

Welcome

2024 Lake Owasso Association Annual Meeting



*Lake Owasso
Association, Inc.*



Quest of attendees to
submit photos to share for
upload to the LOA web site.

2024 Lake Owasso Association Annual Meeting Agenda

Thursday April 25, 7:00pm

- 7:00 Introduction
- 7:05 Approve 2023 minutes; board members
- 7:05 Ice-out dates/Loon calls/Water level
- 7:10 Treasurers report
- 7:15 Invasive species research (MAISRC)
- 7:20 Fluridone treatment update
- 7:45 Carp update
- 7:50 Zebra mussel Safari program for early detection
- 8:00 501c3 status update
- 8:05 Muskie stocking
- 8:10 New Business
- Adjourn



*Lake Owasso
Association, Inc.*

Annual meeting

April 25, 2024

Significant extremes

In rank order

Early Ice-outs

March 3	2024
March 6	2017
March 9	1987
March 9	2000
March 14	2016
March 17	2012
March 23	2021
March 25	1981
March 27	1995
March 27	2007
March 27	2015

Late Ice-outs

2018	April 30
2013	April 29
1965	April 29
1951	April 27
1975	April 26
1950	April 23
1962	April 22
2008	April 21
1972	April 21
1996	April 20
1979	April 20



*Lake Owasso
Association, Inc.*

74 years of ice-out data

Serves as raw data for trend chart

Data contributors highlighted in yellow

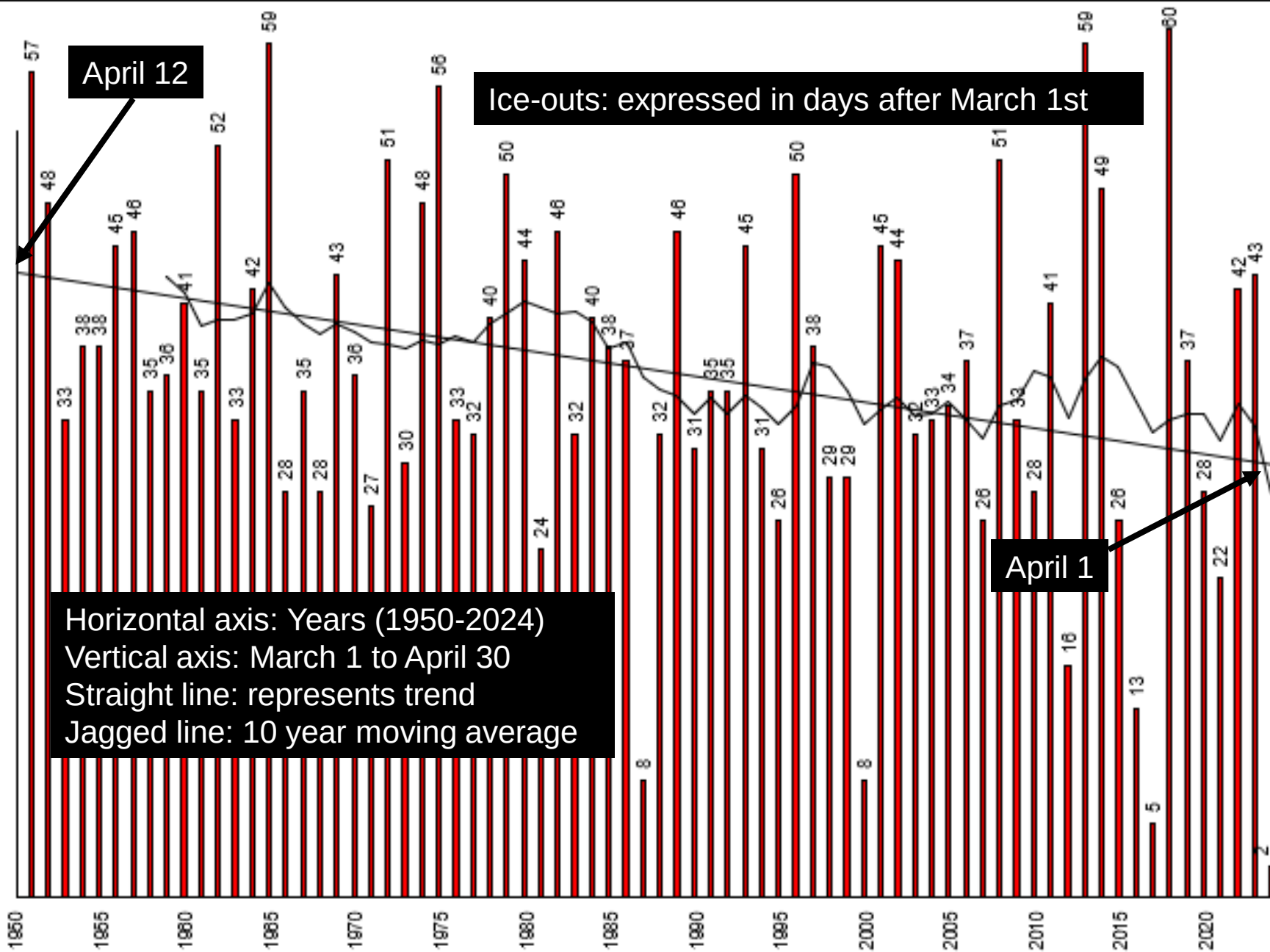
by Skip Kiland		Early data from Mr Van Esfelt and Warren Johnson supplements from Danna Wieck		
	Mar 1	Ice out	Days after 3/1	Decade Average
1950	03/01	04/23	53	5/4 WBL latest
1951	03/01	04/27	57	
1952	03/01	04/18	48	
1953	03/01	04/03	33	
1954	03/01	04/08	38	
1955	03/01	04/08	38	
1956	03/01	04/15	45	
1957	03/01	04/16	46	
1958	03/01	04/05	35	
1959	03/01	04/06	36	
1960	03/01	04/11	41	42.9
1961	03/01	04/05	35	
1962	03/01	04/22	52	
1963	03/01	04/03	33	
1964	03/01	04/12	42	
1965	03/01	04/29	59	
1966	03/01	03/29	28	
1967	03/01	04/05	35	
1968	03/01	03/29	28	
1969	03/01	04/13	43	
1970	03/01	04/06	36	39.6
1971	03/01	03/28	27	
1972	03/01	04/21	51	
1973	03/01	03/31	30	
1974	03/01	04/18	48	
1975	03/01	04/26	56	
1976	03/01	04/03	33	
1977	03/01	04/02	32	
1978	03/01	04/10	40	
1979	03/01	04/20	50	40.3
1980	03/01	04/14	44	
1981	03/01	03/25	24	
1982	03/01	04/16	46	
1983	03/01	04/02	32	
1984	03/01	04/10	40	
1985	03/01	04/08	38	

