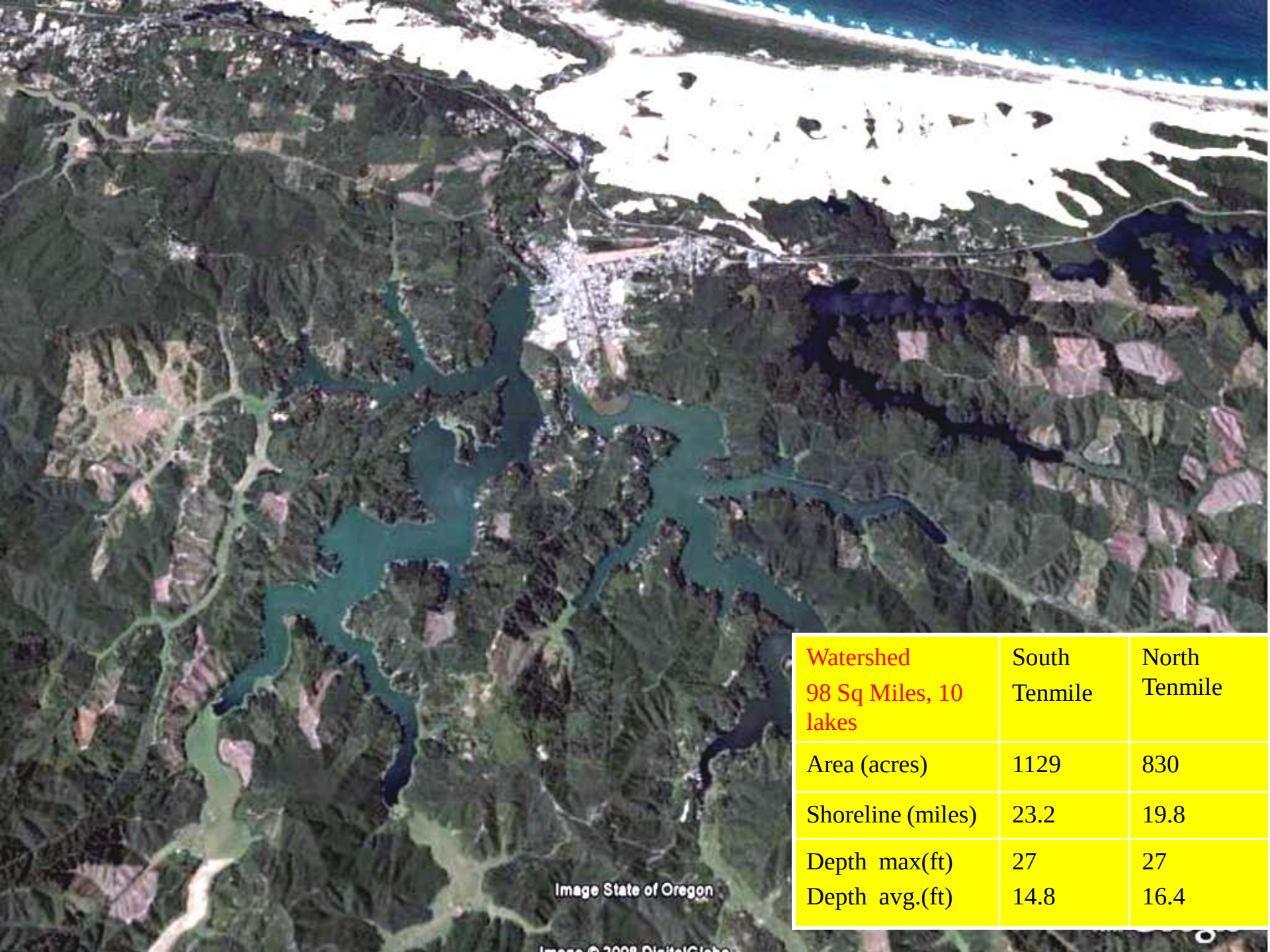
TLBP Welcomes
Oregon League of Women Voters

