

# TLOA President Intro

## Background – John “Ringo” Reiss

- 25 years in the IT (computer) industry as Operations/Project manager
- Owned on lake for 6 years, Moved to Lakeside from CA 2 years ago. Now own a home and a business on the lake.
- Your nickname is Ringo? Not the drummer, but the bad guy from the movie “Tombstone”. Johnny Ringo he was the articulate bad guy. (I am neither) ☺

## My TLOA president philosophy

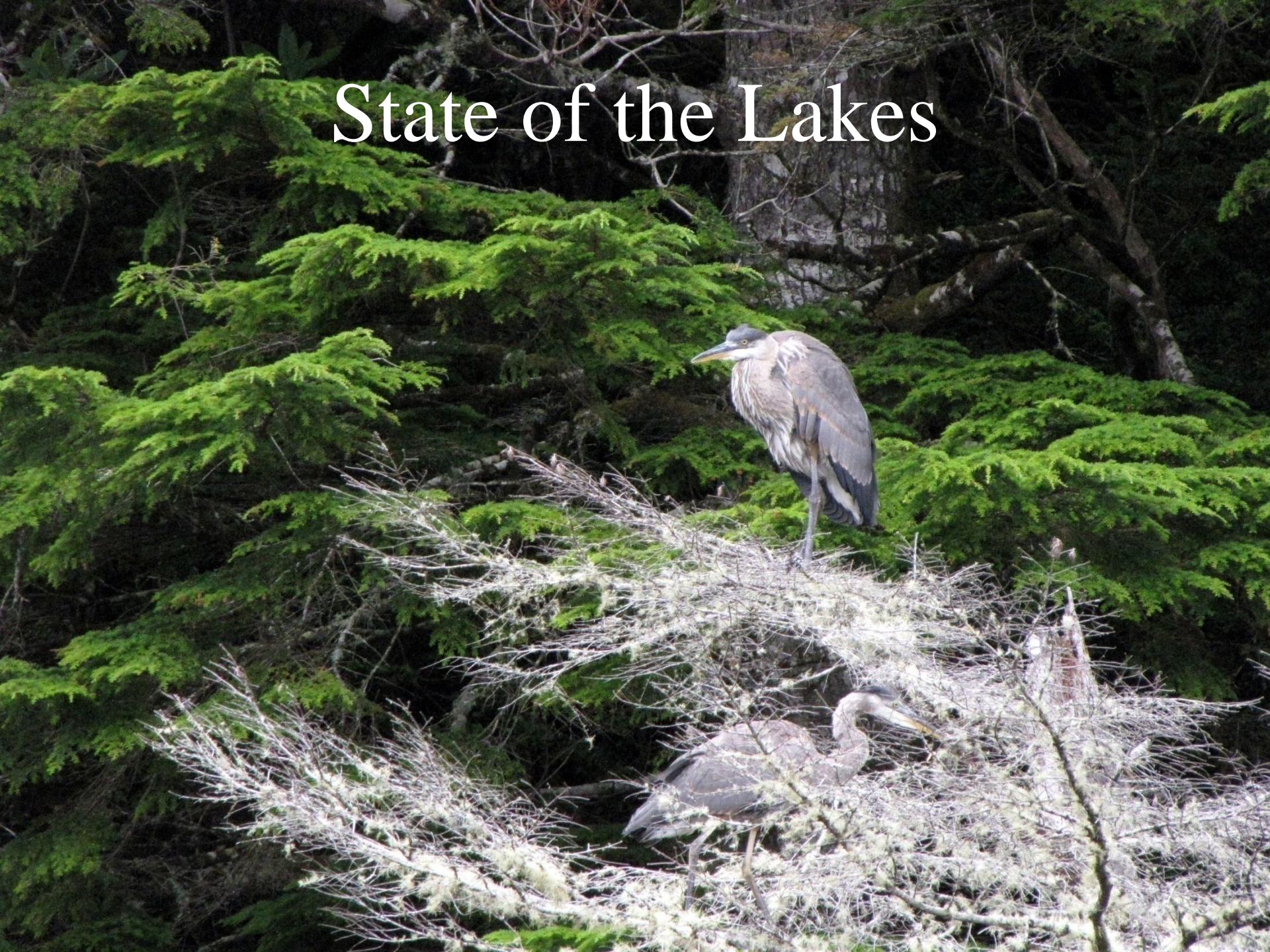
- Represent Owner interests at various local and regional meetings
- Support the Watershed Council efforts – These are the big issues requiring grant submissions
- Identify what we, as owners, can do ourselves. Ex. Lake cleanup day, etc.
- **Communicate x 3** – Use the web and other means to involve more owners in the advocacy of our lakes.
- **Analyze, Debate, Analyze Decide....DO!**
  - **Apathy is bad. Unwillingness to compromise is just as bad.**

## Call to action!

- **It’s FREE - JOIN THIS GROUP! - It’s FREE!**  
**<http://groups.yahoo.com/group/TLOA/>**
  - Notes from all meetings
  - A place to ask questions, get advice from other owners, watershed, etc
  - Articles from guest contributors
  - Owner ResourcesNote: There are no plans to publish and mass mail a printed newsletter.
- Interested in volunteering your time/technical expertise? Please join or sign the volunteer signup sheet.
- On the board, we have the VP, Treasurer, and Secretary position available.



# State of the Lakes



# OVERVIEW

- BRIEF LAKE HISTORY
- NUTRIENT MONITORING
- SEDIMENTATION
- SEPTIC TANKS
- SHORELINE DEVELOPMENT
- ALGAE SAMPLING
- NON-NATIVE SPECIES

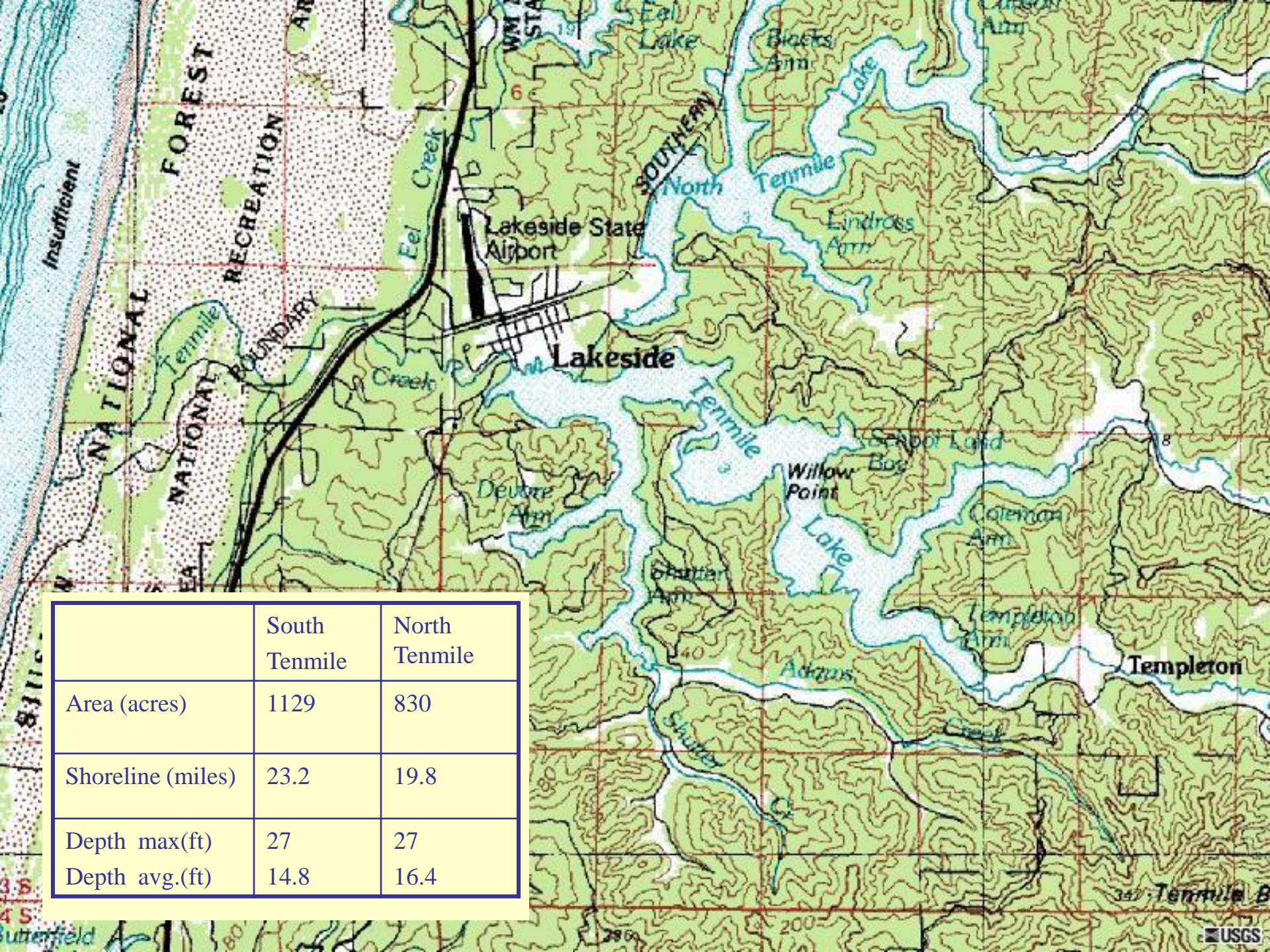




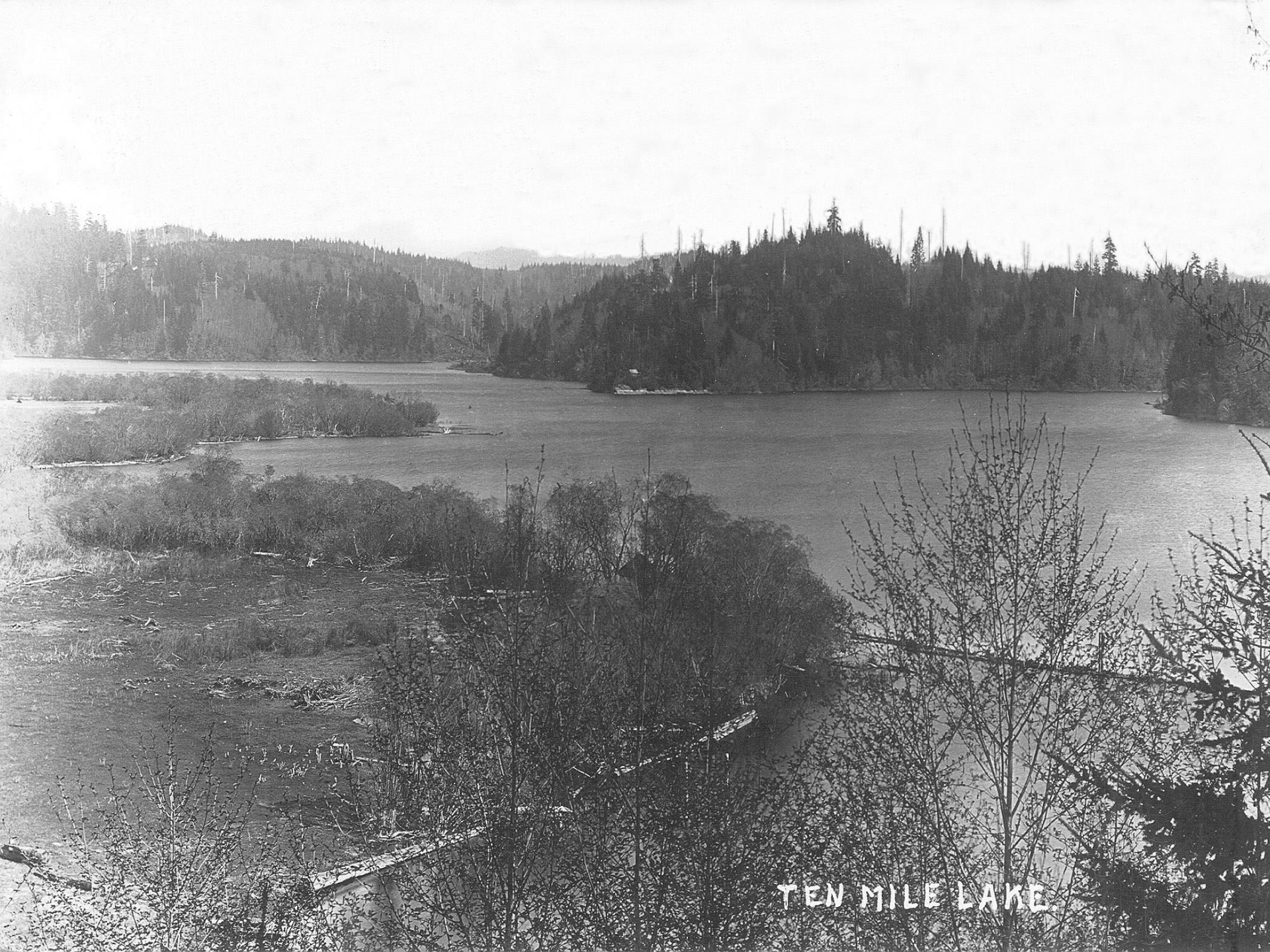
Image State of Oregon

Image © 2008 DigitalGlobe

©2008 Google™



	South Tenmile	North Tenmile
Area (acres)	1129	830
Shoreline (miles)	23.2	19.8
Depth max(ft)	27	27
Depth avg.(ft)	14.8	16.4