Click here
for web site

1986	03/01	04/07	37	34.7	Earliest	
1987	03/01	03/09	8			
1988	03/01	04/02	32			
1989	03/01	04/16	46			
1990	03/01	04/01	31			
1991	03/01	04/05	35			
1992	03/01	04/05	35			
1993	03/01	04/15	45			
1994	03/01	04/01	31			
1995	03/01	03/27	26			
1996	03/01	04/20	50	34.9	Earliest	3/21 WBL
1997	03/01	04/08	38			
1998	03/01	03/30	29			
1999	03/01	03/30	29			
2000	03/01	03/09	8			
2001	03/01	04/15	45			
2002	03/01	04/14	44			
2003	03/01	04/02	32			
2004	03/01	04/03	33			
2005	03/01	04/04	34	34.3	3/19 WBL earliest 2012	
2006	03/01	04/07	37			
2007	03/01	03/27	26			
2008	03/01	04/21	51			
2009	03/01	04/03	33			
2010	03/01	03/29	28			
2011	03/01	04/11	41			
2012	03/01	03/17	16			
2013	03/01	04/29	59			
2014	03/01	04/19	49	29.625	(two ice out dates (2nd 3 Latest ice out	
2015	03/01	03/27	26			
2016	03/01	03/14	13			
2017	03/01	03/06	5			
2018	03/01	04/30	60			
2019	03/01	04/07	37			
2020	03/01	03/29	28			
2021	03/01	03/23	22			
2022	03/01	04/12	42			
2023	03/01	04/13	43			
2024	03/01	03/03	2			
2025	03/01					

Lake Owosso Free of Ice

Series1 Series2 10 per. Mov. Avg. (Series1) Linear (Series1)



Primary Loon calls:

the Tremolo (distress)
the Yodel (males only)
the Wail (between mating pairs)

[Click here for audio of loon calls](#)



Courtesy of the Loon
Preservation Committee



*Lake Owasso
Association, Inc.*



Sandhill Cranes in
wetlands at south end of
lake. April 4



*Lake Owasso
Association, Inc.*

Water level

April 24, 2023



April 16, 2022



April 2009



Water level on April 24, 2024:
1 inch higher than April 24, 2023

Treasurers Report

Edward Roberts - Treasurer

Treasurers Report

	2023	2022
Balance on Jan 1	\$ 2,143	\$ 15,439
Contributions		
Aquatic & Membership Fees	\$ 44,322	\$ 26,763
Interest	11	\$ 42
Total Receipts	\$44,333	\$ 26,805
Expenses		
Aquatic Plant Control & Permit	\$ 24,920	\$ 39,677
Administration expenses	\$ 1,061	\$ 424
Total Expenses	\$25,981	\$40,101
Balance on Dec 31	\$ 20,495	\$ 2,143



*Lake Owasso
Association, Inc.*

Key Players related to Lake Owasso



“Maysurk”

Minnesota Aquatic Invasive Species Research Center (MAISRC)



Lake Owasso
Association, Inc.



[Click here for MAISRC video clip](#)

(8-minute video, play first 3 ½ minutes)



*Lake Owasso
Association, Inc.*

Key Invasives impacting Lake Owasso



Eurasian watermilfoil



Zebra mussels



Curly leaf pondweed



Common carp

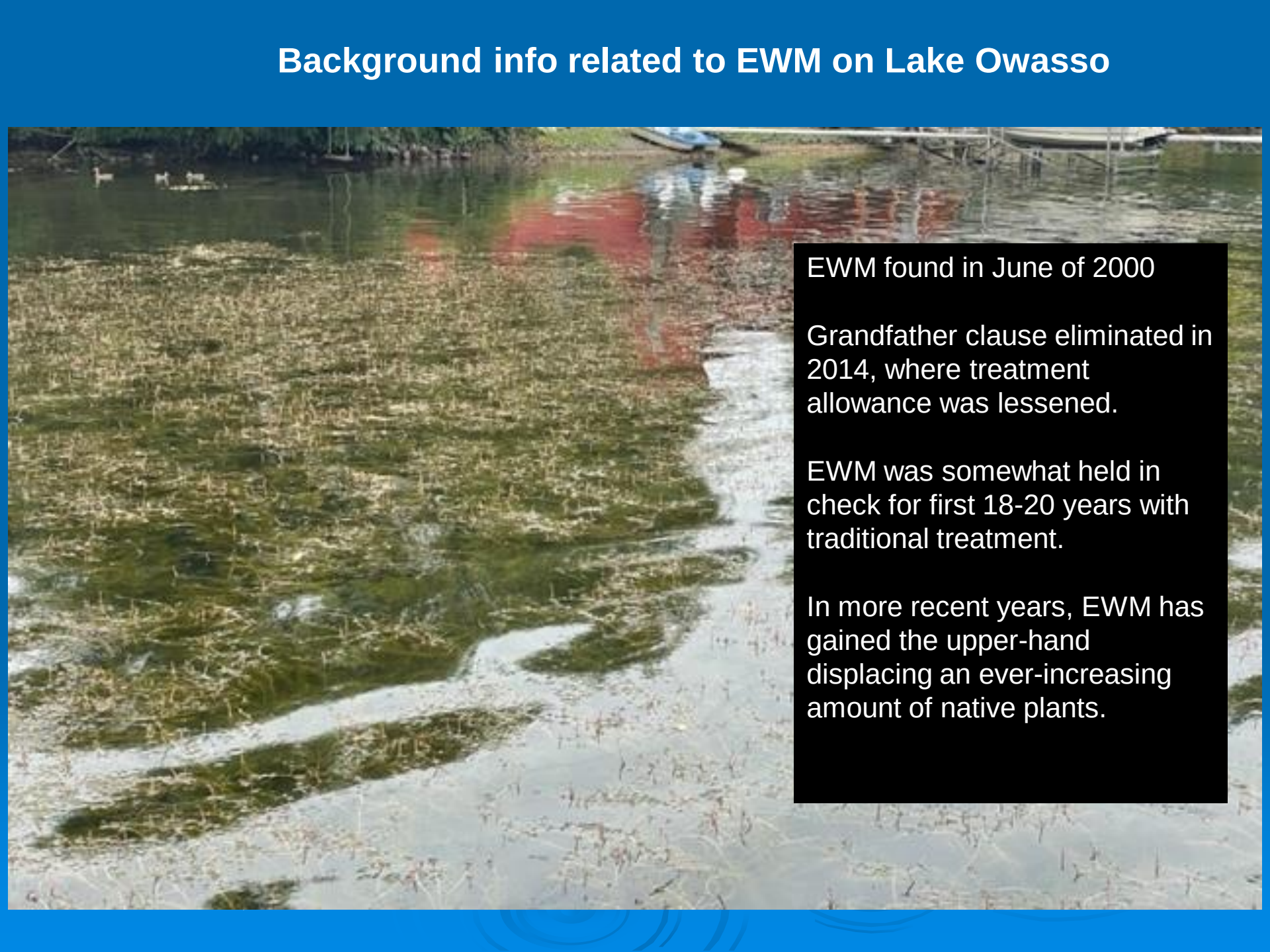


Purple loosestrife



*Lake Owasso
Association, Inc.*

Background info related to EWM on Lake Owasso



EWM found in June of 2000

Grandfather clause eliminated in 2014, where treatment allowance was lessened.