I’m Richard Litts
Watershed Monitoring Coordinator

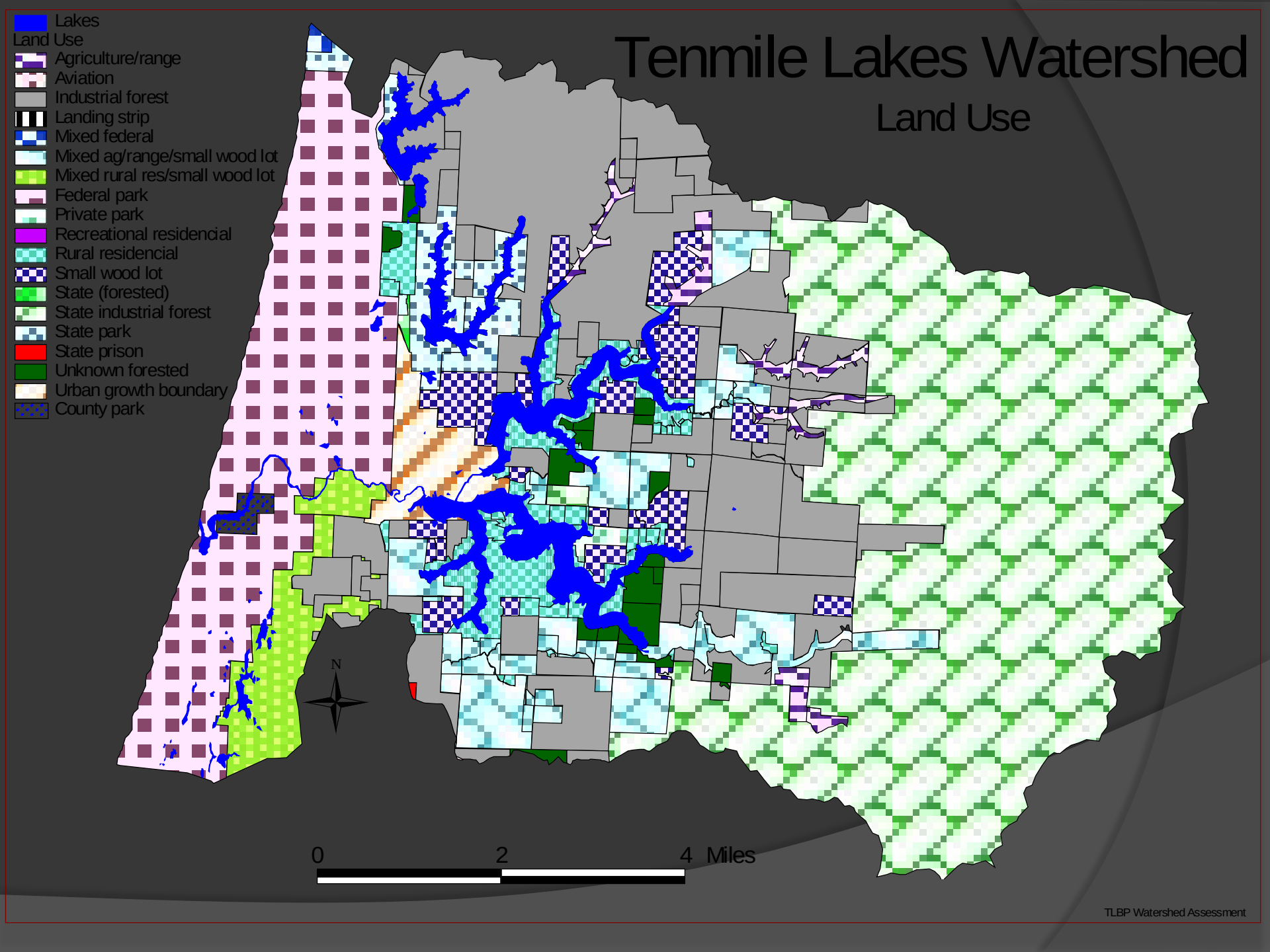
Agenda

- BRIEF LAKE FACTS
- SCIENCE LESSON
- SEPTIC SYSTEM ISSUES
- ALGAE / TOXIN MONITORING
- WHAT WE CAN DO TO HELP

Trout caught in



Watershed 98 Sq Miles, 10 lakes	South Tenmile	North Tenmile
Area (acres)	1129	830
Shoreline (miles)	23.2	19.8
Depth max(ft) Depth avg.(ft)	27 14.8	27 16.4


Lakes
Land Use
Agriculture/range
Aviation
Industrial forest
Landing strip
Mixed federal
Mixed ag/range/small wood lot
Mixed rural res/small wood lot
Federal park
Private park
Recreational residencial
Rural residencial
Small wood lot
State (forested)
State industrial forest
State park
State prison
Unknown forested
Urban growth boundary
County park
Tenmile Lakes Watershed
Land Use
N
0
2
4 Miles
TLBP Watershed Assessment

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The 2 biggest problems in Tenmile Lakes:

Invasive Species / Weeds

Algae Blooms

Three Main Concerns:

Nitrogen

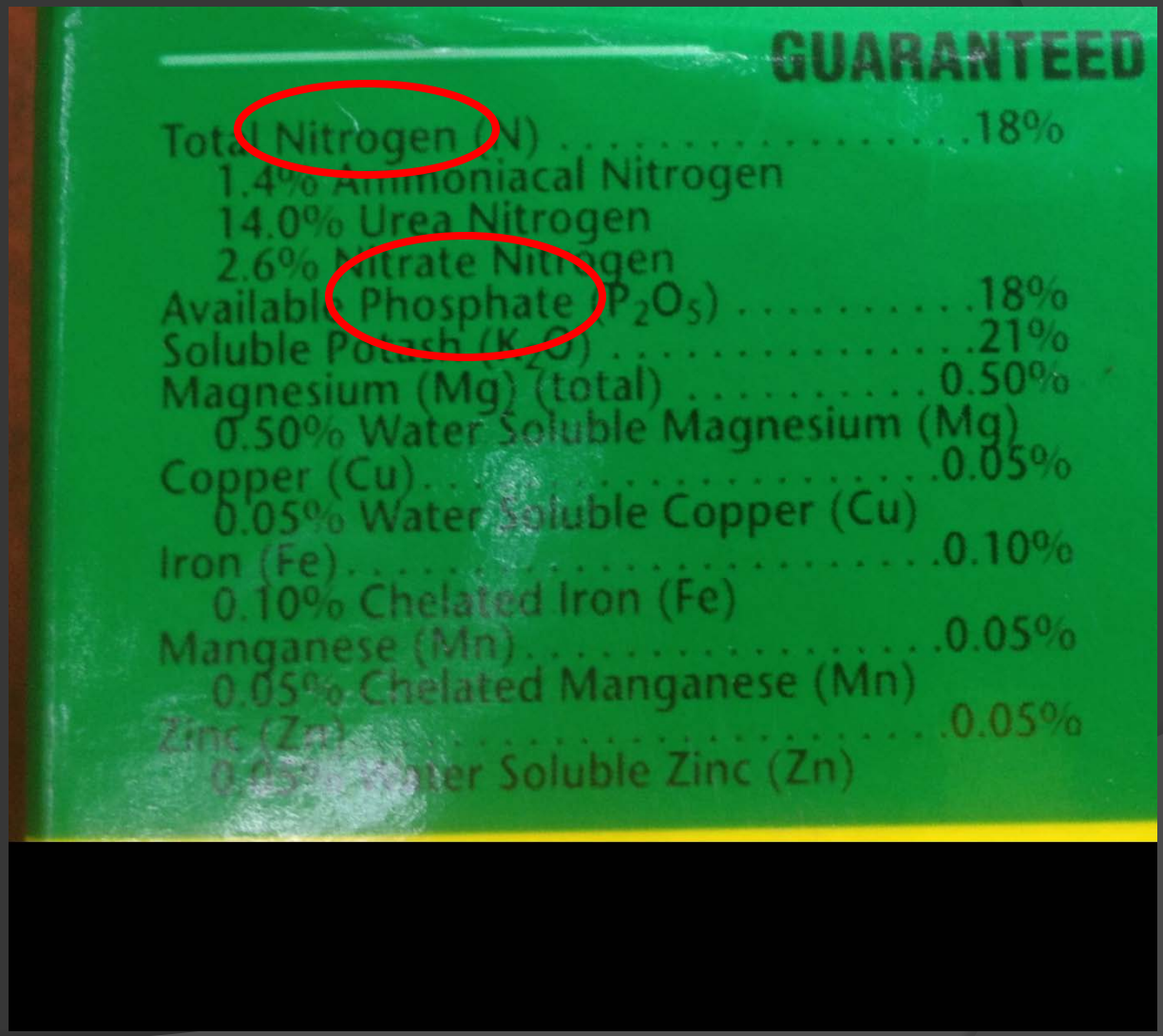
Phosphorus

Sediment

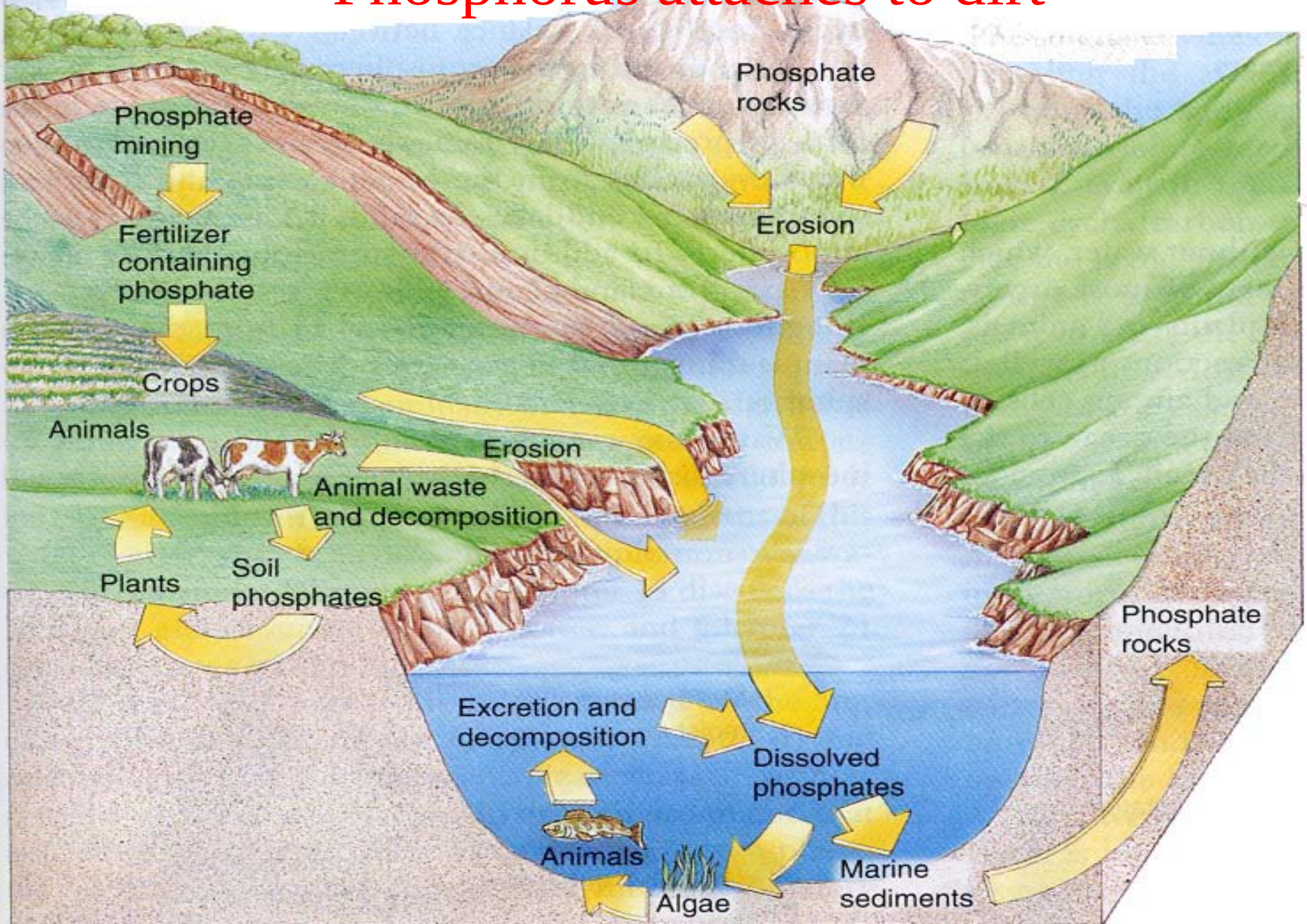
Nitrogen + Phosphorus = “Nutrients”