TEN MILE LAKE



Boernig  
1901

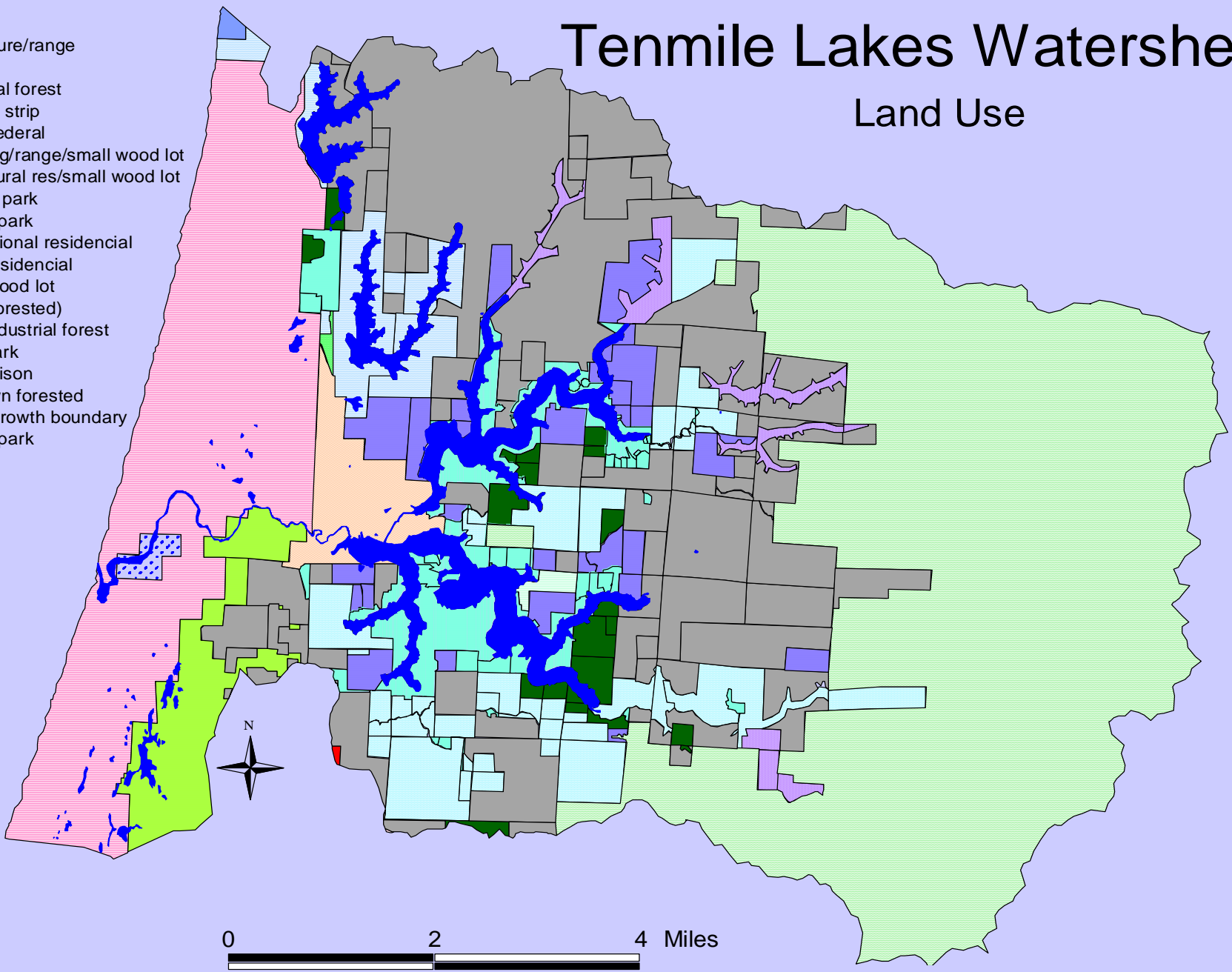




# Tenmile Lakes Watershed

## Land Use

- 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 residential
  - Rural residential
  - Small wood lot
  - State (forested)
  - State industrial forest
  - State park
  - State prison
  - Unknown forested
  - Urban growth boundary
  - County park

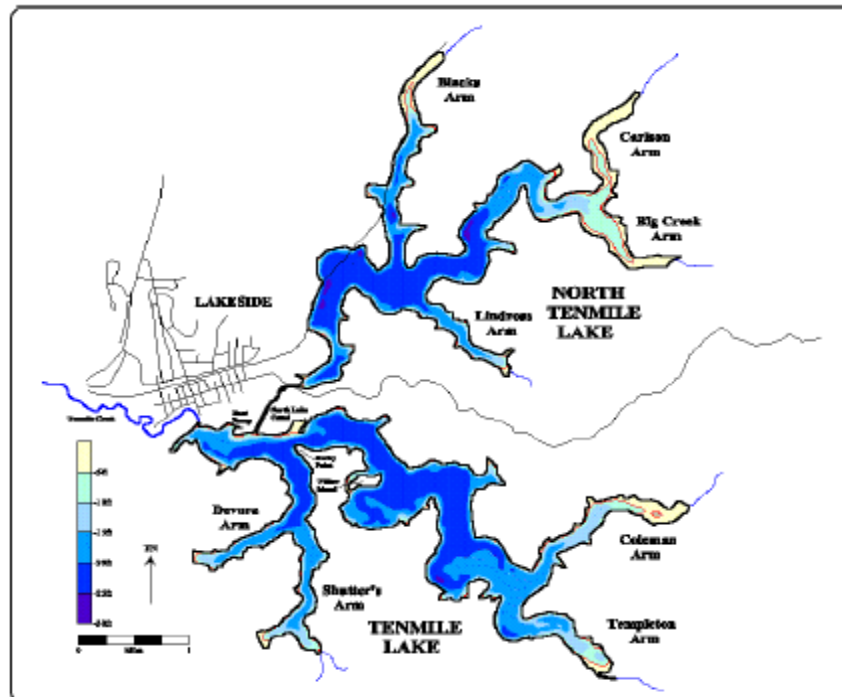






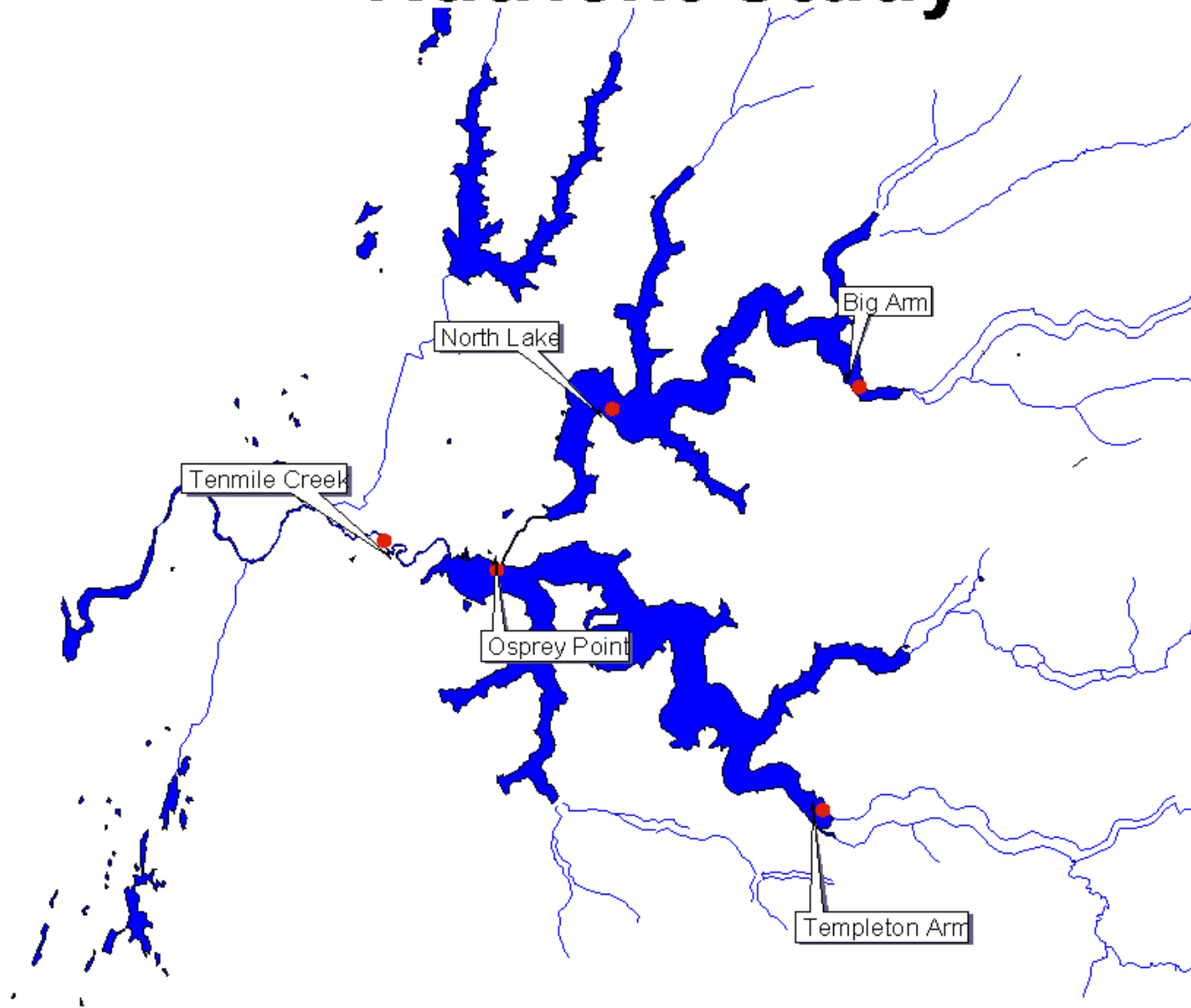
# TENMILE LAKES NUTRIENT STUDY

## Phase II Report



E&S Environmental Chemistry, Inc.