EWM was somewhat held in check for first 18-20 years with traditional treatment.

In more recent years, EWM has gained the upper-hand displacing an ever-increasing amount of native plants.

EWM in more recent years

- More of it at the surface
- More of it matted at the surface
- More of it further from shorelines
- Existence of it in where previously not present
- Outcompeting native plants
- Even outcompeting the 2nd most dominant invasive plant on Lake Owasso – Curly leaf pondweed



Lead up to March 21, 2024 whole lake fluridone treatment on Lake Owasso

2021 - Conceptual discussions of fluridone treatment initiated in LOA board meetings.

September 2022 - Three LOA board members met with board members from Lake Josephine to learn of their 2019 fluridone treatment.

November 2022 - LOA board members met with DNR official responsible for administering fluridone permits.

2022 - 2023 - LOA board initiated discussions with 5 additional nearby lakes where fluridone was applied, to learn from their experience.



*Lake Owasso
Association, Inc.*

December 2023 LOA Board meeting

Going into the December 2023 LOA board meeting, LOA board was deliberating between a fall 2024 or spring 2025 fluridone treatment for Lake Owasso.

During the December 2023 LOA board meeting, LOA board decided (unanimously) that enough momentum was building that it made sense to move up dates for an early spring 2024 fluridone treatment. LOA board voted unanimously to pursue an early spring 2024 fluridone treatment contingent on two items:

- 1) that sufficient funding could be obtained
- 2) that the LOA would receive DNR permit approval



*Lake Owasso
Association, Inc.*

How to fund fluridone?

LOA board wrestled with funding fluridone, not knowing how much additional residents would be willing to contribute.

Board considered three models: 1) per foot 2) fixed rate & 3) hybrid with a per foot component coupled with a one-time special assessment fee. Board voted unanimously for the hybrid approach as it was considered more equitable across different lot sizes.

Results: Overwhelming financial support from residents. 193 signups for 2024 (2 more than 2023). Each of the 193 included the additional \$250 special assessment.

Other: LOA applied for DNR grant where a grant was not awarded.



*Lake Owasso
Association, Inc.*

2024 activity

February 6, 2024 - Signup form sent with additional request for \$250 one-time special assessment.

By about the 3rd week of February after tallying signup forms, LOA board was confident sufficient funding would be achieved to afford an early spring 2024 fluridone treatment.

March 7, 2024 – LOA board submitted special permit request to the DNR for a whole lake fluridone treatment of Lake Owasso for the spring of 2024.

March 11, 2024 LOA received formal approval from the DNR for a spring 2024 fluridone treatment.



*Lake Owasso
Association, Inc.*

Goals of fluridone treatment

- To give Lake Owasso a reset to a more native state
- Promote plant biodiversity vs EWM dominance
- Enable improved navigation
- Less restricted swim areas
- Improved fish habitat
- To improve the underlying health of the lake



*Lake Owasso
Association, Inc.*

Thursday March 21st Contractor and SePro
associate discussing dosage calculations

10.1 gallons of fluridone AS
product to achieve 4 ppb



*Lake Owasso
Association, Inc.*

Basic dosage calculation:

Avg depth x ppb x .0027 = quarts/acre

Actual dosage calculation is more complex factoring in stratified water depths for greater precision.



*Lake Owasso
Association, Inc.*

Sampling

Purpose of sampling to ensure that concentrations are held close to, but not exceed 4 ppb for 100 days.

Sampling consists of 2 locations across 8 subsequent dates, hence a total of 16 samples.

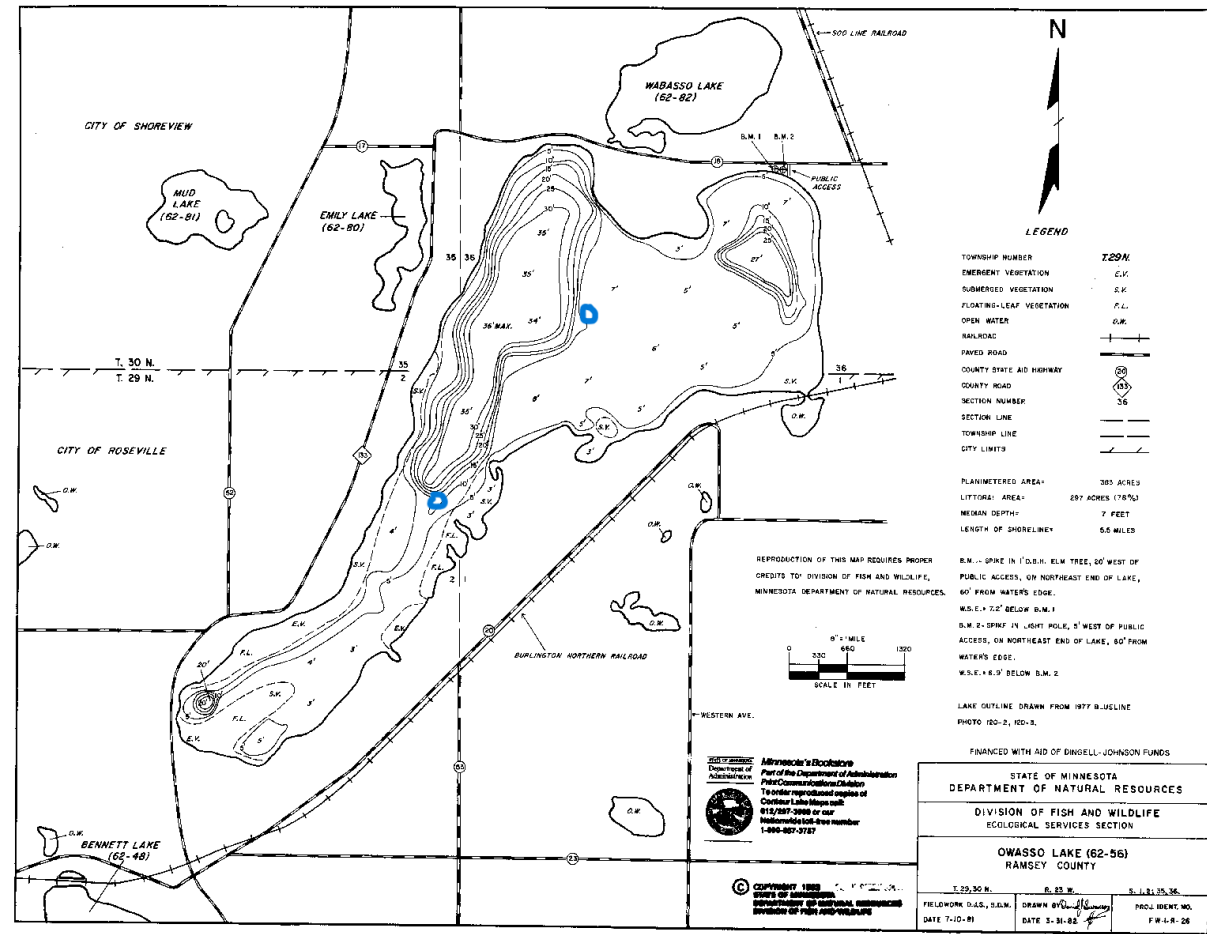
Days after initial treatment (March 21):
7, 14, 21, 28, 35, 49, 75, 100