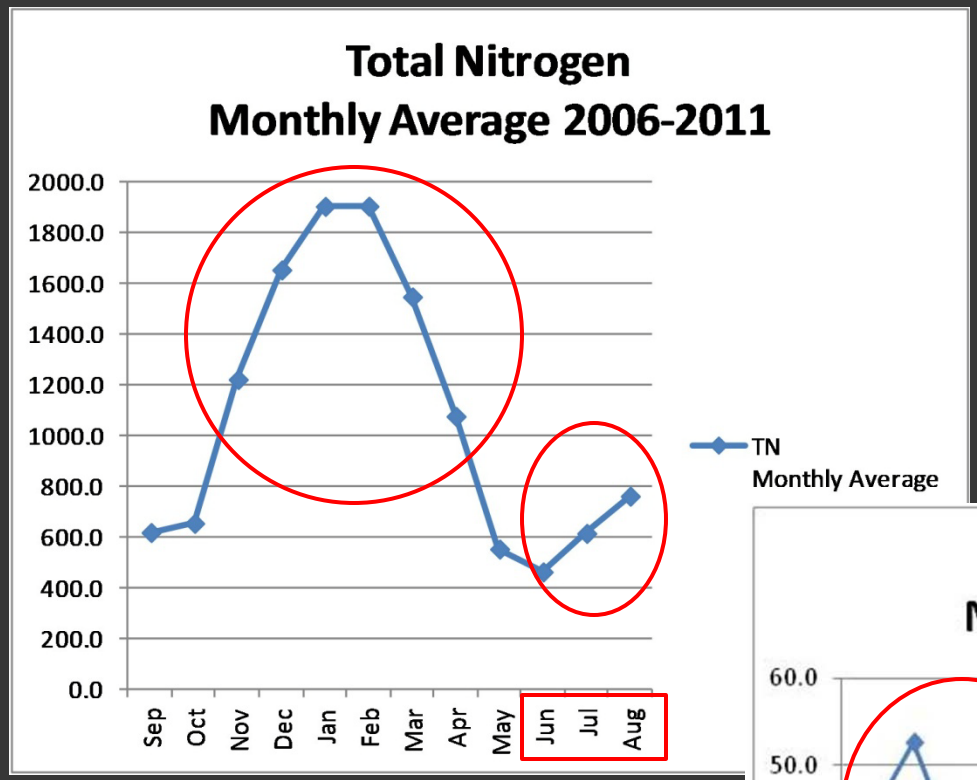
Fertilizer

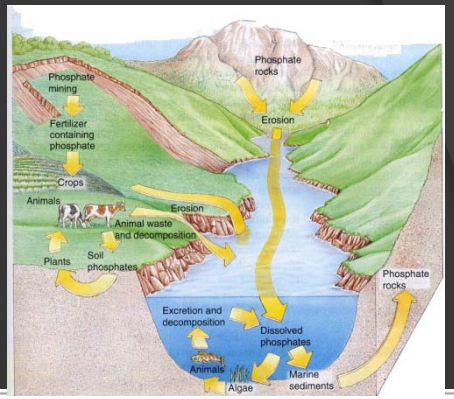
When in high concentrations in our lake, it fertilizes the algae and **causes algae blooms,** and enables the weeds in the lake to grow faster.