# Nutrient Study





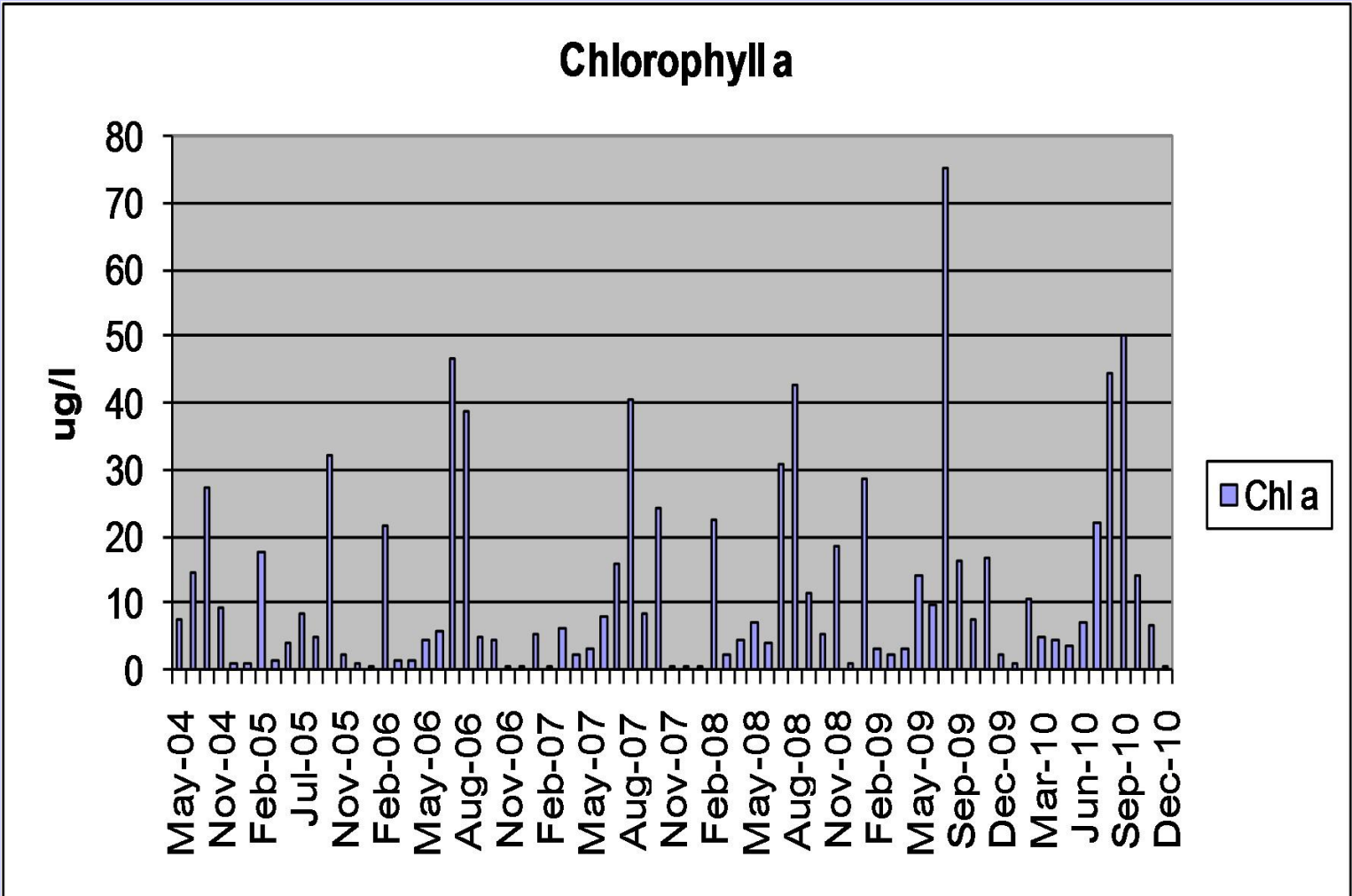


# Tenmile Nutrient Summary

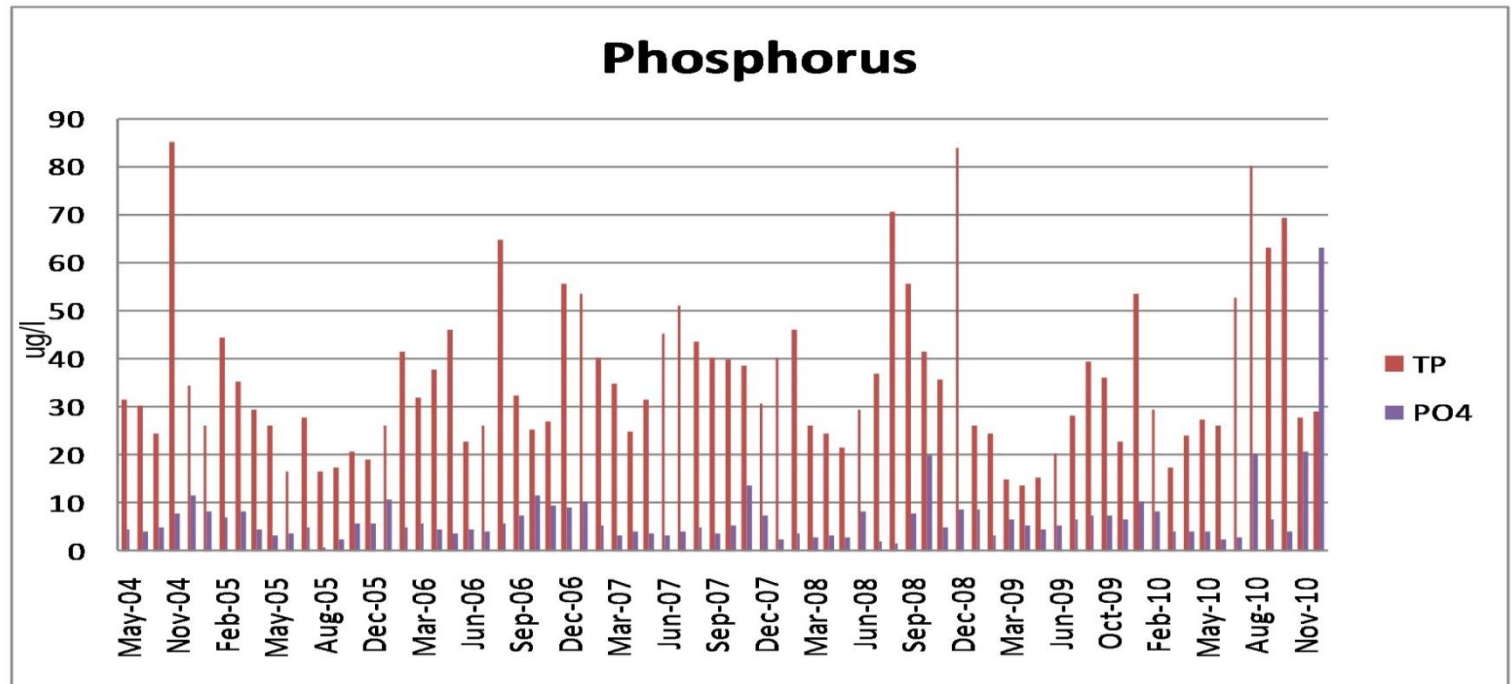
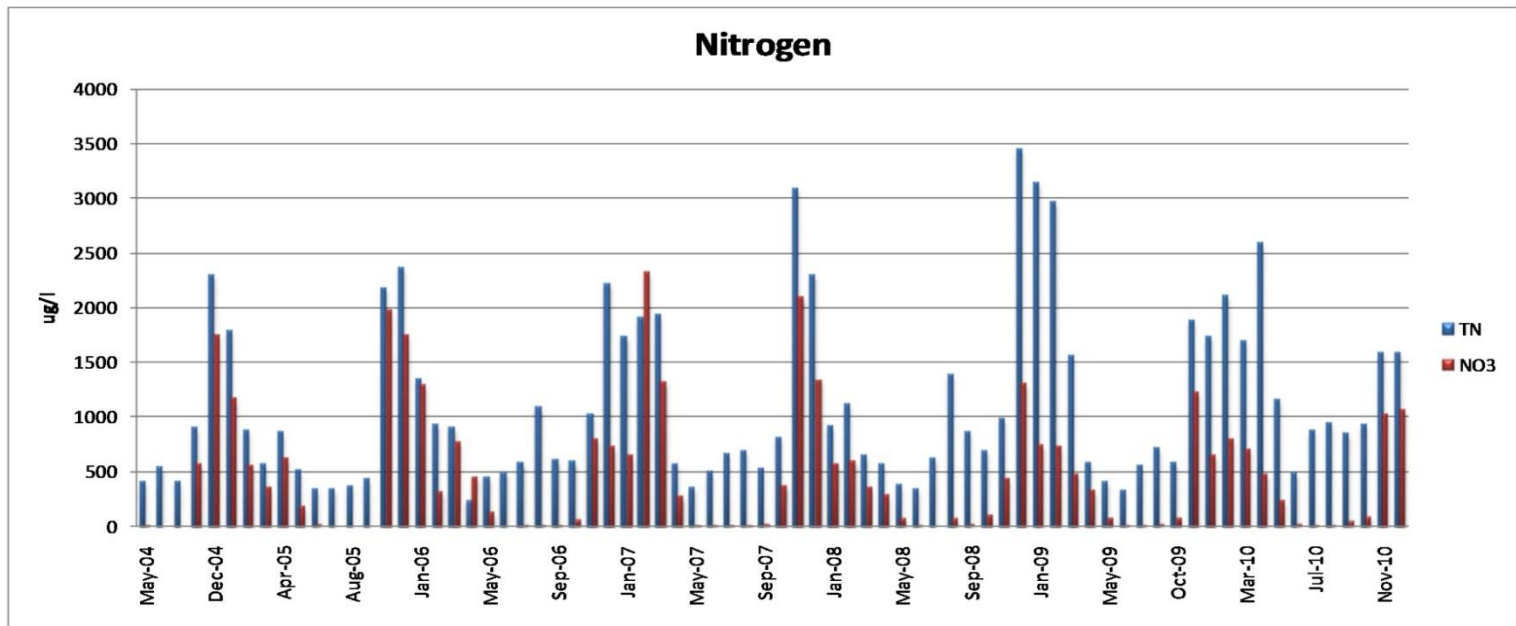
Parameter	USEPA	Tenmile Lakes (6.5yr avg.)
NO <sub>2</sub> -+NO <sub>3</sub> -	20 (ug/L)	320-510 (ug/L)
TN	190 (ug/L)	785-1091 (ug/L)
TP	7.1 (ug/L)	36-44 (ug/L)
Chlorophyll <u>a</u>	2.3 (ug/L)	7-18 (ug/L)