*Lake Owasso
Association, Inc.*

Two Sampling Locations

One in south bay and one in north
represented by blue dots



Lake Owasso
Association, Inc.

Sampling schedule and results

2024 Lake Owasso fluridone treatment

Initial treatment	3/21/2024	target dosage: 4ppb
Bump treatment #1	4/29/2024	
Bump treatment #2	TBD	

		Fluridone concentrations in parts ppb		
		Sampling	Sampling locations	
Sample #	Days after	Date	North	South
1	day 7	3/28/2024	3.6	3.7
2	day 14	4/4/2024	3.0	3.6
3	day 20	4/10/2024	2.8	2.7
4	day 27	4/17/2024	3.0	3.0
5	day 34	4/24/2024	2.7	2.8
6	day 49	5/9/2024		
7	day 75	6/4/2024		
8	day 100	6/27/2024		



Forthcoming bump treatments are
the unknown variable

	Est 2024	Actual 2023
Balance on Jan 1	20,495	2,143
Contributions		
Aquatic & membership fees	88,066	44,322
Interest		11
Total Receipts	88,066	44,333
Expenses		
Aquatic plant control & permit	76,000	24,920
Admin expenses	1,200	1,061
Total Expenses	77,200	25,981
Balance on Dec 31	31,361	20,495



Cost reduction via volunteer effort

Additional volunteer effort from LOA board will save \$8,000. This involves electronic notification of treatments (vs physical sign postings) and taking sample collections. These costs would otherwise be borne by the contractor and passed onto LOA.

Balance on Jan 1

Contributions

Aquatic & membership fees

Interest

Total Receipts

Expenses

Aquatic plant control & permit

Admin expenses

Total Expenses

Balance on Dec 31

	With additional volunteer effort Est	Without additional volunteer effort Est	Actual
	2024	2024	2023
Balance on Jan 1	20,495	20,495	2,143
Contributions			
Aquatic & membership fees	88,066	88,066	44,322
Interest			11
Total Receipts	88,066	88,066	44,333
Expenses			
Aquatic plant control & permit	68,000	76,000	24,920
Admin expenses	1,200	1,200	1,061
Total Expenses	69,200	77,200	25,981
Balance on Dec 31	39,361	31,361	20,495



Unknowns

How much will natives fill in the void?

How soon will natives fill in the void?

Could there be an impact on water clarity?

How many years will fluridone last?

Will there be treatment restrictions in 2025?



*Lake Owasso
Association, Inc.*

Some plants expected to fill the void



Largeleaf pondweed
(native)



Curly leaf pondweed
(invasive)

Slender naiad (native)



Coontail (native)



