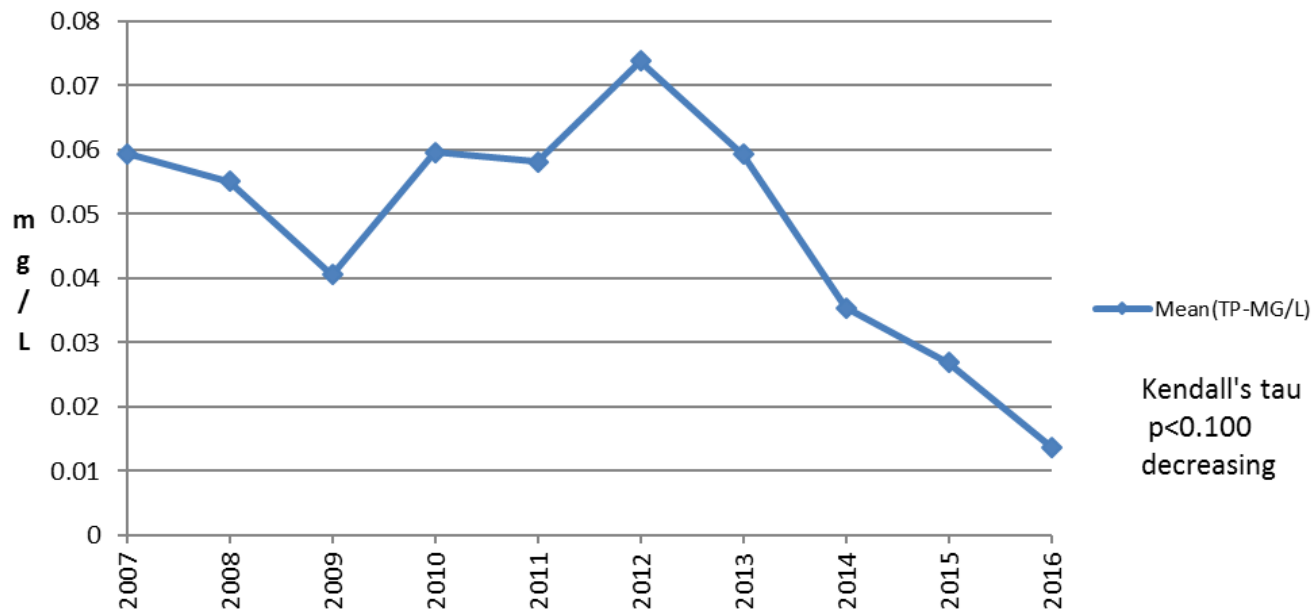




Bald Eagle ChIA

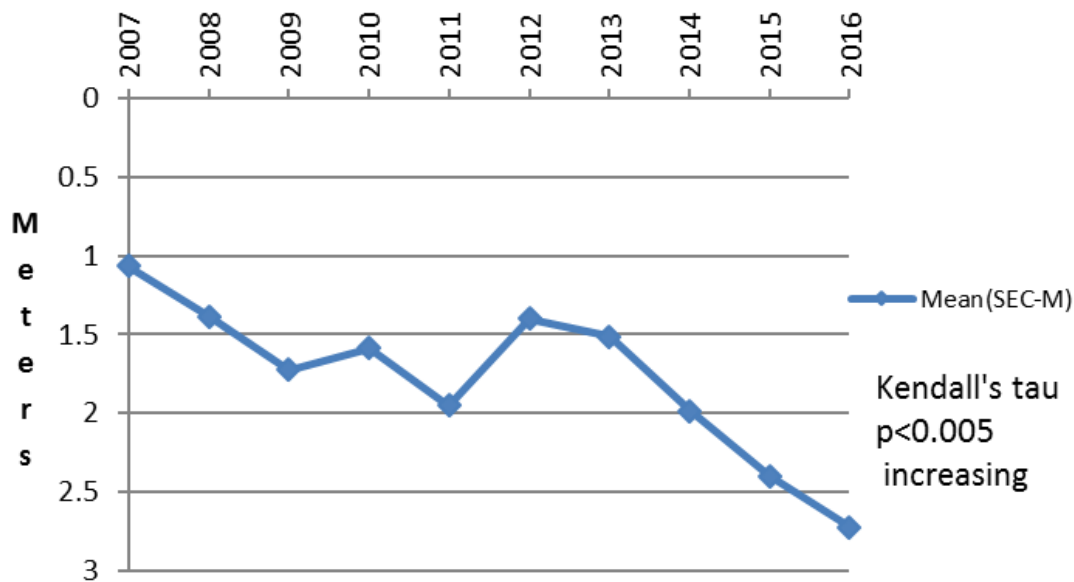


Bald Eagle TP



Note:2014 + 2016 Alum treatments

Bald Eagle Secchi



[Link to Alum Treatment Project Page](#)

House and Senate Omnibus bill

- Cuts funds to MN DNR AIS grants, and MAISRC
- Changes rulemaking authority and permitting processes
- Limits the buffer law

[Link to summary of proposed changes and a message template](#)



Great Online Resources

MN Key Water Info List

<http://es.metc.state.mn.us/KeyWaterList/#SurfaceWater>

Surface Water Data – MPCA

<http://cf.pca.state.mn.us/water/watershedweb/wdip/index.cfm>

Road Salt and Water Quality - MPCA

<https://www.pca.state.mn.us/water/road-salt-and-water-quality>

Improved Winter Maintenance: Good Choices for Clean Water

REFERENCES