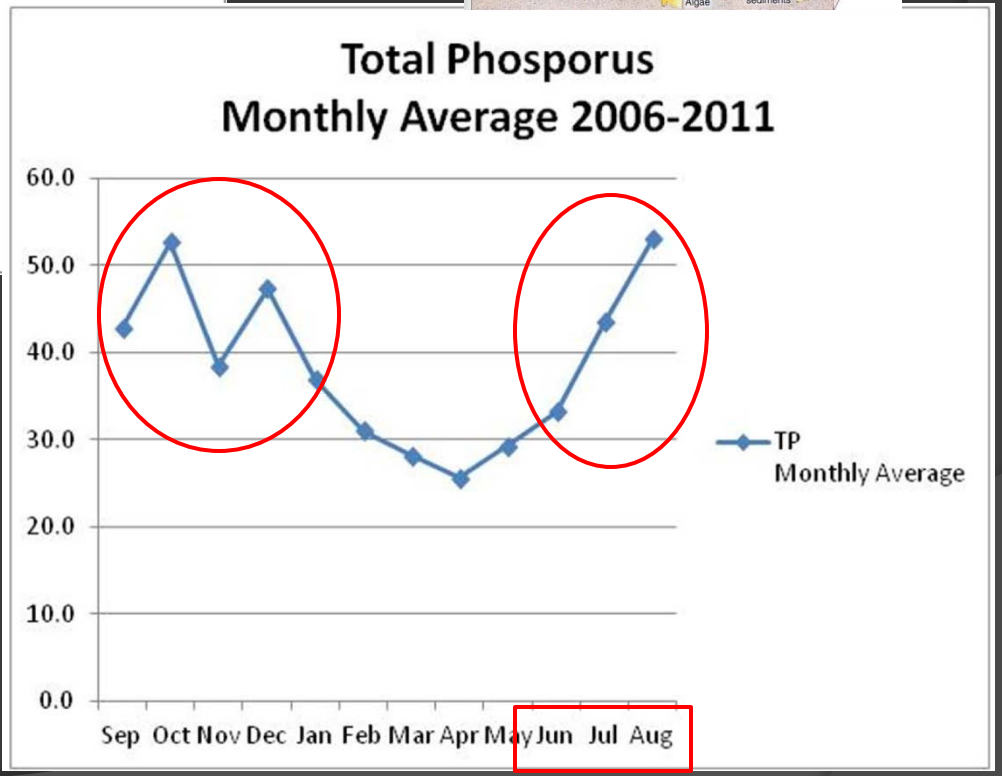


Phosphorus attaches to dirt



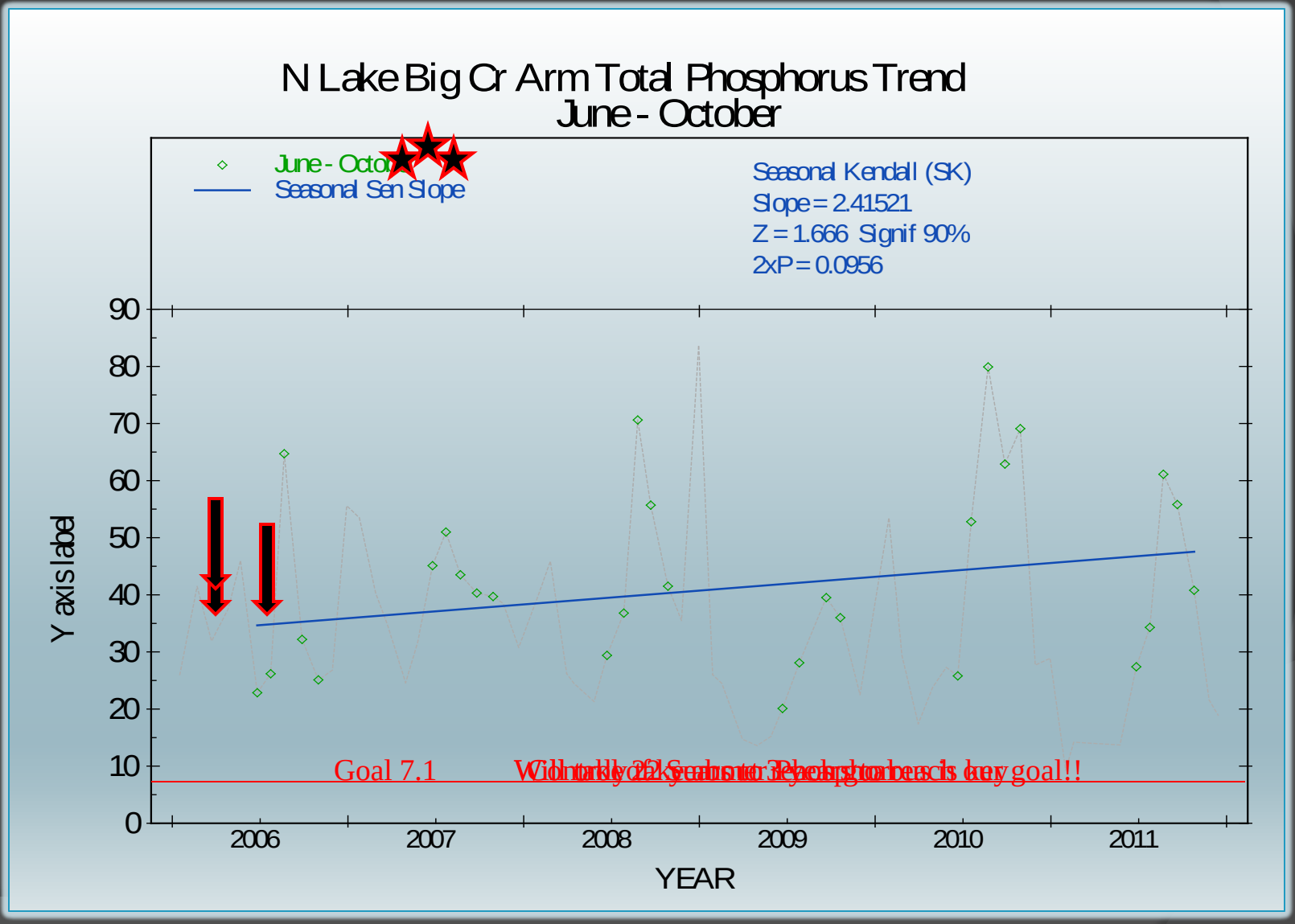

Total Nitrogen
Monthly Average 2006-2011
2000.0
1800.0
1600.0
1400.0
1200.0
1000.0
800.0
600.0
400.0
200.0
0.0
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
TN
Monthly Average


Phosphate rocks
Phosphate mining
Erosion
Fertilizer containing phosphate
Crops
Animals
Erosion
Animal waste and decomposition
Plants
Soil phosphates
Phosphate rocks
Excretion and decomposition
Dissolved phosphates
Animals
Algae
Marine sediments


Total Phosporus
Monthly Average 2006-2011
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
TP
Monthly Average