*Lake Owasso
Association, Inc.*

Point Intercept Aquatic Plant Survey

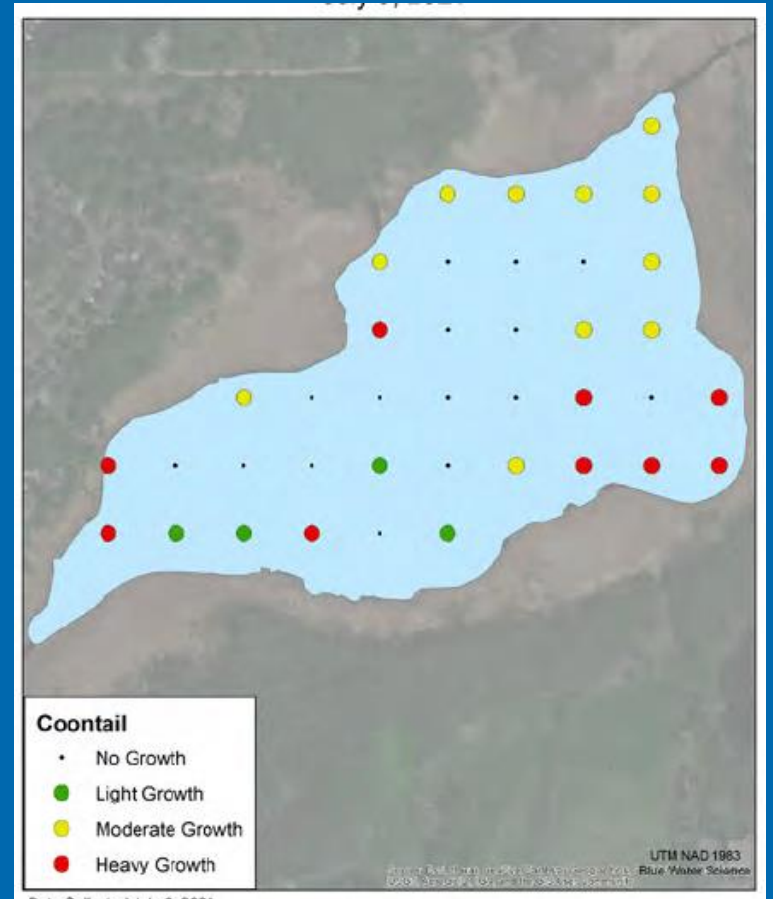
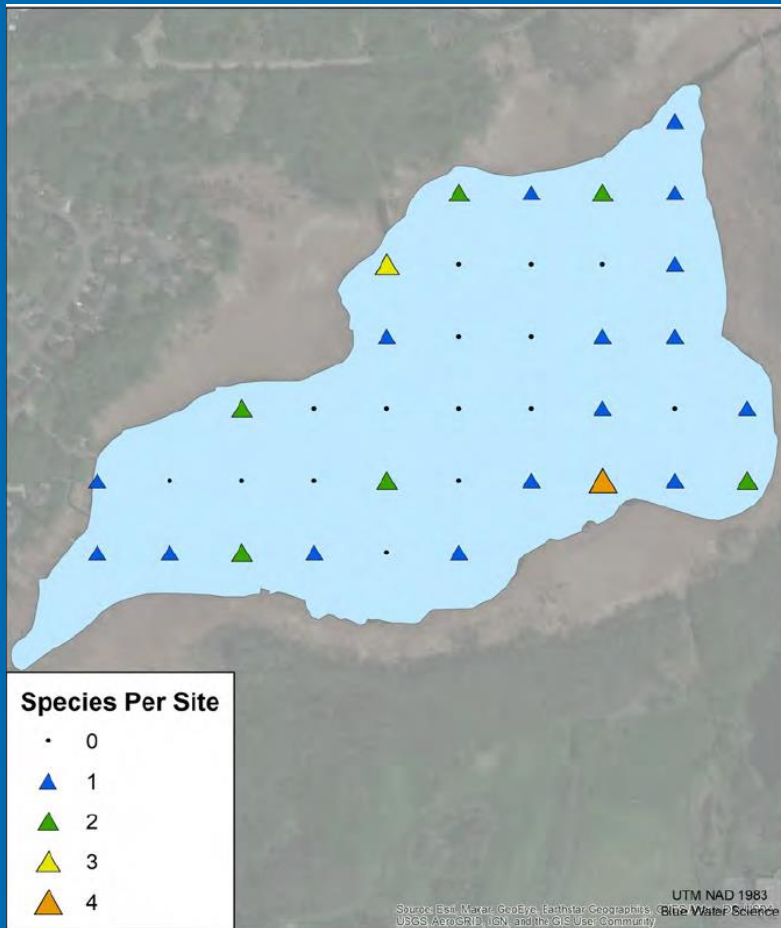
Purpose: 1) To assess volume and
diversity of native plants
2) To verify that fluridone has
minimal impact on natives