1. Sander, A., E. Novotny, O. Mohseni, H.G. Stefan, (2007) "Inventory of Road Salt Uses in the Minneapolis/St. Paul Metropolitan Area". University of Minnesota, St. Anthony Falls Laboratory, Minneapolis, MN, Report No. 503, December 2007, 46 pp.
2. Talmage P J, Lee K E, Goldstein R M, Anderson J P, Fallon J D. Water Quality, Physical Habitat, and Fish-Community composition in Streams in the Twin Cities Metropolitan Area, Minnesota 1997-98. 1999; 18.
3. Novotny V, Muehring D, Zitomer D H, Smith D W, Facey R. Cyanide and metal pollution by urban snowmelt: impact of deicing compounds. Water Science and Technology 1998; 38: 223-230.

RAMSEY COUNTY AQUATIC INVASIVE SPECIES PROGRAM

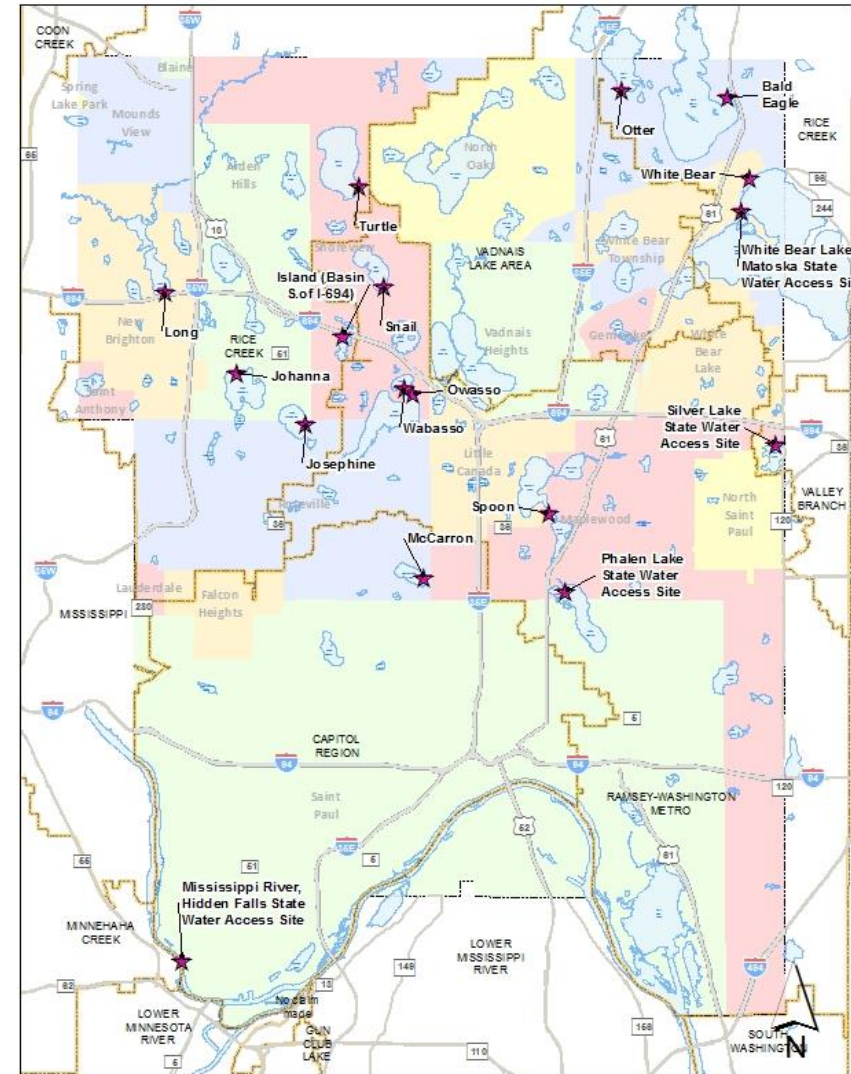
- RC LAKES, ACCESS SITES & INFESTATIONS
- STATE AIS FUNDING BACKGROUND & RAMSEY COUNTY PLAN
- 2014 - 2016 WORK COMPLETED
- ADMINISTRATION & PLANNING PROCESS FOR 2017/2018