Several potential sources

Trends


N Lake Big Cr Arm Total Phosphorus Trend
June - October
June - Octo
Seasonal Sen Slope
Seasonal Kendall (SK)
Slope = 2.41521
Z = 1.666 Signif 90%
2xP = 0.0956
Y axis label
90
80
70
60
50
40
30
20
10
0
2006
2007
2008
2009
2010
2011
YEAR
Goal 7.1

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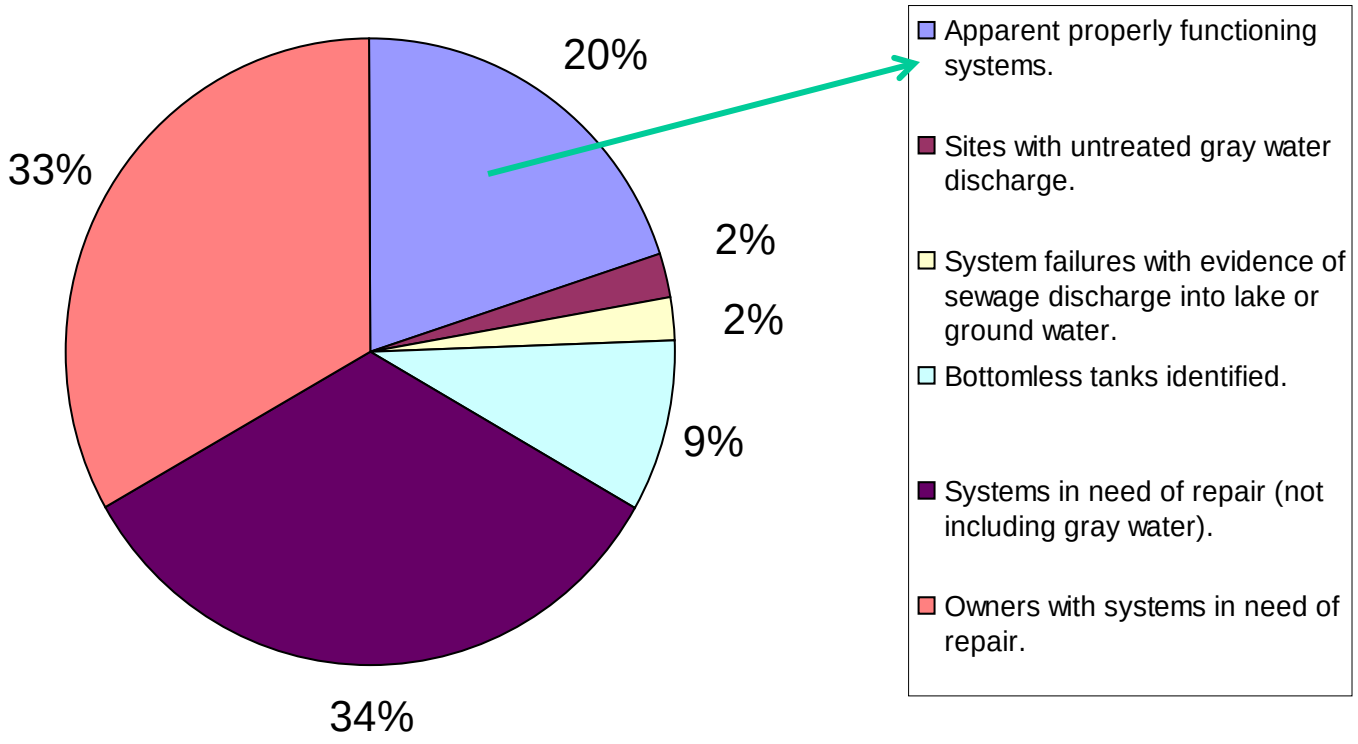
Pre-1974 Septic System Survey

Worked with county health department to inspect 26 lakefront homes in 2006 and 2007.