When: Late May or June of 2024

By: Blue Water Science



*Lake Owasso
Association, Inc.*



Rake Density: 1

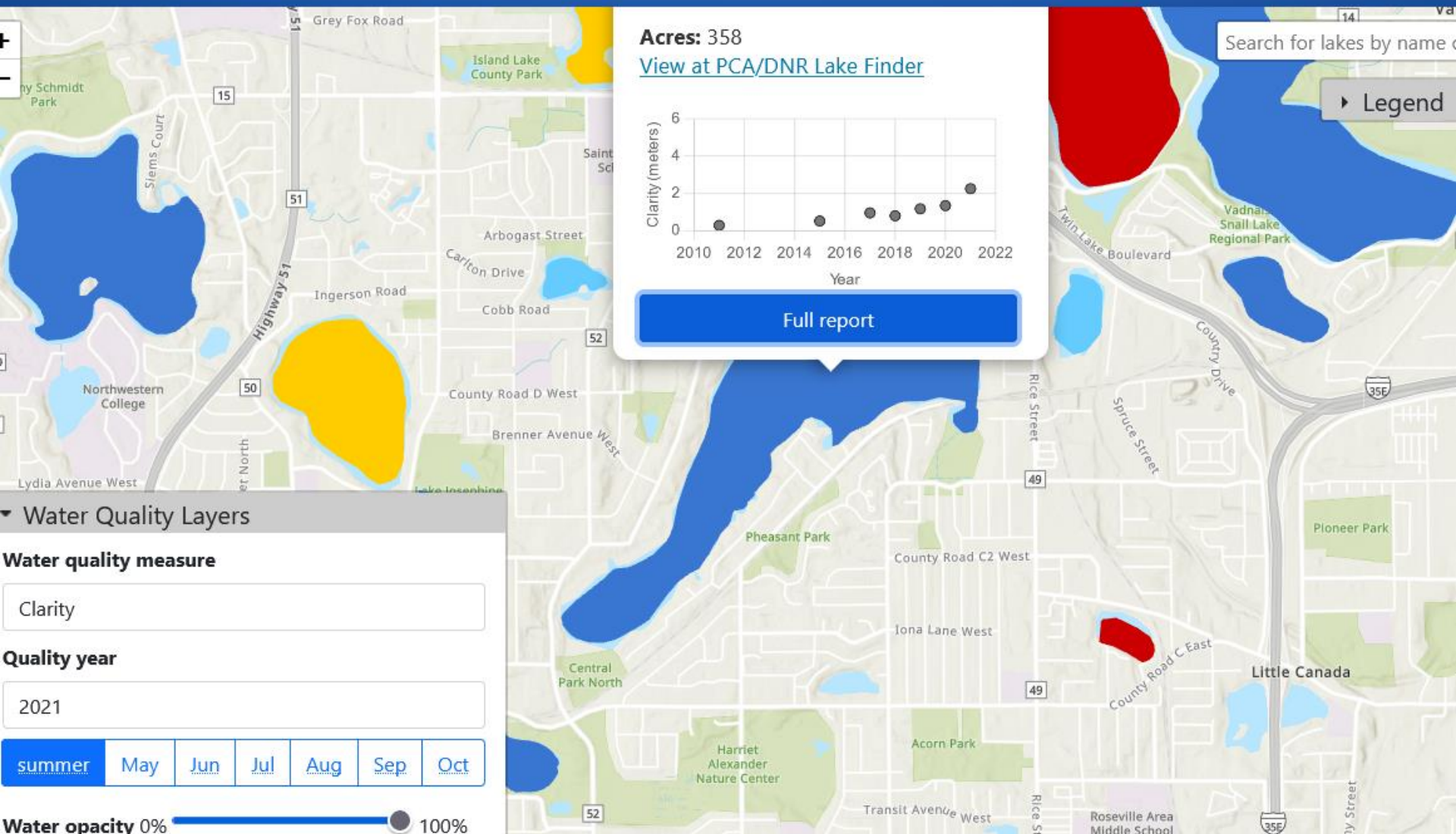


Rake Density: 2



Rake Density: 3

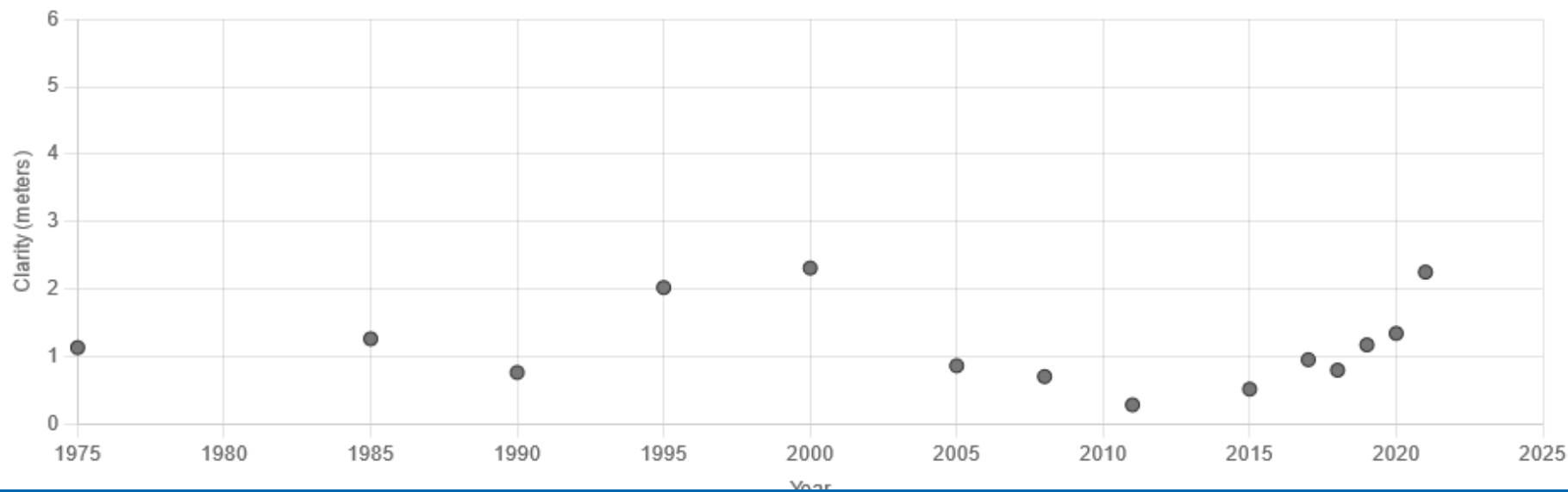




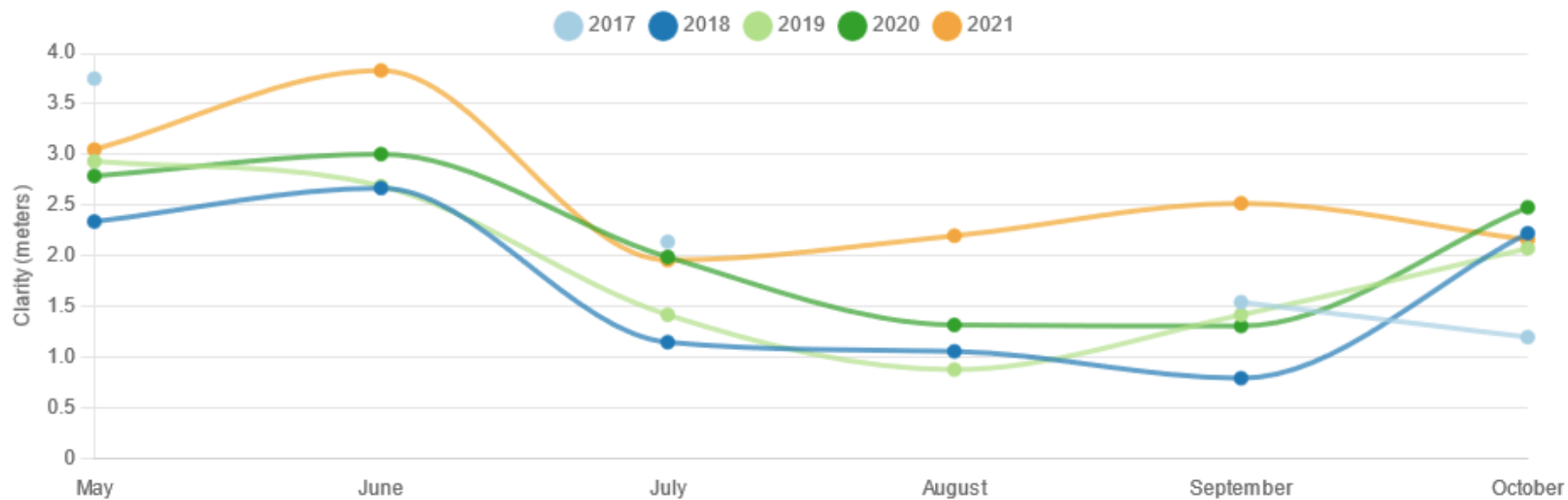
Lake Clarity

Lake Clarity by Year

Lake Owasso: from MN LakeBrowser website



Lake Clarity by Month



Carp update

No netting in 2023

Instead relied on barriers to interrupt spawning

RWMWD returning to netting for 2024
(coupled with existing barriers)



*Lake Owasso
Association, Inc.*

Huge shout
out to property
owners at
outlet to
Wabasso



Property owners allow RWMWD and their contractors (Barr Engineering and Carp Solutions) access for equipment staging and related netting equipment.