RC LAKES, ACCESS SITES & INFESTATIONS

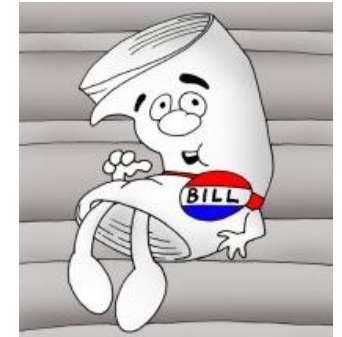
- 120 lakes in Ramsey County
- 17 watercraft trailer launch sites
- MN DNR list of infested waters

Bald Eagle Lake	Eurasian water milfoil, Curly Leaf Pond weed, Flowering Rush
Island Lake	Eurasian water milfoil, Curly Leaf Pond weed,
Johanna Lake	Eurasian water milfoil, Curly Leaf Pond weed,
Josephine Lake	Eurasian water milfoil, Curly Leaf Pond weed,
Keller Lake	Eurasian water milfoil, Curly Leaf Pond weed,
Long Lake State	Eurasian water milfoil , Curly Leaf Pond weed
<u>McCarrons</u> Lake	Eurasian water milfoil, Curly Leaf Pond weed,
Otter Lake State	Eurasian water milfoil, Curly Leaf Pond weed,
Owasso Lake State	Eurasian water milfoil, Curly Leaf Pond weed,
<u>Phalen</u> Lake	Eurasian water milfoil, Curly Leaf Pond weed
Silver Lake (east)	Eurasian water milfoil, Curly Leaf Pond weed
Snail Lake State	Eurasian water milfoil
Turtle Lake State	Eurasian water milfoil, Curly Leaf Pond weed,
<u>Wabasso</u> Lake State	Eurasian water milfoil, Curly Leaf Pond weed,
White Bear Lake	Zebra Mussels , Eurasian water milfoil,



STATE AIS FUNDING BACKGROUND & RC PLAN

- In 2014, a county tax bill was passed that provides funds for AIS prevention for all counties in MN
 - Funding = 50% watercraft trailer launches + 50% watercraft trailer parking spaces
 - Plan was required for submittal to MN DNR – tech support
- Information gathering meeting prior to drafting plan
 - In February 2015, RCPRD held a stakeholders meeting to discuss AIS in Ramsey County and determine AIS prevention objectives and initiatives
- Ramsey County submitted 2 year 2015/2016 plan and yearly plan update to MN DNR
 - Plan Initiatives
 - RCPR access site improvements
 - Access site Inspections
 - Education & outreach
 - Zebra mussel surveys
 - Zebra mussel monitoring program
 - Funding to go for municipal launches