Results of Tenmile Lakes Septic Survey



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Algae Sampling
Program

Toxin Alert Levels

1ug/L – Drinking water advisory

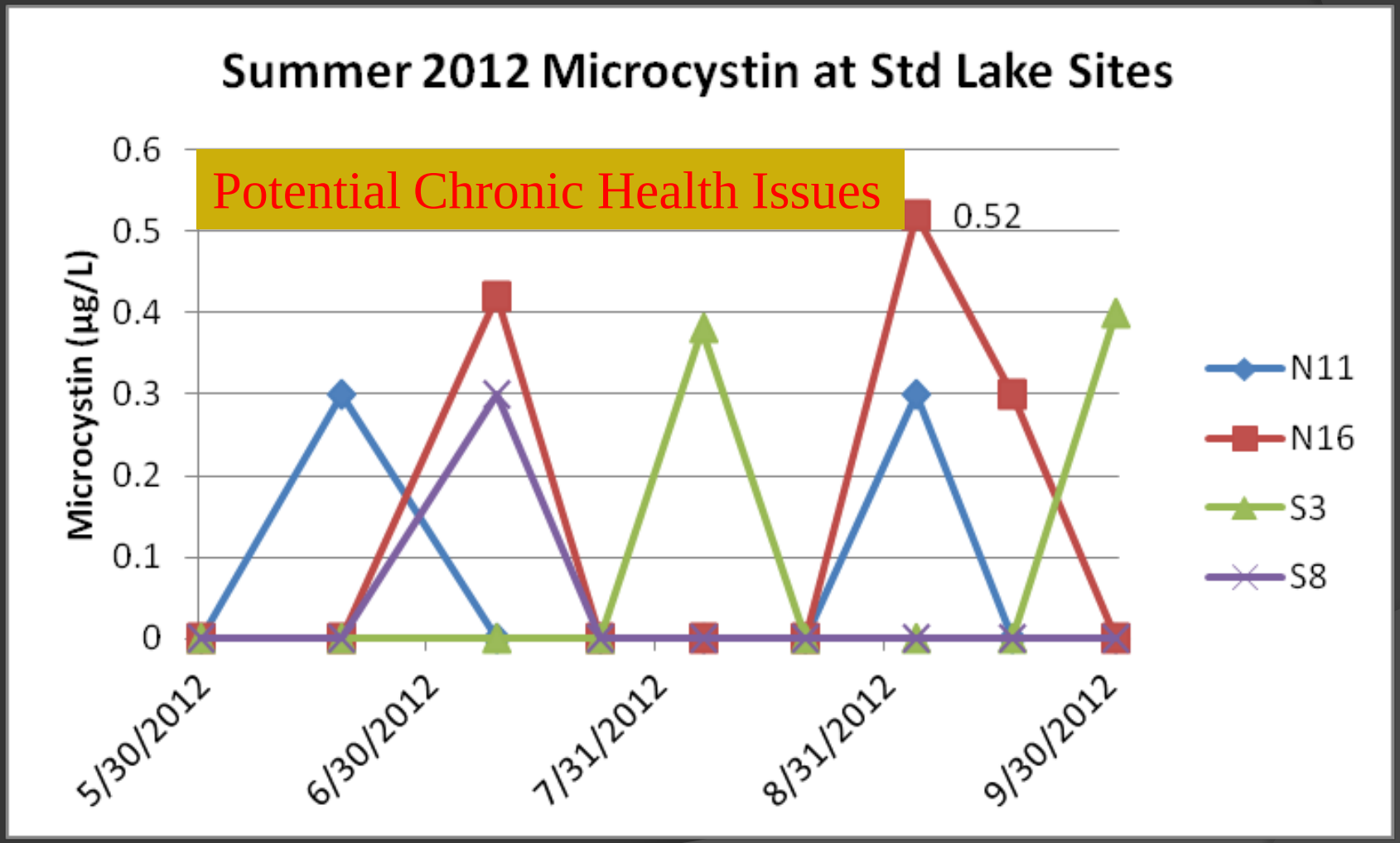
Recreational Advisories

Table 2. Health advisory guideline values for cyanotoxins in Oregon's recreational waters

	Anatoxin-A (µg/L)	Cylindrospermopsin (µg/L)	Saxitoxin (µg/L)	Microcystin (µg/L)
Guideline Value	20	6	100	10

Current Recreational Advisory on the lakes: 160µg/L

Toxin Summary 2012 Standard Sites



Pet Toxin Guidelines

Risk to Animals

Animals are also sensitive to cyanotoxins. The main route of exposure occurs through ingestion when pets and wildlife drink water from a harmful algae-filled lake or pond and by licking their fur after swimming. If toxins are being produced at the time animals drink the water, the animals can become very ill and even die.

Because dogs are a sensitive companion animal and there have been confirmed dog deaths due to cyanoHABs, OPHD has developed dog-specific guideline values for cyanotoxins in recreational water (Table C-3).

Table C-3. Dog-specific guideline values for cyanotoxins in recreational waters

Cyanotoxin	Anatoxin-a	Cylindrospermopsin	Microcystin	Saxitoxin
Dog Guidance Value (µg/L)	0.6	0.2	0.2	3

OPHD does not intend to use these dog-specific guideline as the basis for public health advisories. Rather, they are offered as a resource to veterinarians and veterinary associations to use as they deem appropriate. OPHD may use these values to aid discussions with individual veterinarians or pet owners. Contact OPHD for details about the derivation of these dog-specific values.

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We've got some problems… What can we do about them?

HB3172

HB 3172

Additions to the Seller's Disclosure Statement

3.	**SEWAGE SYSTEM**				
A.	**Is the property connected to a public or community sewage system?**	**[ ]Yes**	**[ ]No**	**[ ]Unknown**	
B.	**Are there any new public or community sewage systems proposed for the property?**	**[ ]Yes**	**[ ]No**	**[ ]Unknown**	
C.	**Is the property connected to an on-site septic system?**	**[ ]Yes**	**[ ]No**	**[ ]Unknown**	
(1)	**If yes, when was the system installed?**	**_____**		**[ ]Unknown**	**[ ]NA**
(2)	***If yes, was the system installed by permit?**	**[ ]Yes**	**[ ]No**	**[ ]Unknown**	**[ ]NA**
(3)	***Has the system been repaired or altered?**	**[ ]Yes**	**[ ]No**	**[ ]Unknown**	
(4)	***Has the condition of the system been evaluated and a report issued?**	**[ ]Yes**	**[ ]No**	**[ ]Unknown**	
(5)	**Has the septic tank ever been pumped?**	**[ ]Yes**	**[ ]No**	**[ ]Unknown**	
	If yes, when?	**_____**		**[ ]NA**	
(6)	**Does the system have a pump?**	**[ ]Yes**	**[ ]No**	**[ ]Unknown**	
(7)	**Does the system have a treatment unit such as a sand filter or an aerobic unit?**	**[ ]Yes**	**[ ]No**	**[ ]Unknown**	
(8)	***Is a service contract for routine maintenance required for the system?**	**[ ]Yes**	**[ ]No**	**[ ]Unknown**	
(9)	**Are all components of the system located on the property?**	**[ ]Yes**	**[ ]No**	**[ ]Unknown**	
D.	***Are there any sewage system problems or needed repairs?**	**[ ]Yes**	**[ ]No**	**[ ]Unknown**	
E.	**Does your sewage system require on-site pumping to another level?**	**[ ]Yes**	**[ ]No**	**[ ]Unknown**	

Coos County Septic Workgroup Ideas

- Requiring septic system inspections on all lakefront properties
- Require fixing any problems that are found
- Not all properties need a septic system
- Seeking financial aid to help landowners make the needed repairs
- Require additional inspections every ~10 yrs.
- Our thanks to all 3 of our county commissioners for their support and especially to Commissioner Cribbins for her leadership in the workgroup.