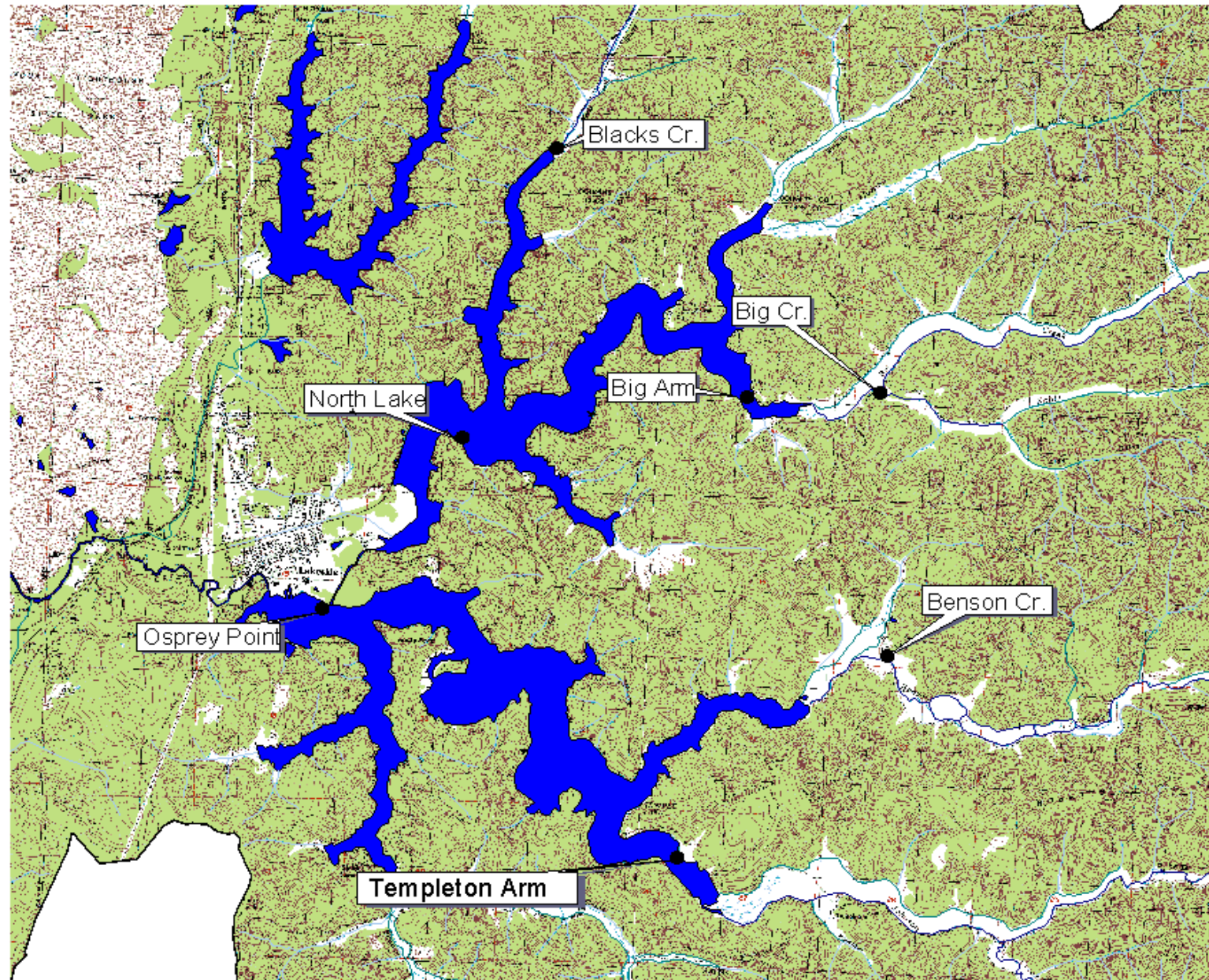
# Big Cr. Arm



# Big Cr. Arm



# Storm Chasing



# Rainfall Triggers

## Return Periods for Daily Precipitation

### North Bend

#### 2 year Storm Event

Hours:	24	48	72	96	120
Inches:	2.68	4.1	5.15	5.95	6.73

#### 5 year Storm Event

Hours:	24	48	72	96	120
Inches:	3.81	5.51	6.6	7.57	8.41

#### 10 year Storm Event

Hours:	24	48	72	96	120
Inches:	4.87	6.49	7.51	8.57	9.45

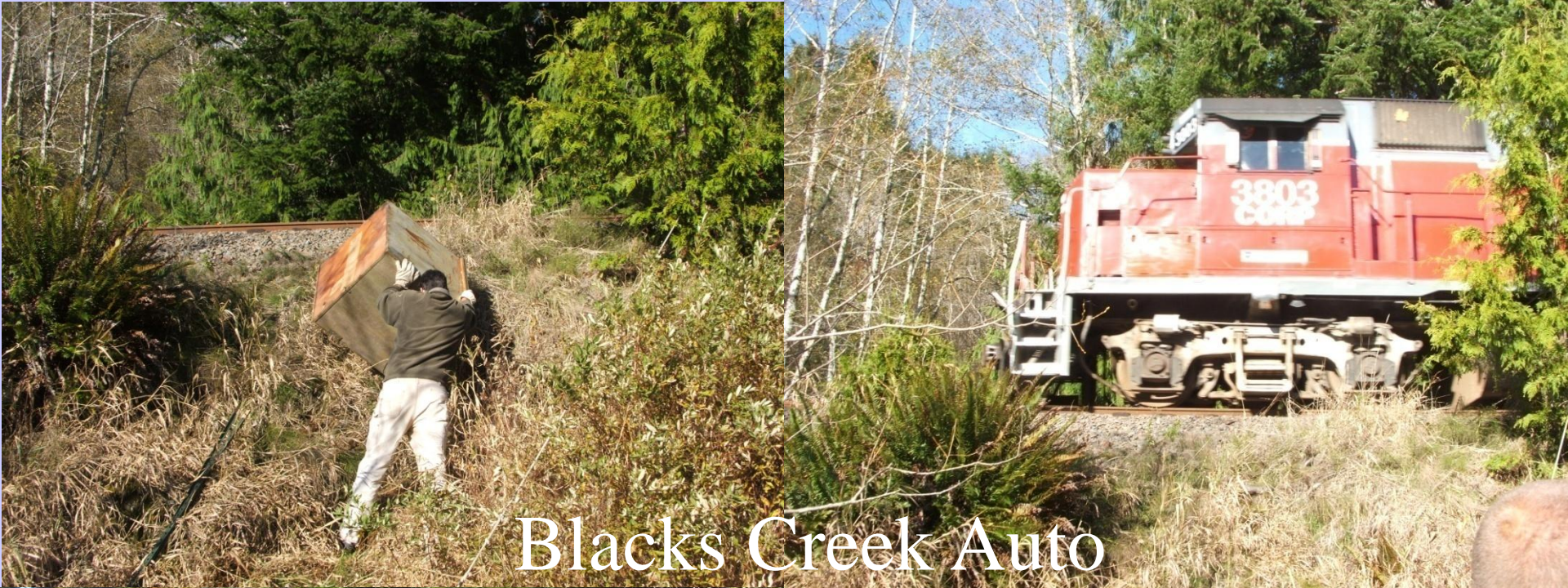
#### 25 year Storm Event

Hours:	24	48	72	96	120
Inches:	6.43	7.74	8.59	9.74	10.66



# Big Cr. Auto Sampler

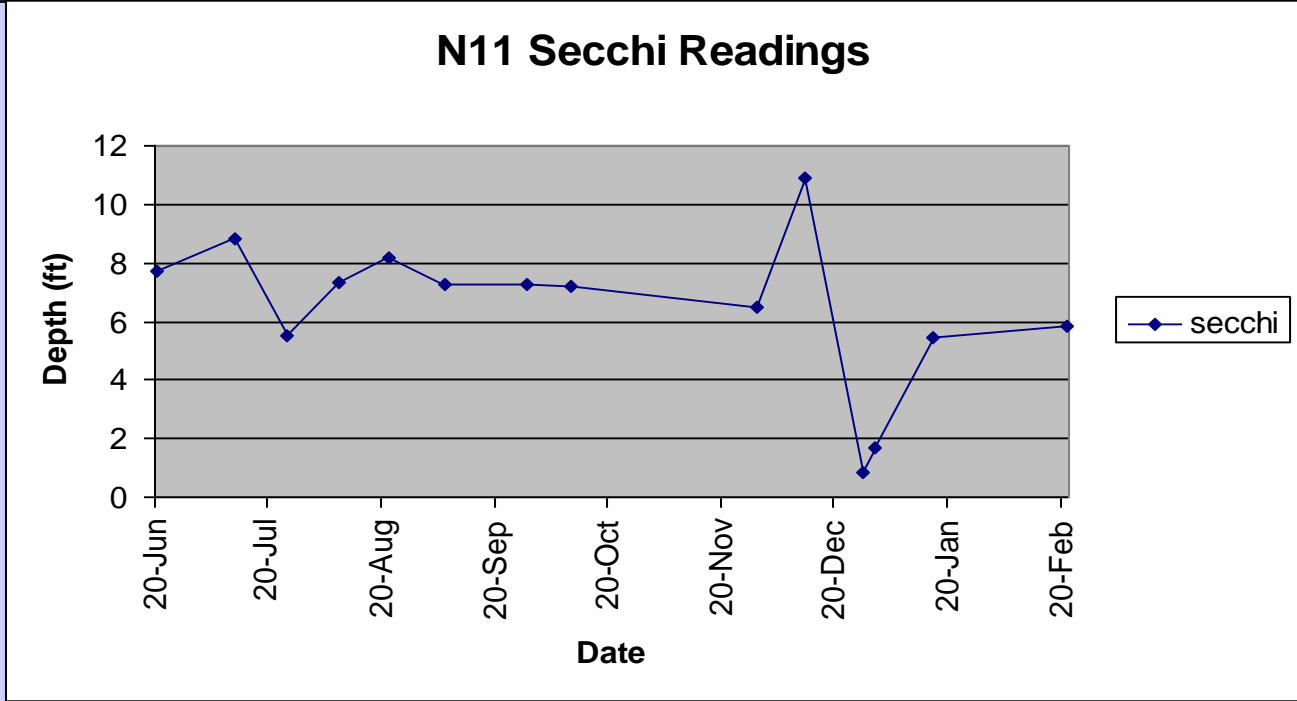




# Blacks Creek Auto Sampler





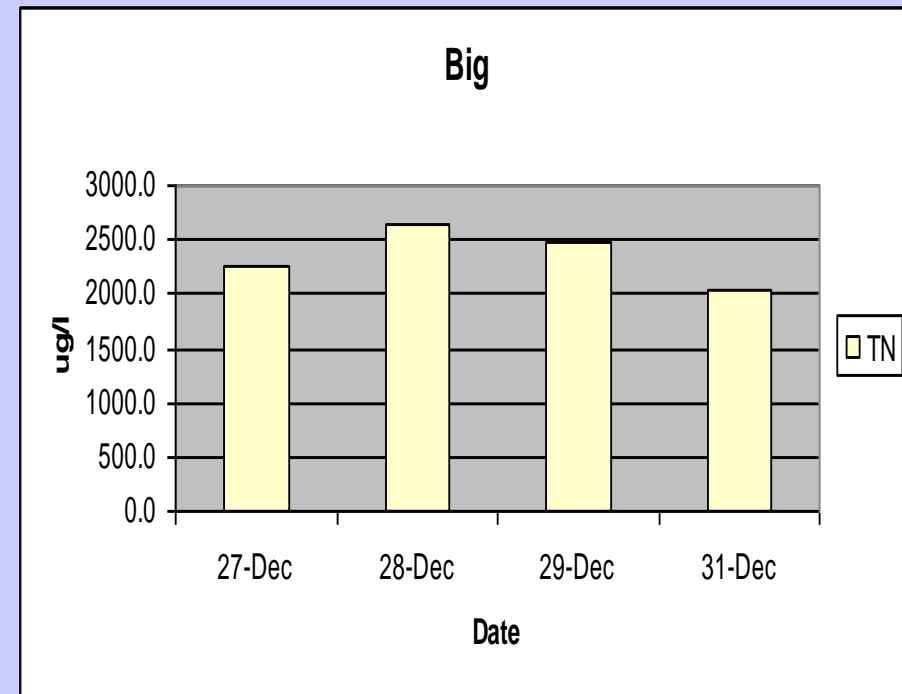
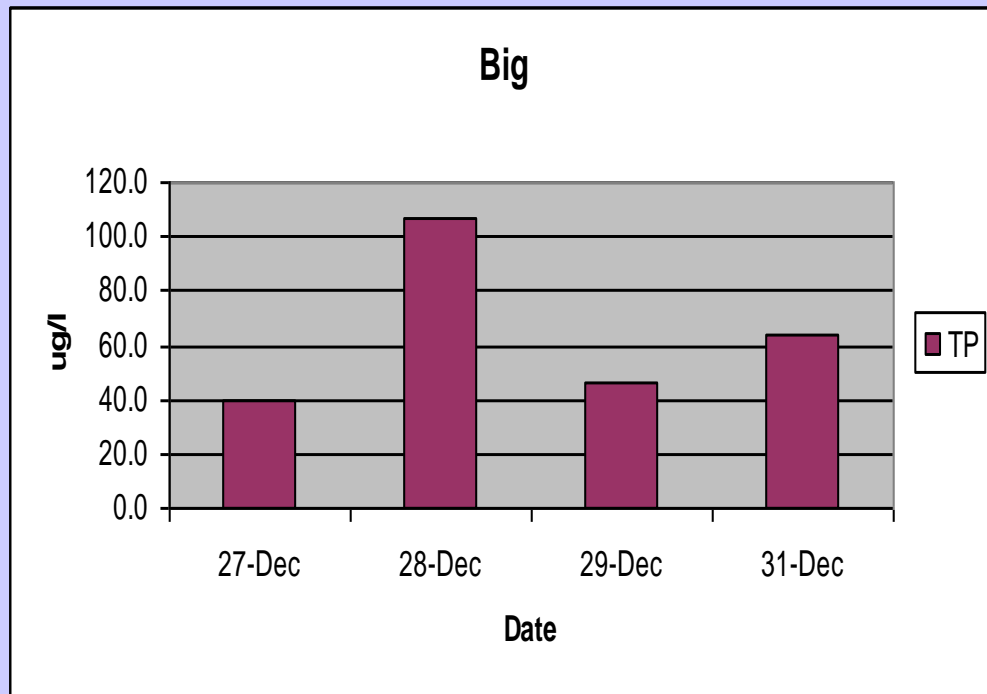
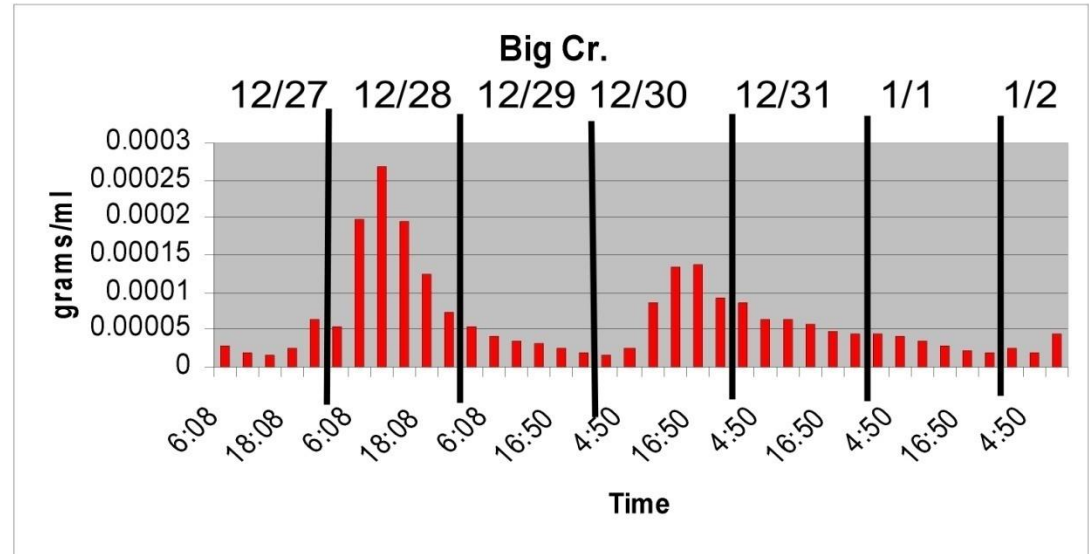




Data

Big Cr.

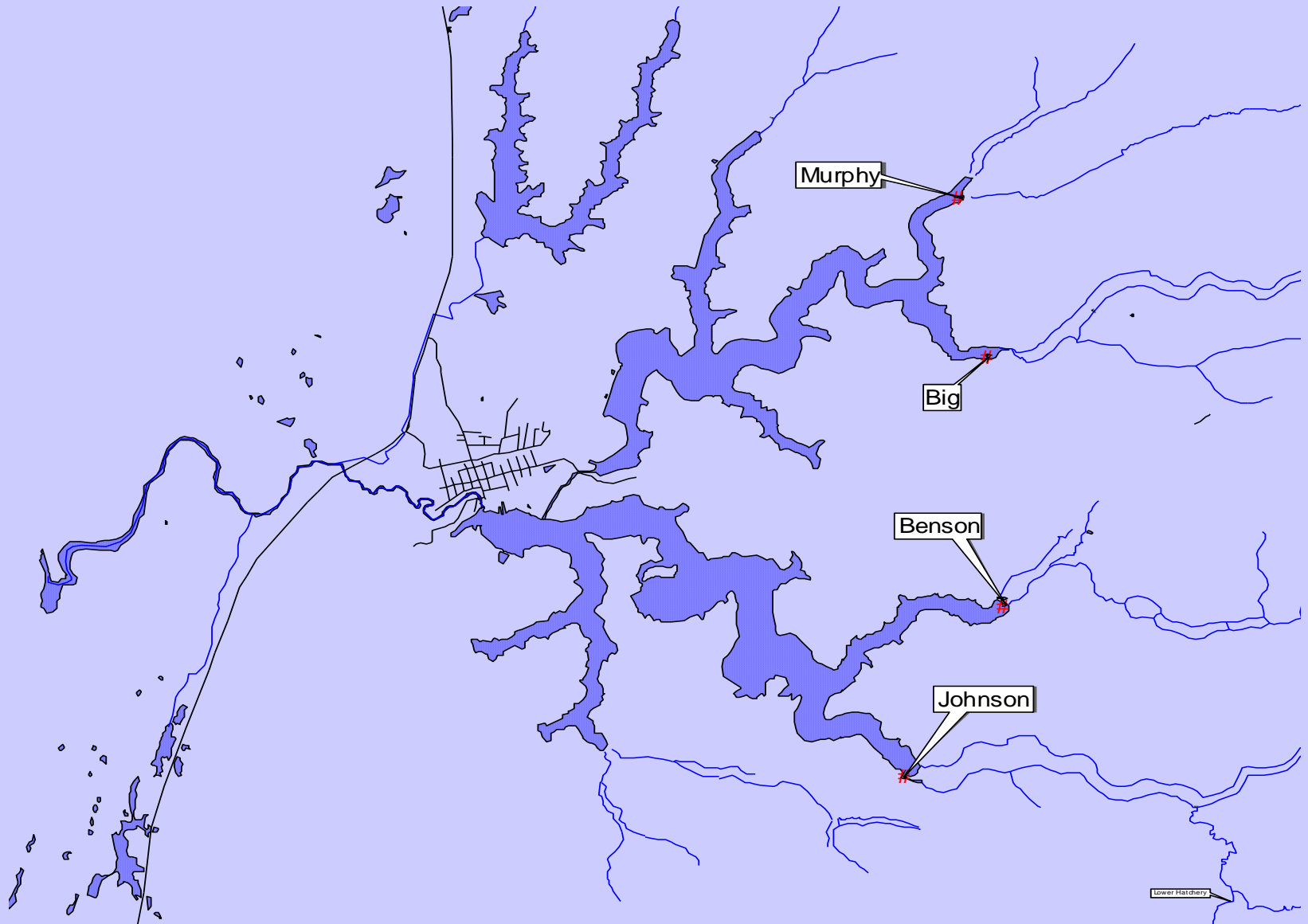
Avg. TSS- 64 mg/L



# SEDIMENTATION



# Delta Building Sites



# Coleman Arm

2004



20010



# Coleman Arm

## 2004

- Length- 74' 11"
- 1: Width: 20' 7"
- 2: Width: 10' 2"
- 3: Width: 17' 19"
- 4: no width