2014 -2016 WORK COMPLETED

- RCPR access site improvements
 - Clean in/clean out stencils
 - Increased, ORGANIZED, signage
- Access site Inspections – **need shifted toward increase in inspections**
- Education & outreach
 - WBL pamphlet
 - Outdoor network commercial
- Zebra mussel surveys
 - 2015/2016



ADMINISTRATION & PLANNING PROCESS FOR 2017/2018

- Feb. 2017 - RCPR partnered with Ramsey Conservation District to administer the Ramsey County AIS program
 - March 2017 – hired an AIS coordinator
- March 2017 - Partner and Public input
 - Partner meeting in mid –March (Cities, WD's)
 - Public forum - gather information from you
- April 2017- creation of 2017/2018 Plan
 - Outline initiatives – reference previous plan initiatives and info from meetings
 - Education and outreach, ZM surveys, access site inspections.
 - Revised budget
- 2018 – 2017 year end and updated plan to MN DNR

THANK YOU !

MICHAEL GOODNATURE

NATURAL RESOURCES MANAGER

RAMSEY COUNTY PARKS & RECREATION

651-748-2500

MIKE.GOODNATURE@CO.RAMSEY.MN.US

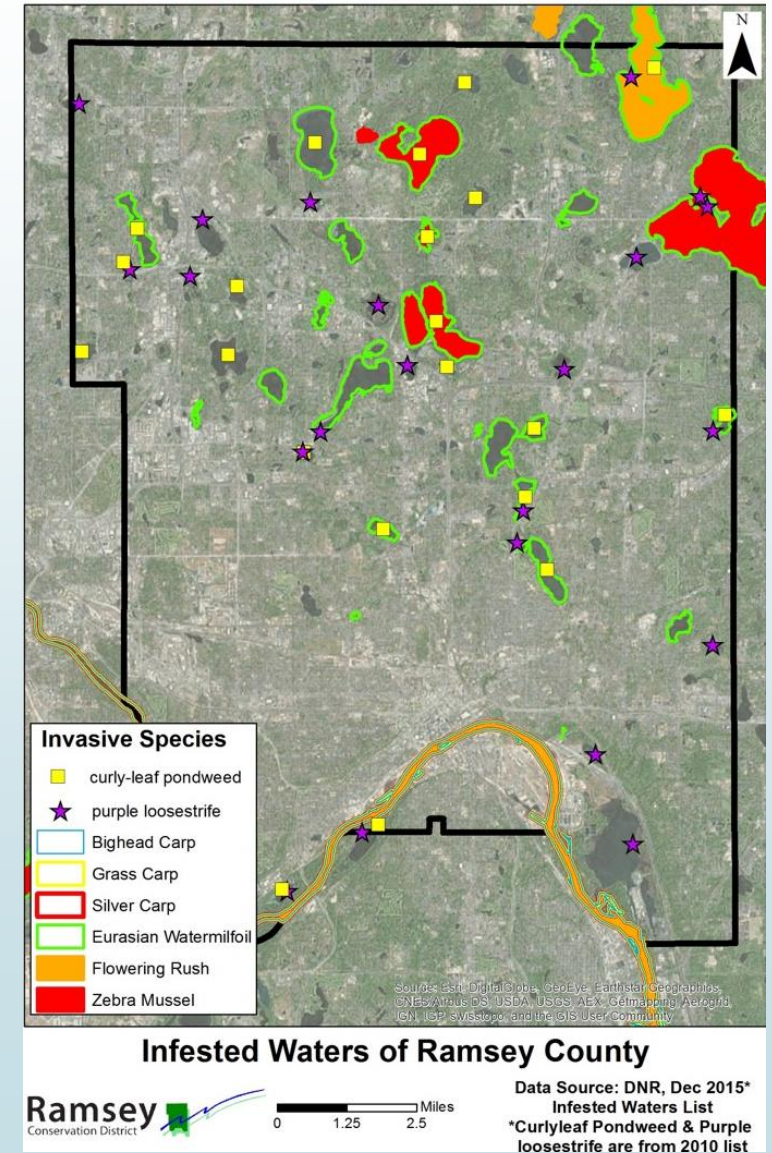
AIS Inspection Efforts 2016



- ▶ **384 hours** of inspections in Ramsey County
 - ▶ 150 of those were part of a MN DNR grant that focused on Bald Eagle Lake
- ▶ **230** Entrance Inspections
 - ▶ 5 with plant/animal/water that needed to be removed
 - ▶ ***Including one with attached ZMs***
- ▶ **184** Exit Inspections
 - ▶ 20 with plant/animal/water that needed to be removed