*Lake Owasso
Association, Inc.*

Less success with carp capture at public beach area in 2022



*Lake Owasso
Association, Inc.*

Barriers

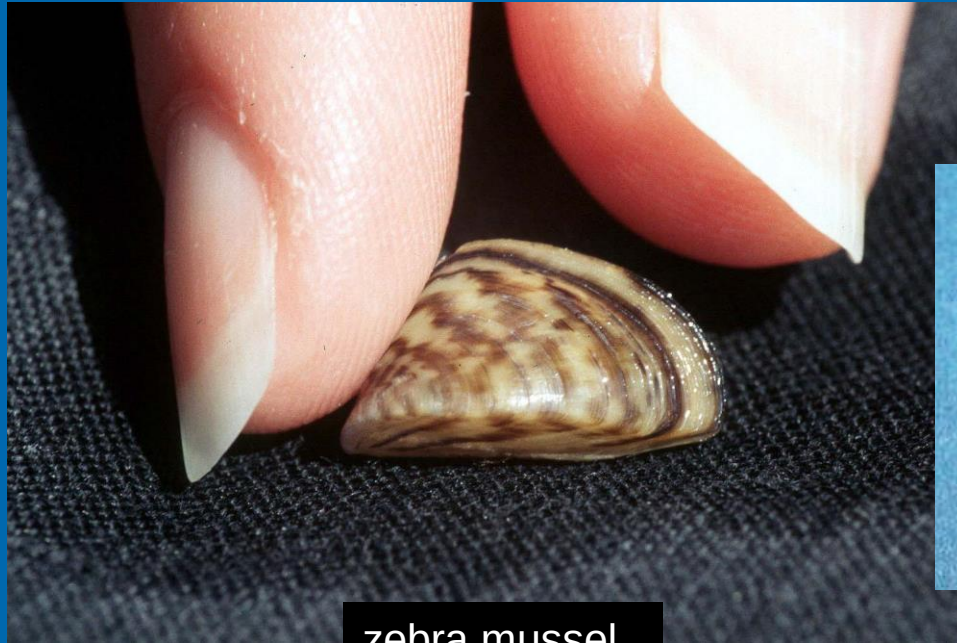


RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT



*Lake Owasso
Association, Inc.*

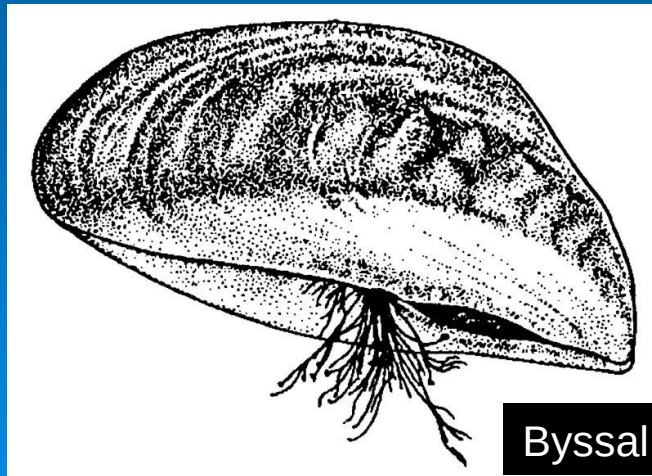
Zebra mussel identification



zebra mussel



Left: zebra; Right: quagga



Byssal thread



Lake Owasso
Association, Inc.

Zebra mussel Safari Program

Sponsored by MAISRC



Minnesota Aquatic Invasive Species Research Center (MAISRC)

COLLEGE OF FOOD, AGRICULTURAL
AND NATURAL RESOURCE SCIENCES

[Home](#) [History](#) [Our Team](#) ▾ [The Lab](#) ▾ [Research](#) ▾ [Aquatic Invasive Species](#) [AIS Detectors](#) ▾ [Connect](#) ▾ [Resources](#) ▾

[Donate](#)

[Home](#) > [Zebra Mussels](#)

Zebra Mussels

Dreissena polymorpha

Zebra mussels, though small, have huge impacts on our lakes. Their presence may greatly reduce lakefront property values and their sharp shells cut swimmer's feet. Ecologically, they filter enormous quantities of microscopic algae and alter energy flow through aquatic ecosystems—impacting fish populations and smothering and causing extinctions of native mussels. Research at MAISRC focuses on finding effective and efficient ways to control them, establishing how they're spreading to better target prevention efforts, and informing management by developing early detection methods and creating survey protocols. [More about zebra mussels.](#)



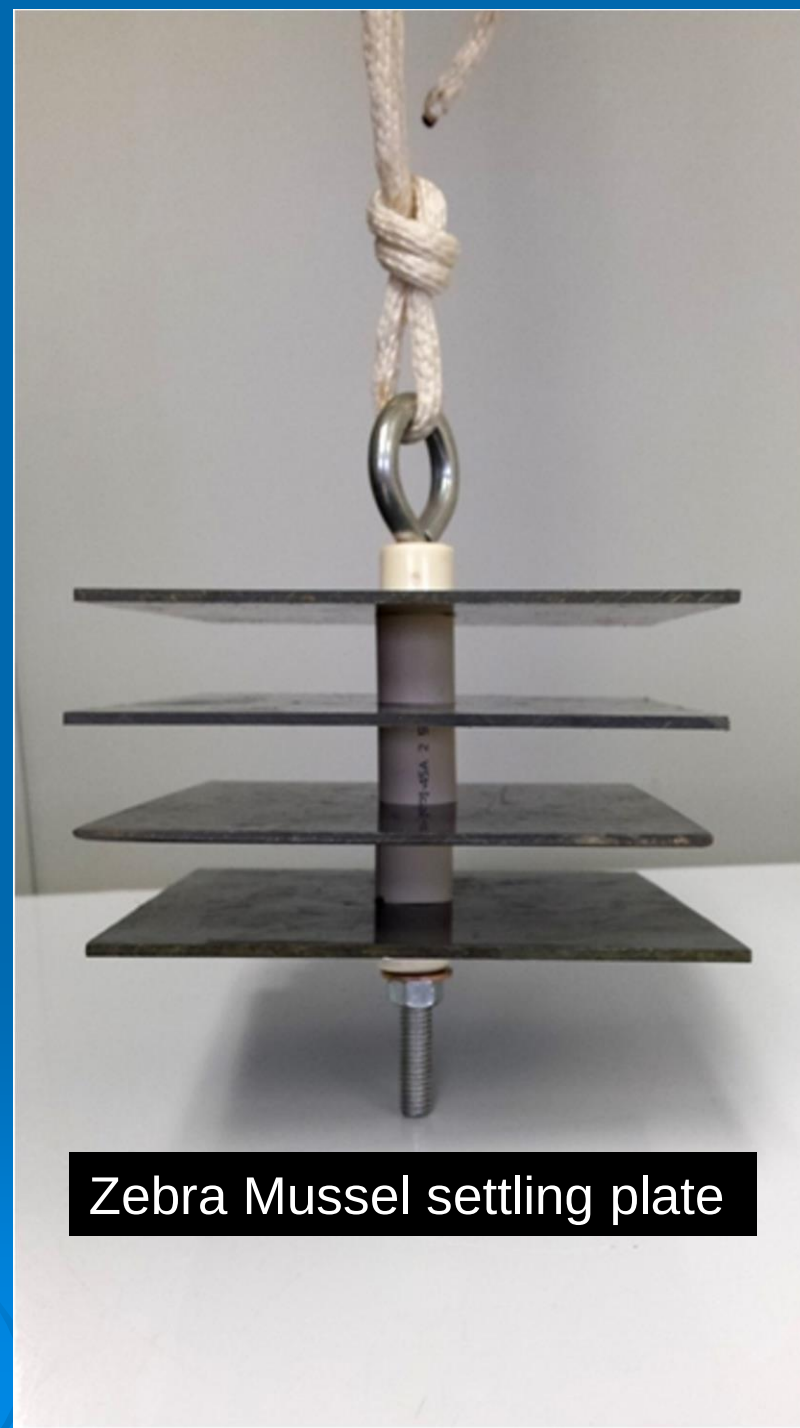
Lake Owasso among lakes
chosen for Safari program