Lake Height for  
2004 & 2010-  
6.43ft

## 2010

- total delta length-172'2"
- 1: width-38'7" \*\*
- 2: width-43'4"\*
- 3: width-39'\*
- 4: width-30'6"\*
- 5: width-32'1"\*
- 6: width-63'4"\*\*\*
- 7: width-78'2"\*\*\*
- 8: width-55'7"\*
- 9: width-24'9"\*\*\*

\*Survey gained 7"-1' of sediment on top  
of survey marks

\*\* 3-5" of sediment on top of survey marks

2007

Big Arm

2010



# Murphy

2004



2007



2004

No land mass to  
measure

Lake Height-  
6.43ft

2007

Length-63' 2"

•1:width- 17'5"

•2:width- 14'6"

•3:width- 9'

•4:width- 4' 10"

•5: no width

Lake

Height-

5.74ft





# Analysis of South Tenmile Coring Samples

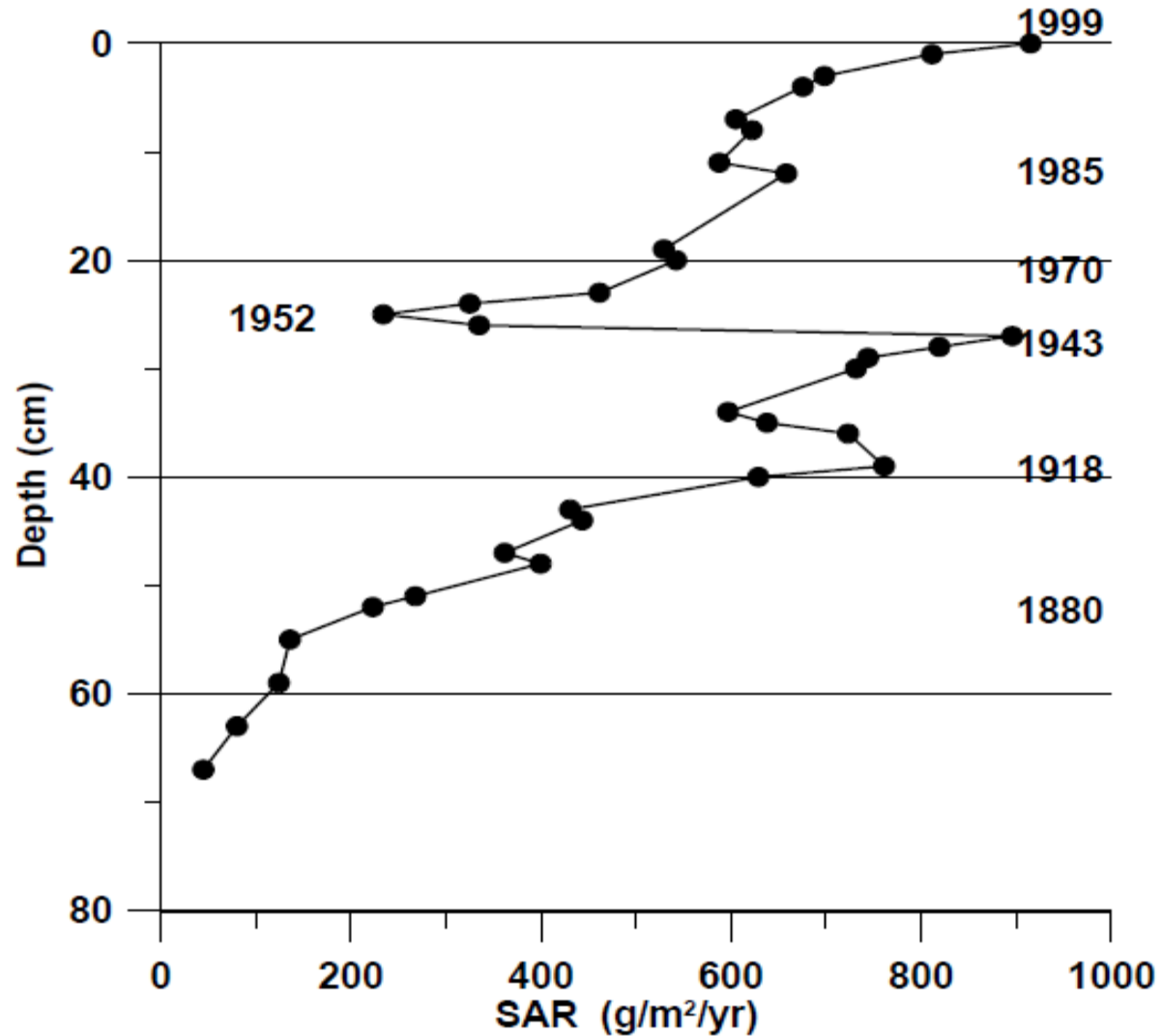


Figure 40. Sediment accumulation rates (SAR) for site STA, South Tenmile Lake.

# Robertson Cr. Failed Culvert Replacement



# Robertson Cr. Culvert replaced with a log stringer bridge



2/13/08  
Robertson Cr.  
Bridge



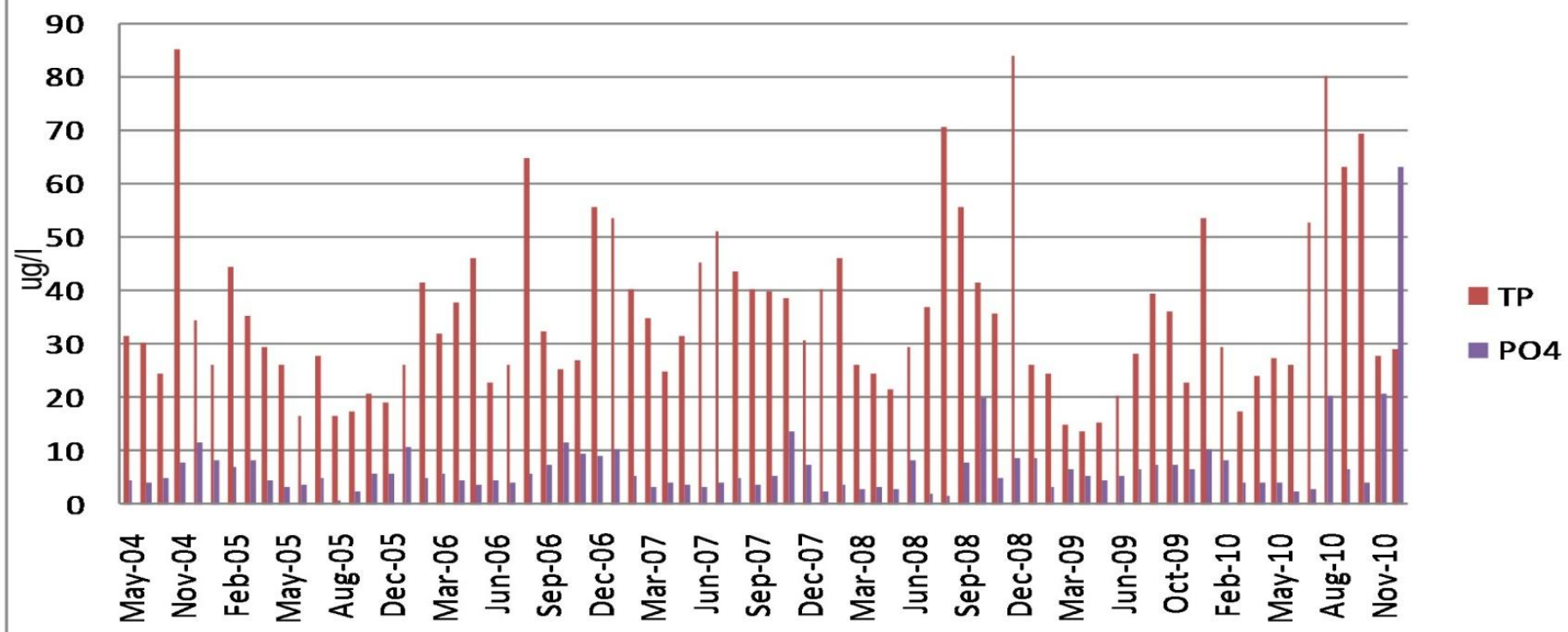








# Phosphorus







**FOR SALE BY OWNER**  
41-290-9331 AS IS  
\$135,000 100.70 ft lake frontage, 200 ft deep  
No septic - grandfathered in  
Electricity, Phone line, Road at top - access permit  
hill

**SEPTIC TANKS**

# Sewage pollutes Tenmile Lakes

- Story
- Discussion

Sewage pollutes

By Jessica Musicar, Staff Writer The World | Posted: Thursday, August 19, 2010 11:00 am | (3) Comments

Septic tanks are leaking into Tenmile Lakes.

While fecal bacteria in a body of water known for fishing and water skiing is gross at best, it's done more damage to lakes than people may realize.

Mike Mader, watershed coordinator for the city of Lakeside and the Tenmile Lakes Basin Partnership, said runoff from malfunctioning tanks feeds an ever-growing problem.

'We suspect that there is direct piping of sewage and gray water (dishwater) to the lake," Mader said.

'The additional nutrients are directly related to the weed growth and excessive nutrients for toxic algae blooms.'