Proposed 2017 Inspection Efforts

- ▶ 16 Boat Launches
- ▶ Inspections by WaterGuards and RCD staff
- ▶ **Increase inspection hours:**
348 hours (2016) **↑ 2142** hours (2017)
- ▶ Approximate cost: \$41,000



AIS Priority Funding Survey

1. Please rank the following categories in order of importance, with 1 being the most important. 

	<input type="text"/>	Watercraft inspections
	<input type="text"/>	Educational materials
	<input type="text"/>	Community events and workshops
	<input type="text"/>	Monitoring for new and existing AIS
	<input type="text"/>	AIS control (mechanical, herbicide, biological)
	<input type="text"/>	Development of a Rapid Response Plan (to efficiently and effectively counter a new AIS discovery)
	<input type="text"/>	AIS research (new methods of prevention, detection, etc.)

- Sent out early March
- 3 Questions:
 - Rank priorities (above)
 - Do you have a different priority?
 - Lake association

AIS Priority Funding Survey: Results

-Over 100 responses

-And the winner is....

Watercraft Inspections!

-Runner-ups:

-Control

-Monitoring

-Rapid Response Plan



AIS Priority Funding Survey: Results...

Now what?

➤ AIS Taskforce:

- Wide variety of stakeholders
 - Agencies, lake associations, elected officials, law enforcement, citizens, sportsmen groups, etc.
- Reflect best interests of all of Ramsey County

➤ Goals:

- Update Ramsey AIS plan
- Provide input on distribution of AIS funds



Volunteer Opportunities

- ▶ Aquatic Invasive Species Volunteer/Ambassador
 - ▶ Similar to Watercraft Inspector, but strictly educational
 - ▶ NO authority
 - ▶ 20 attendees per training
 - ▶ DNR volunteer agreement form AND background check required
 - ▶ Upcoming Trainings:
 - ▶ 4/14/17: DNR Regional Office, St. Paul, MN

If interested, please contact:

Michelle Prosser, AIS Coordinator, 651-266-7277 michelle.prosser@co.ramsey.mn.us



Volunteer Opportunities

► Zebra Mussel Monitoring

- Plate samplers
- Private dock owners
- Adopt-A-Dock at public landings



If interested, please contact:

Michelle Prosser, AIS Coordinator, 651-266-7277 michelle.prosser@co.ramsey.mn.us



Volunteer Opportunities

- ▶ If interested in any of the discussed volunteer opportunities

- ▶ Lake Homeowner Association/Ramsey County Citizen rep on AIS Taskforce
- ▶ AIS Volunteer/Ambassador
- ▶ Zebra Mussel Monitoring

Please fill out a survey!

Or contact:

Michelle Prosser, AIS Coordinator, 651-266-7277 michelle.prosser@co.ramsey.mn.us

Conservation Forum: Aquatic Invasive Species

BREAK

Next up: Small Group Discussions

Hosted by:

Ramsey
Conservation District





Small Group Discussion: Pair and Share

- ▶ Icebreaker: Name and your favorite lake memory
- ▶ 1. Volunteering
 - ▶ Have you participated in the proposed volunteer programs in the past (AIS Inspections/ZM monitoring)? Or something like them?
 - ▶ What worked well? What could we improve upon?
 - ▶ If you haven't, would you be interested in volunteering for these programs?
 - ▶ Do you have other suggestions for AIS volunteer programs?



Small Group Discussion: Pair and Share

- ▶ 2. Communication
 - ▶ What's the best way to reach YOU, your neighbors?
 - ▶ Email, Facebook, mailings, phone calls?
 - ▶ What's worked well in the past? Recommendations?
- ▶ 3. Education
 - ▶ Are there topics that you would like to see covered in future conservation forums?

Thank you for coming!

See you at the next
RCD Conservation Forum!
'Recycling and Composting'

May 17