purpose of Safari program

- 1) Early detection of zebra mussels
- 2) Data collection for researchers

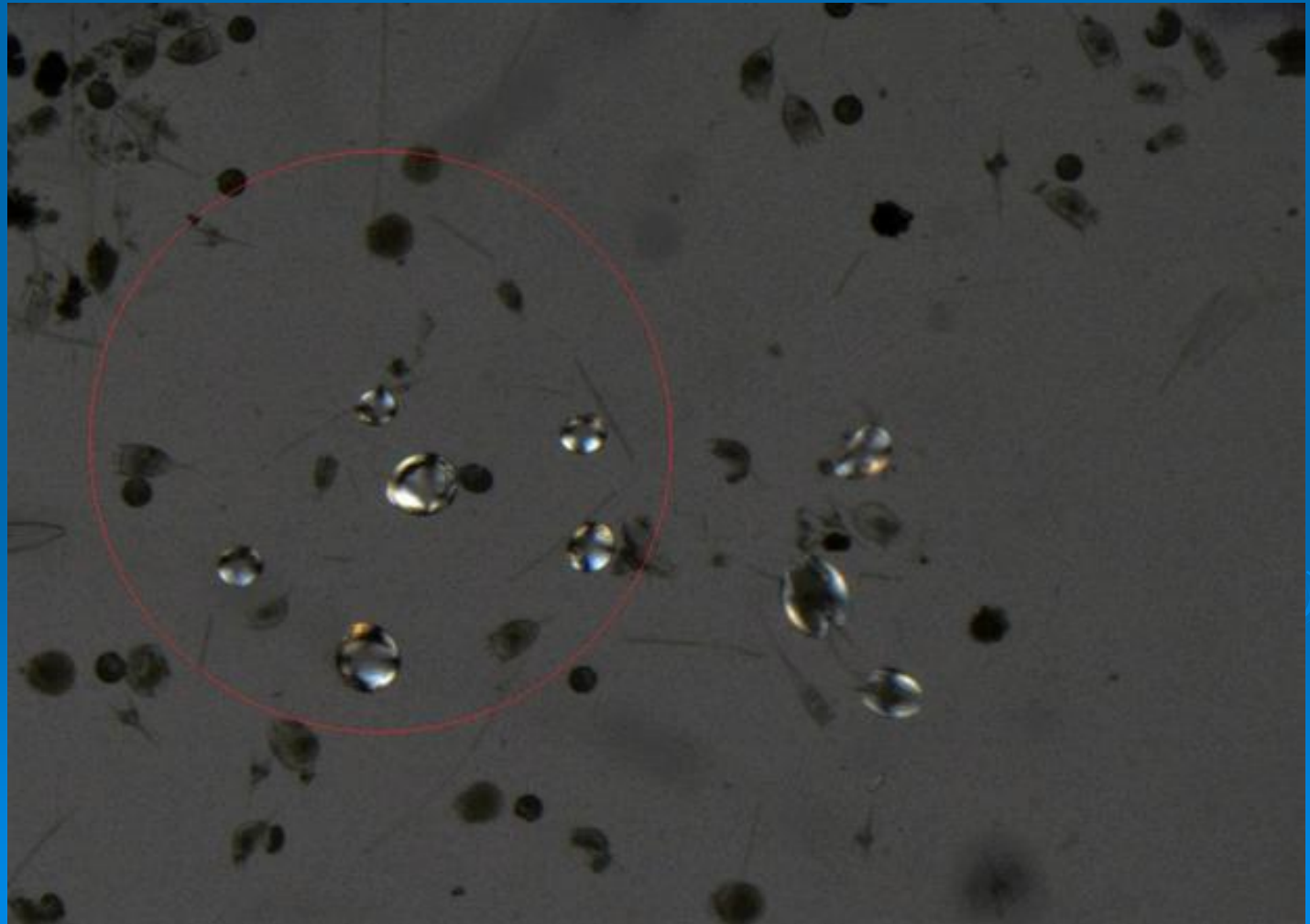


*Lake Owasso
Association, Inc.*



Zebra Mussel settling plate

Zebra Mussel Veligers not visible to the naked eye, but fluoresce with filter overlays



*Lake Owasso
Association, Inc.*

Mollusks – filtration power houses

Scallops 70 gallons per day

Oysters 50 gallons per day

Clams 40 gallons per day

Mussels 15 gallons per day



*Lake Owasso
Association, Inc.*

Time lapse video of mussel filtration

[Click here for video clip](#)



*Lake Owasso
Association, Inc.*

501c3 update

IRS did not accept abbreviated and lower cost method (1023EZ) application

To become a 501c3 would require the full 23-page 1023 long form plus \$875

Hence board decided not to further pursue 501c3 at this time, and remain a 501c4. Still nonprofit tax exempt, but contributions are not tax deductible



*Lake Owasso
Association, Inc.*

DNR Muskie stocking



One of 8 muskie sampling nets installed by DNR to gain a muskie population count. Data will be used for muskie stocking on Lake Owasso. Nets were deployed during the 2nd and 3rd weeks of April and removed on 4/26/2024.



*Lake Owasso
Association, Inc.*

Muskie
sampling
sites



Lake Owasso
Association, Inc.

Current research indicates significantly lower survival rates for stocked muskies under 11-12 inches.

DNR is evaluating the muskie population to see how it's developed after the November 2013 fish kill.

The northern pike population rebounded well after the 2013 winterkill and this may affect recruitment of stocked muskies.

The goal is to stock 15-20 inch yearling muskies in the future.



*Lake Owasso
Association, Inc.*

Source: TJ DeBates – DNR East
Metro Area Fisheries Supervisor
Timothy.debates@state.mn.us
4/23/2024

Courage Center

- Effort to possibly revive the program for 2024
- Two test sessions in 2023, after termination of program in 2022



*Lake Owasso
Association, Inc.*

New Business



*Lake Owasso
Association, Inc.*

Motion to adjourn



*Lake Owasso
Association, Inc.*

Photo: Courtesy of Mary Tragiai