## Sewage pollutes Tenmile Lakes

Story

Discussion

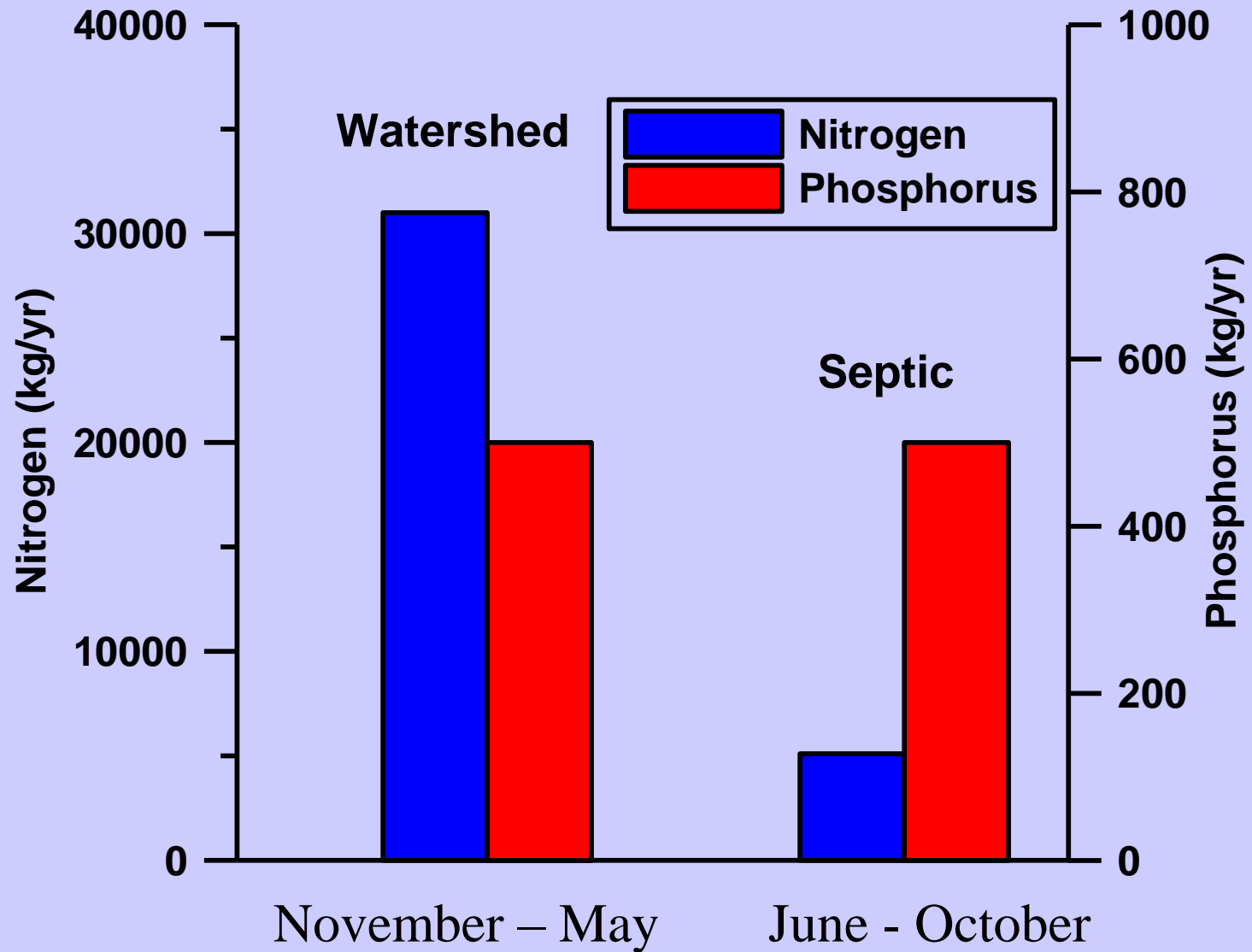
**(3) Comments**

Steve Pinkering said on: August 20, 2010, 9:31 am I am a little confused here. This is a public water source. If there are 20 out of 27 defective tanks, you fix them or shut them down. There is no Grandfathered defective sanitation system. This isn't an "It's your lake" choice. There are State and County ordinances to be followed. All the public is affected by this. It's not a choice, it's a mandate.

said on: August 19, 2010, 7:34 pm You can't tell me that I can't pee in my own pool...

Tsunami said on: August 19, 2010, 1:10 pm sewage pollution is no stranger to coos county. now if there was no sewage polluting the county that would be a miracle

# LAKE SOURCES OF N & P

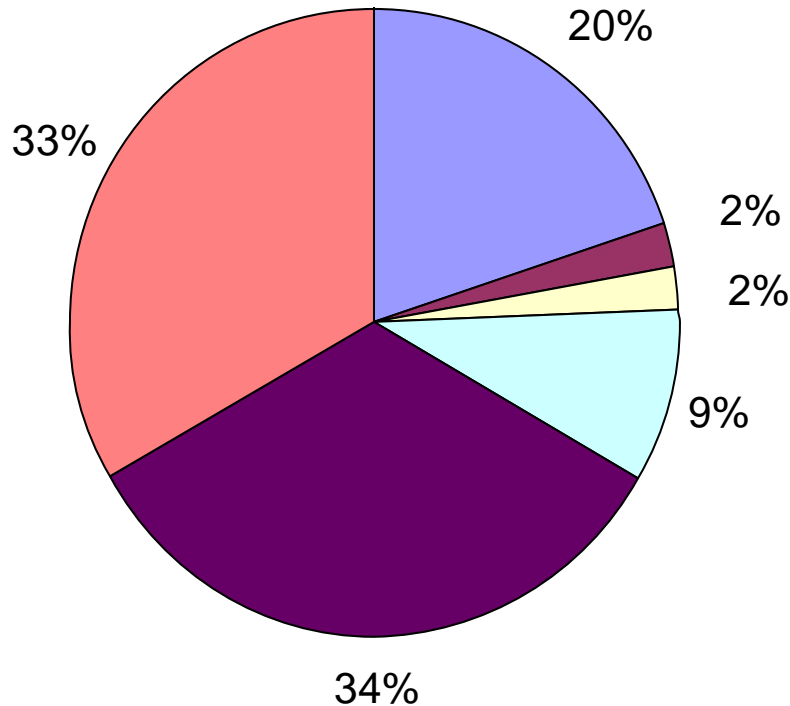


# Pre-1974 Septic System Survey

Worked with county health department to inspect 27 lakefront homes in 2006 and 2007.



## Results of Tenmile Lakes Septic Survey



- Apparent properly functioning systems.
- Sites with untreated gray water discharge.
- System failures with evidence of sewage discharge into lake or ground water.
- Bottomless tanks identified.
- Systems in need of repair (not including gray water).
- Owners with systems in need of repair.

**SALE**  
**BY OWNER**

PHONE 541-290-9331 AS IS

PRICE \$135,000

100.70<sup>ft</sup> lake frontage, 200 ft deep  
No septic - grandfathered in

Electricity, Phone line, Road at top - access permit  
of hill

All of us know of malfunctioning septic systems around the lakes.  
What do you want to do about them?

Reducing your impacts to this area will keep your shoreline stable and minimize negative impacts to the lakes. Viewing the lakes from your property often seems to conflict with maintaining



healthy riparian zones. But with help lakefront owners can often find a compromise in planning lakefront landscaping that protects the lakes as well as providing beautiful views. Impacts to these areas below 12.21 msl requires contacting DSL for authorization and falling of trees may require a permit from the Oregon Department of Forestry.

When developing or improving your property some riparian friendly solutions include: 1) Minimize use of non-native shrubs, 2) Develop a filter strip of native plants above the high water mark. 3) Minimize use of fertilizers and herbicides.

For more information and assistance please contact:

Coos Bay ODF	541.269.4136
Department of State Lands	541.378.3805
Tenmile Lakes Basin Partnership	541.759.2414

### LAKEFRONT EROSION

Whether building a new three bedroom on Lindross Arm or just adding an out building to an existing home on Big Creek Arm, this is where "lake friendly" planning should begin. The Tenmile Lakes are filling in with sediment 1000 times faster than before the Tenmile area was settled. Development of lakefront lots are contributing to this problem. With a little common sense and basic understanding of your property, new homes and additions may be completed with minimal impacts to the lakes while achieving your goals for your lakefront property. Some common "lake friendly" recommendations include: 1) Ensure you have all permits. 2) If not doing the work yourself, hire a qualified contractor familiar with Tenmile issues like steep ground and drainage issues. 3) Have and implement an Erosion Control Plan that includes silt fences and seeding exposed soils with grass mix. For more information and assistance please contact:



For more information and assistance please contact:

Coos Bay ODEQ	541.269.2721
Tenmile Lakes Basin Partnership	541.759.2414
Department of State Lands	541.378.3805

# TENMILE LAKES STEWARDSHIP

## A GUIDE FOR LAKEFRONT PROPERTY OWNERS

We sure are lucky! We own lakefront property along the shorelines of beautiful North and South Tenmile Lakes. With this ownership comes a responsibility to ourselves and other lake users to do what we can to maintain the quality of the lakes.

Sometimes this is a tough compromise. For example, clearing shoreline vegetation to increase the view can impact slope stability and damage the filter strip that is important in reducing sediment inputs into the lakes which in turn, affects weed and algae growth.

This brochure is your guide to taking proper care of your lakefront property and the Lakes. It will give you some general information about Tenmile, discuss important issues with owning lakefront property, describe actions that need authorization or permits, and provide specific information that you need to protect our Lakes so we can continue to enjoy them in the future.

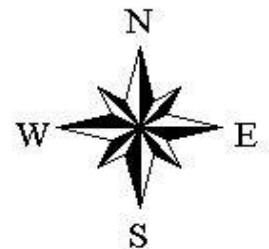
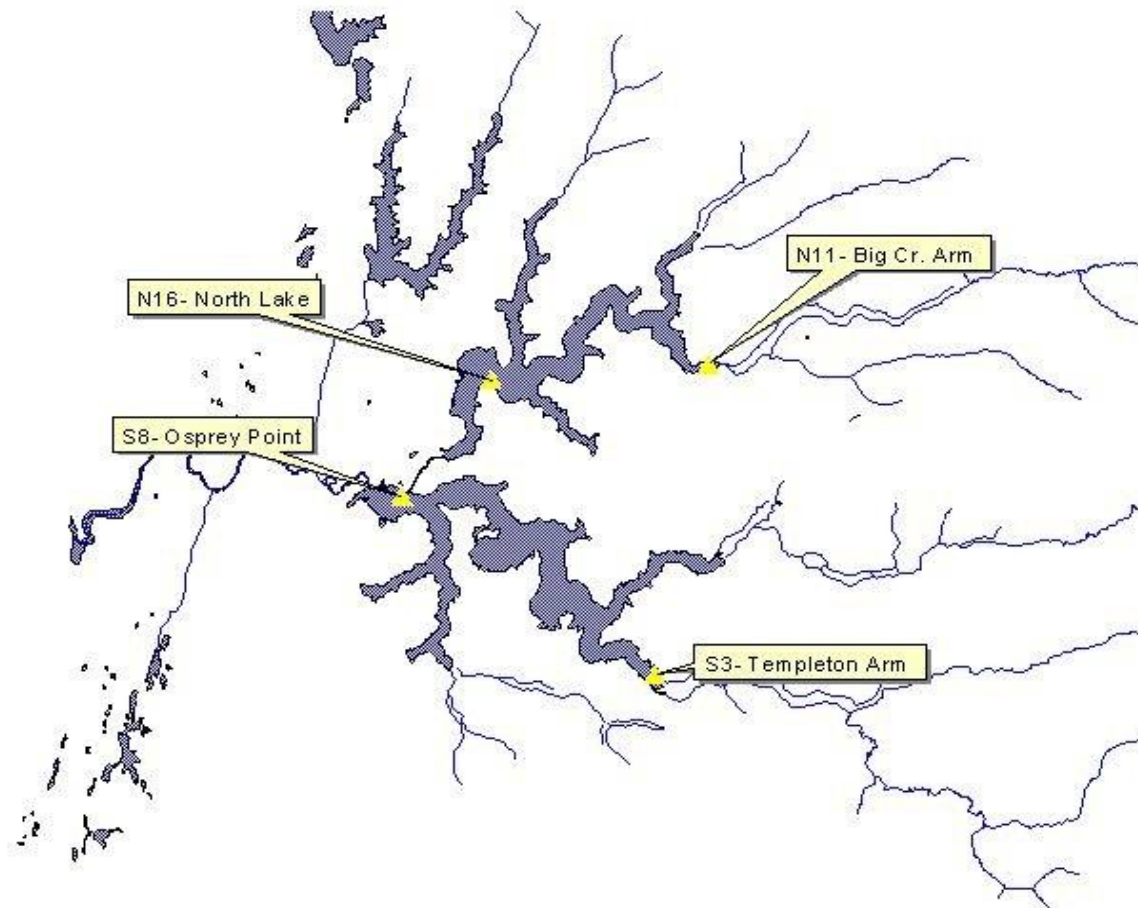


A photograph of a lake with green water, a dock with a boat, and a red birdhouse on a post in the foreground. The water is a deep green color, and there are some dark patches visible on the surface. A wooden dock is in the middle ground, with a small boat tied to it. In the foreground, there is a wooden post with a red birdhouse on top. The background shows a grassy bank with some trees and a wooden structure. The word "Algae" is written in red text in the center of the image.