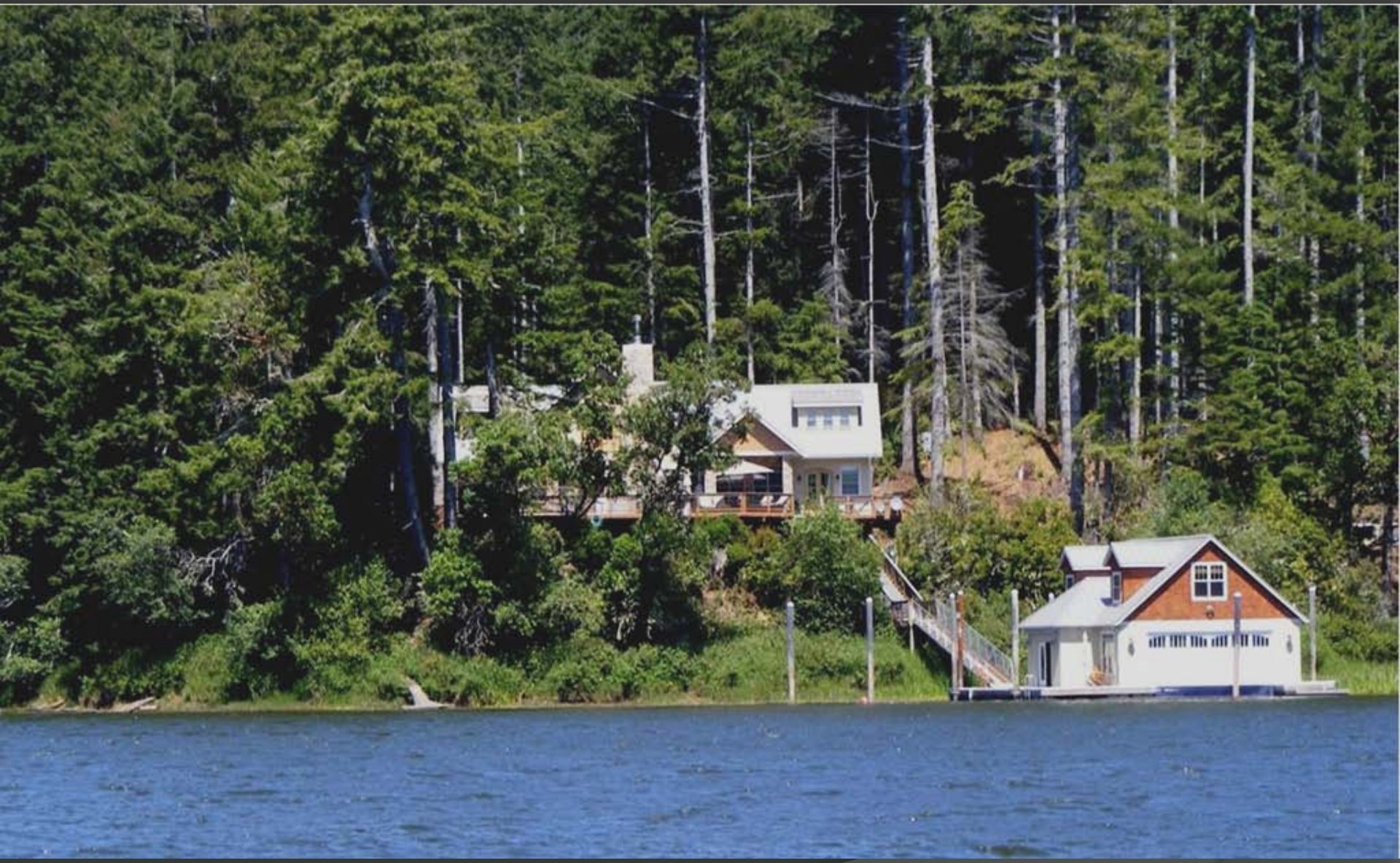
Watershed Projects

- Fencing
- Bridges
- Riparian Zones
- Bank Stabilization
- Chlorine Monitoring
- Invasive Species Monitoring

A special Thanks to the STEP volunteers and private landowners that helped make these projects possible.

What homeowners can do to help...

- Join Tenmile Lake Association (TLA) and be an active and helpful member. Recruit your neighbors. We need to do this together. There is power in numbers.
- Inspect and/or pump your septic system approximately every 5 years and promptly make any necessary repairs.
- Encourage your neighbors to do the same. Help them to understand why it's important. (Nutrients cause algae blooms & help the lake weeds to grow faster, and sewage pollutes the water with bacteria.)



What OLWV can do to help…

- Support our efforts with the county to get ordinances passed requiring septic inspections and to dedicate funding towards this effort
- Work with the state to dedicate funds for septic inspections and enforcements statewide.
- Perhaps help us with our efforts to monitor the lake

Thank You
Oregon League of Women Voters
for your interest in Tenmile Lakes.