**Algae**



# Algae











1000 ml  
800  
600  
400  
200  
100  
0

NALGENE

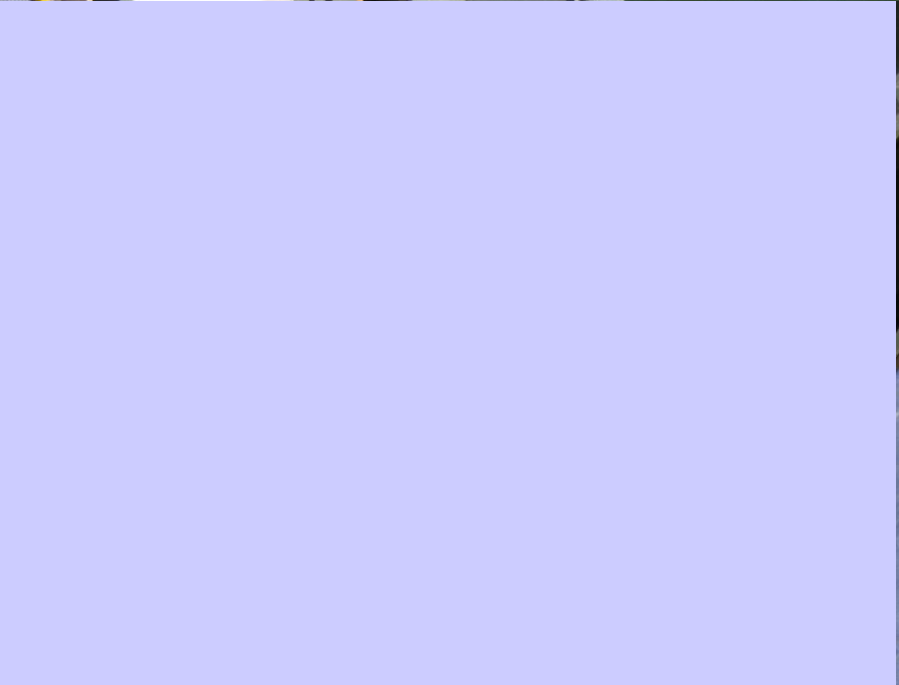
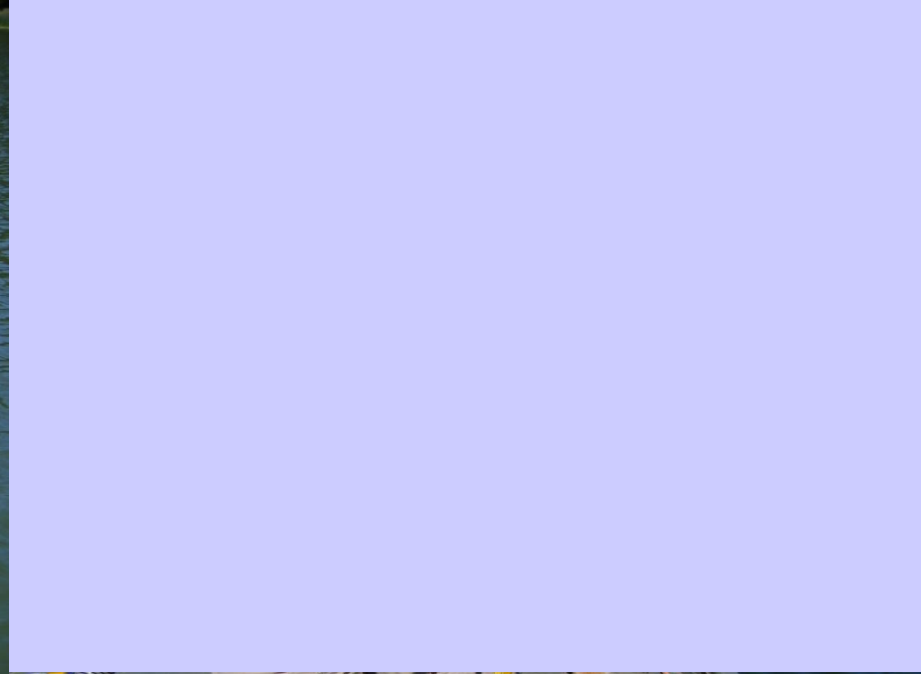
100  
200  
300  
400  
500  
600  
700  
800  
900  
1000

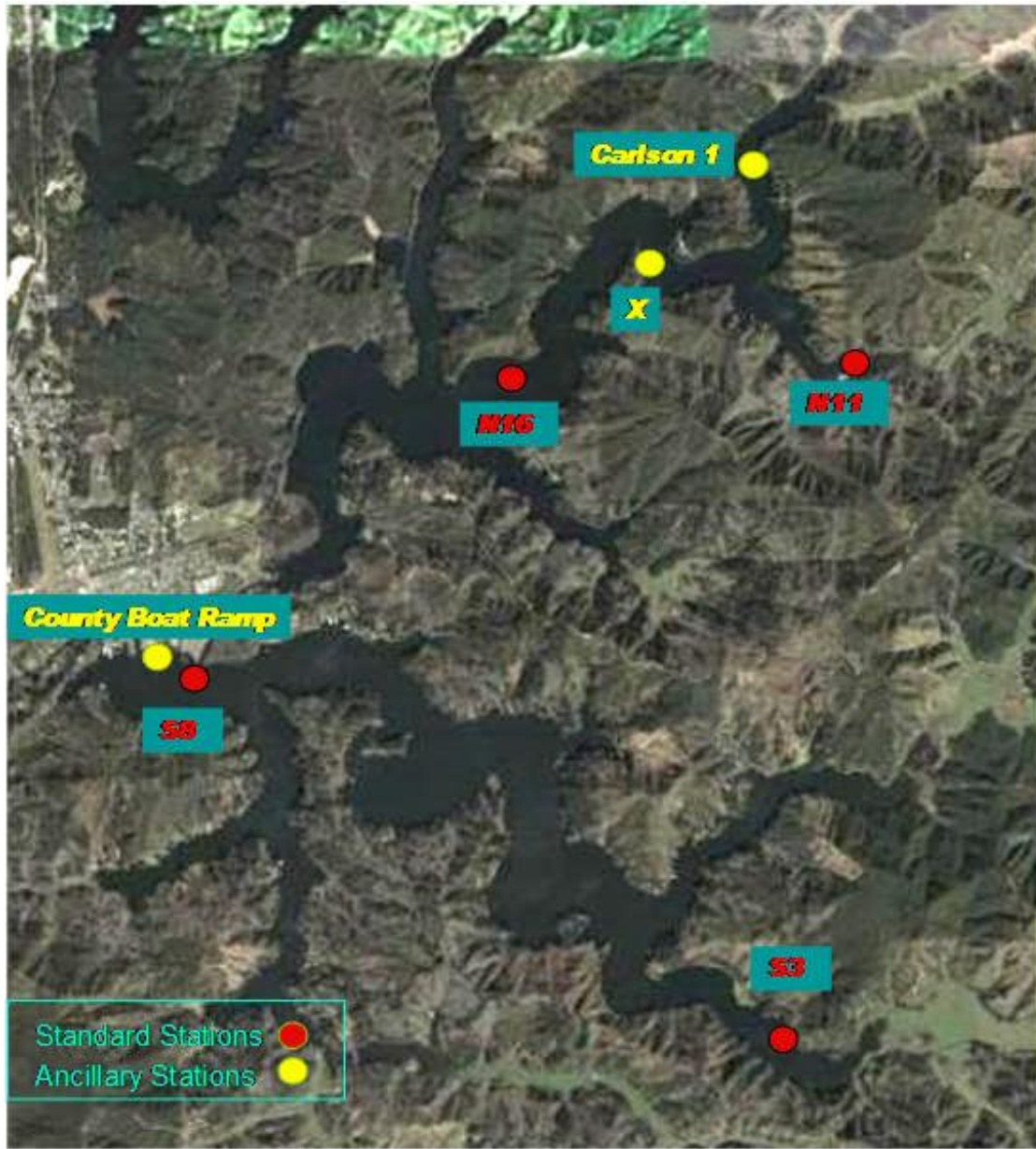


155  
BREWERY

1000 ml  
800  
600  
400  
200  
100  
0

100  
200  
300  
400  
500  
600  
700  
800  
900  
1000





# Oregon Harmful Algae Bloom Program

## 2010 Bloom Season Recap

### Goals:

The Harmful Algae Bloom program is working to gain a better understanding about the occurrence of toxic algal blooms in Oregon and their impact on human health. Funding is through a five-year federal grant from the Centers for Disease Control and Prevention.

### Highlights this year:

- Improved the advisory process based on lessons learned from Year 1 of the grant and realized performance gains.
- Enhanced communications with partners and stakeholders through site visits and lake management surveys.
- HABS staff responded to numerous newspaper and radio inquiries, thereby furthering public outreach regarding HABS issues.
- As a result of OR-HABS staff outreach efforts, there is increased awareness regarding algae-related poisonings in animals among veterinarians. The dog safety poster was responsible for alerting a veterinarian to the possible cause of the 2010 dog-death which led to a subsequent meeting of local-area veterinarians.
- Developed a permanent advisory sign for posting at lake access points and/or recreational use areas.
- 4 suspected human and 1 confirmed animal exposure to freshwater HABS were investigated. The human health concerns included rash, nausea, vomiting and dizziness. The animal exposure occurred in the South Umpqua River where a young Labrador retriever died from anatoxin poisoning.

Figure 1. 2010 Advisories, numbered chronologically

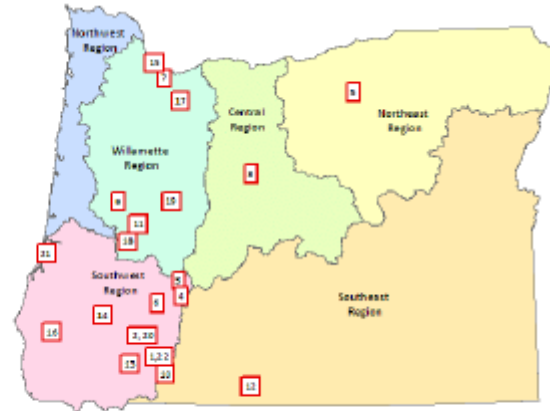
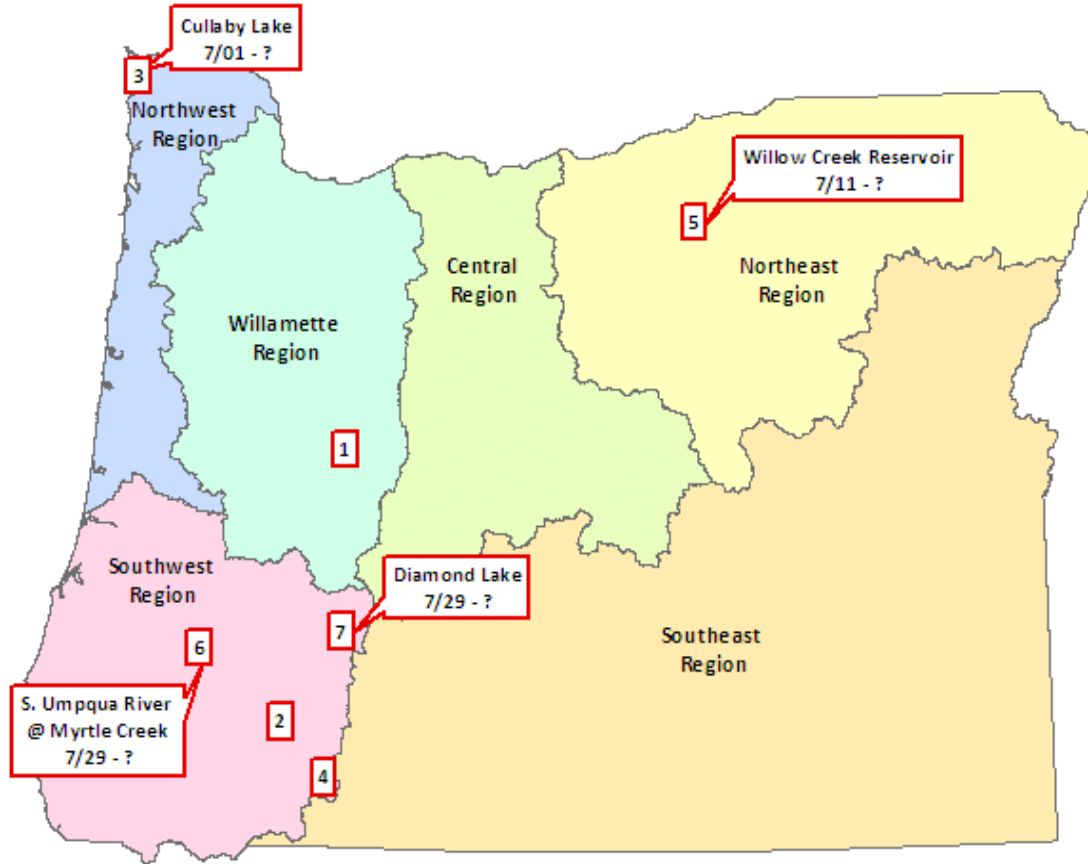


Table 1. 2010 Advisories by waterbody, date and region

#	Waterbody	Region	Start	End	Duration
1	Willow Lake	Southwest	4/21	8/19	120
2	Lost Creek Lake	Southwest	6/04	6/22	18
3	Lemolo Lake	Southwest	7/01	8/02	32
4	Diamond Lake	Southwest	7/15	8/03	19
5	Willow Creek Reservoir	Northeast	7/15	11/05	113
6	Fish Lake - Douglas	Southwest	7/19	8/23	35
7	Fairview Lake	Willamette	7/27	1/18	175
8	Haystack Reservoir	Central	8/04	12/13	131
9	Golden Gardens Pond	Willamette	8/05	10/14	70
10	Fish Lake - Jackson	Southwest	8/09	8/23	14
11	Dexter Reservoir	Willamette	8/11	9/20	40
12	Gerber Reservoir	Southeast	8/19	12/01	104
13	Whetstone Pond	Southwest	8/24	9/09	16
14	S. Umpqua River	Southwest	8/24	12/08	106
15	Blue Lake	Willamette	8/26	10/05	40
16	Sru Lake	Southwest	8/30	10/05	36
17	North Fork Reservoir	Willamette	9/02	9/14	12
18	Dorena Reservoir	Willamette	9/10	10/04	24
19	Blue River Reservoir	Willamette	9/10	10/05	25
20	Lost Creek Lake	Southwest	9/20	01/04	106
21	Tenmile Lake	Southwest	9/23	01/13	112
22	Willow Lake	Southwest	10/12	12/15	64
Total					1,412





No.	Waterbody	Region	County	Dominant Species	Start Date	End Date	No. of Days
1	Cougar Reservoir	Willamette	Lane	Anabaena	6/14/2011	7/19/2011	35
2	Lost Creek Lake	Southwest	Jackson	Anabaena	6/20/2011	7/11/2011	21
3	Cullaby Lake	Northwest	Clatsop		7/1/2011		
4	Fish Lake	Southwest	Jackson	Anabaena	7/1/2011	7/25/2011	24
5	Willow Creek Reservoir	Northeast	Morrow	Anabaena	7/11/2011		
6	Diamond Lake	Southwest	Douglas	Anabaena	7/29/2011		
7	S. Umpqua	Southwest	Douglas	Microcystis	7/29/2011		

# Blue-Green Algae Alert Levels

For Drinking Water:

- **Alert Level 1**- Increased Vigilance Level ( >500 cells/ml of potentially toxigenic species)
- **Alert Level 2**- Consultation with Health Authorities and Media release (2000 cells/ml of potentially toxigenic species)
- **Alert Level 3**- assessment by health authorities indicates the water may be unsafe and is unacceptable for supply without treatment to remove toxins. (>15,000cells/ml)

For recreation:

- Recreational postings occur when microcystis exceeds 40,000 cells/ml or when species such as anabaena exceed 100,000 cells/ml

Table 1. Algal Cell Density for Potentially Toxicogenic Species in Tenmile Lakes, 2010 (see below description for public health color coding). Blue shaded stations refer to ancillary stations located in the vicinity of visual blooms.

Station	Date	<i>Microcystis aeruginosa</i> (cells/ml)	<i>Gloeotrichia echinulata</i> (cells/ml)	<i>Microcystis</i> + <i>Gloeotrichia</i> (cells/ml)	<i>Anabaena flos-aquae</i> (cells/ml)	<i>Anabaena planktonica</i> (cells/ml)	<i>Anabaena circinalis</i> (cells/ml)	<i>Anabaena</i> sp. (cells/ml)	Total <i>Anabaena</i> (cells/ml)
S3	6/21/2010	0	0	0	0	1,224	0	0	1,224
S8	6/21/2010	0	0	0	0	80	0	0	80
N11	6/21/2010	0	0	0	0	0	0	0	0
N16	6/21/2010	0	0	0	0	0	0	0	0
S3	7/6/2010	0	0	0	0	320	0	0	320
S8	7/6/2010	0	0	0	0	453	0	0	453
N11	7/6/2010	0	0	0	0	0	0	0	0
N16	7/6/2010	0	0	0	0	0	0	0	0
S3	7/19/2010	0	0	0	0	918	0	0	918
S8	7/19/2010	0	0	0	0	703	0	0	703
N11	7/19/2010	0	0	0	0	237	0	0	237
N16	7/19/2010	285	0	285	0	370	0	0	370
S3	8/2/2010	69	0	69	70	521	0	0	591
S8	8/2/2010	0	0	0	0	526	0	0	526
N11	8/2/2010	458	0	458	0	94	0	0	94
N16	8/2/2010	0	0	0	0	458	0	0	458
S3	8/23/2010	0	0	0	0	4,837	0	0	4,837
S8	8/23/2010	0	0	0	0	3,782	0	0	3,782
N11	8/23/2010	734	0	734	0	1,804	0	0	1,804
N16	8/23/2010	0	0	0	0	1,026	0	0	1,026
S3	9/13/2010	1,910	0	1,910	0	7,476	0	0	7,476
S8	9/13/2010	2,282	0	2,282	0	3,085	0	0	3,085
N11	9/13/2010	706	0	706	0	100	0	0	100
N16	9/13/2010	2,750	0	2,750	58	2,189	0	0	2,247
X	9/13/2010	1,654	0	1,654	0	2,856	0	0	2,856
Carlson 1	9/21/2010	3,051,153	0	3,051,153	0	1,232,887	0	0	1,232,887
S3	9/27/2010	2,362	0	2,362	0	363	0	0	363
S8	9/27/2010	2,807	0	2,807	0	5,050	0	0	5,050
N11	9/27/2010	740	0	740	0	306	0	0	306
N16	9/27/2010	1,530	0	1,530	0	1,697	0	0	1,697
Carlson 1	9/27/2010	5,939,379	0	5,939,379	0	314,811	0	0	314,811
County Boat Ramp	9/27/2010	1,518,783	0	1,518,783	0	2,301,942	0	0	2,301,942
X	11/16/2010	4,446,479	0	4,446,479	0	669,090	0	0	669,090
S3	11/29/2010	86	0	86	0	34	0	0	34
S8	11/29/2010	638	0	638	0	42	0	0	41.7
N11	11/29/2010	498	0	498	0	52	0	0	51.5
N16	11/29/2010	4,636	0	4,636	0	904	0	0	904
X	11/29/2010	1,326,471	0	1,326,471	0	433,491	0	0	433,491
N16	12/30/2010	681	0	681	0	32	0	0	32
X	12/30/2010	0	0	0	0	20	0	0	20



**Date: September 18, 2009**

**General questions: Jodi Sherwood, DHS, 503-480-4982**

**Technical questions: Laura Boswell, 971-673-0438**

Tenmile Lake Basin Partnership: 541-759-2414

**Public health advisory issued for Tenmile Lake**

A health advisory prompted by high algae levels found in Tenmile Lake, 10 miles north of North Bend in Coos County, was issued today by the Oregon Department of Human Services (DHS).

Water monitoring has confirmed the presence of blue-green algae that can produce toxins harmful to humans and animals, said Laura Boswell, Harmful Algae Bloom Surveillance program coordinator in DHS.

These algae levels are likely to be associated with dangerous toxin concentrations in the water, according to World Health Organization guidelines.

Swallowing or inhaling water droplets should be avoided, as well as skin contact with water by humans or animals. Drinking water from Tenmile Lake is especially dangerous. Boswell advised campers and other visitors that toxins cannot be removed by boiling, filtering or treating the water. People who draw in-home water directly from an algae bloom-affected water body are advised to use an alternative water source. If their drinking water supplier draws from an affected water source, they may want to ask if the water has been tested. If the supplier has not tested the water, DHS recommends using another water source not affected by the bloom.

DHS recommends that people who choose to eat fish from waters where algae blooms are present should remove all fat, skin and organs before cooking since toxins are more likely to collect in these tissues.

(more)

Exposure to toxins can produce symptoms of numbness, tingling and dizziness that can lead to difficulty breathing or heart problems and require immediate medical attention. Symptoms of skin irritation, weakness, diarrhea, nausea, cramps and fainting should also receive medical attention if they persist or worsen. Children and pets are particularly susceptible.

The public will be advised when the concern no longer exists.

With proper precautions to avoid water contact, people are encouraged to visit Tenmile Lake and enjoy activities such as camping, hiking, biking, picnicking, catch-and-release fishing and bird watching. Boating is safe as long as speeds do not create excessive water spray, which could lead to inhalation risk.

For local information contact the Tenmile Lake Basin Partnership, 541-759-2414.

For health information, contact Laura Boswell, Harmful Algae Bloom Surveillance program coordinator, 971-673-0438 or

[www.oregon.gov/DHS/ph/hab/](http://www.oregon.gov/DHS/ph/hab/); also the DHS toll-free information line at 1-877-290-6767, or Coos County Health Department at 541-756-2020.



Tenmile Canal



Station Carlson 1



Station "Z"



Station	Location	Date	Potentially Toxicogenic Algal Species			Algal Toxins			Exceedance of microcystin TDI of 0.04 µg/kg/day for a 20kg (44lb) child ingesting 100 mls <sup>1</sup> (x greater than TDI)
			<i>Microcystis aeruginosa</i> (cells/ml)	Total <i>Anabaena</i> (cells/ml)	<i>Aphanizomenon flos-aquae</i> (cells/ml)	Microcystin (µg/L)	Anatoxin-a (µg/L)	Saxitoxin (µg/L)	
X	North Lake	9/8/2009	300,940	805,180	560,880	20.0	ND	ND	2.5
Z	South Lake	9/15/2009	2,158,388	2,137	145,687	2385.0	NT	NT	295.8
Z	South Lake	9/21/2009	1,008,139	17,932	64,571	910.0	NT	NT	113.8
Z1	South Lake	10/5/2009	3,197,474	182,681	197,085	1410.0	0.6	NT	176.3
Z1	South Lake	10/20/2009	4,664,468	853,143	886,215	1285.0	2.0	NT	158.1
Carlson 1	North Lake	9/21/2010	3,051,153	1,232,887	46,020	480.0	ND	NT	57.5
Carlson 1	North Lake	9/27/2010	5,939,379	314,811	69,913	149.0	ND	NT	18.6
County Boat Ramp	South Lake	9/27/2010	1,518,783	2,301,942	17,826	705.0	NT	NT	88.1
X	North Lake	11/16/2010	4,446,479	689,090	1,155,026	645.0	NT	NT	80.6
N16	North Lake	11/29/2010	4,636	904	1,339	1.2	NT	NT	0.2
X	North Lake	11/29/2010	1,326,471	433,491	788,454	11.0	NT	NT	1.4

1µg/L – Drinking water advisory

8µg/L – Recreational advisory

**Oregon Health Division  
Drinking water treatment guidance**

- 1. Treatment systems should consist of sand filtration followed by chlorination, followed by activated charcoal filtration. It is essential that sand filtration be done before disinfection to remove as many algal cells as possible without killing or rupturing them.**
- 2. Chlorination systems should be capable of maintaining at least 1 ppm of chlorine residual for at least 20 minutes contact time before the water enters the activated charcoal system.**
- 3. The final step in the process should be effective activated charcoal treatment to remove toxin remaining after the sand filtration and disinfection processes.**
- 4. All treatment equipment used should meet NSF standard 53, and should be adequately sized to treat the maximum amount of water that you use. Treatment equipment needs regular monitoring and servicing to assure that it functions properly.**
- 5. Ideally all water entering your home should be treated as recommended. It is possible to treat only water used in the kitchen, but this increases chances that animals or pets would inadvertently drink untreated water.**

**As more monitoring is done and toxin levels are measured this advisory may be altered. The advisory is to remain in effect until specifically changed or lifted by county and state health officials.**

**Contact Person: Laura Boswell (971) 673-0440**



Lab Station ID	Description	Date	<i>Microcystis aeruginosa</i> (cells/ml)	<i>Anabaena flosaquae</i> (cells/ml)	<i>Anabaena planktonica</i> (cells/ml)	<i>Anabaena circinalis</i> (cells/ml)	<i>Anabaena</i> sp. (cells/ml)	Total <i>Anabaena</i> (cells/ml)	<i>Microcystin</i> (ug/ml)
L1	Tap	9/27/2006	0	326	41	0	0	367	
L2	intake	9/27/2006	735	392	221	0	0	613	
L1	Tap	10/11/2006	0	580	232	0	0	812	
L2	intake	10/11/2006	0	756	571	33	0	1360	
L1	Tap	8/7/2007	0	0	742	0	0	742	
L2	intake	8/7/2007	323	3839	23517	264	0	27620	
L1	Tap	10/27/2007	0	35	0	0	0	35	non-detect
L2	intake	10/27/2007	4271	0	0	0	0	0	0.7
Dock	Tap	9/26/2009	0	0	0	0	0	0	non-detect
Dock	intake	9/26/2009	10561	210	1117	0	0	1458	1.8



# Alternative water sources





## Non-native species



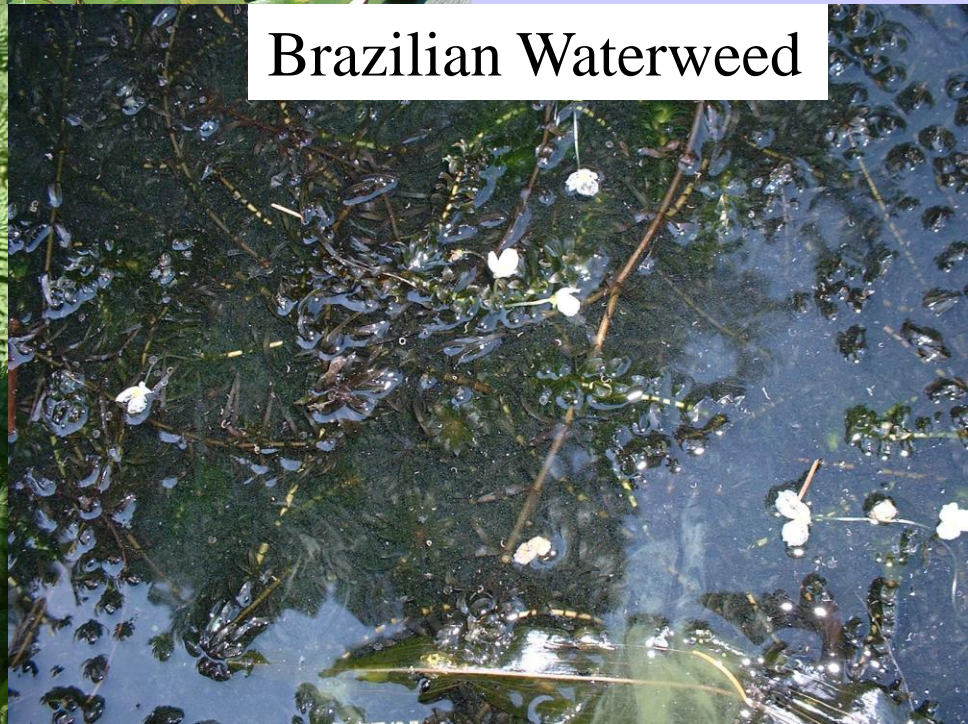
Non-native Water Lily



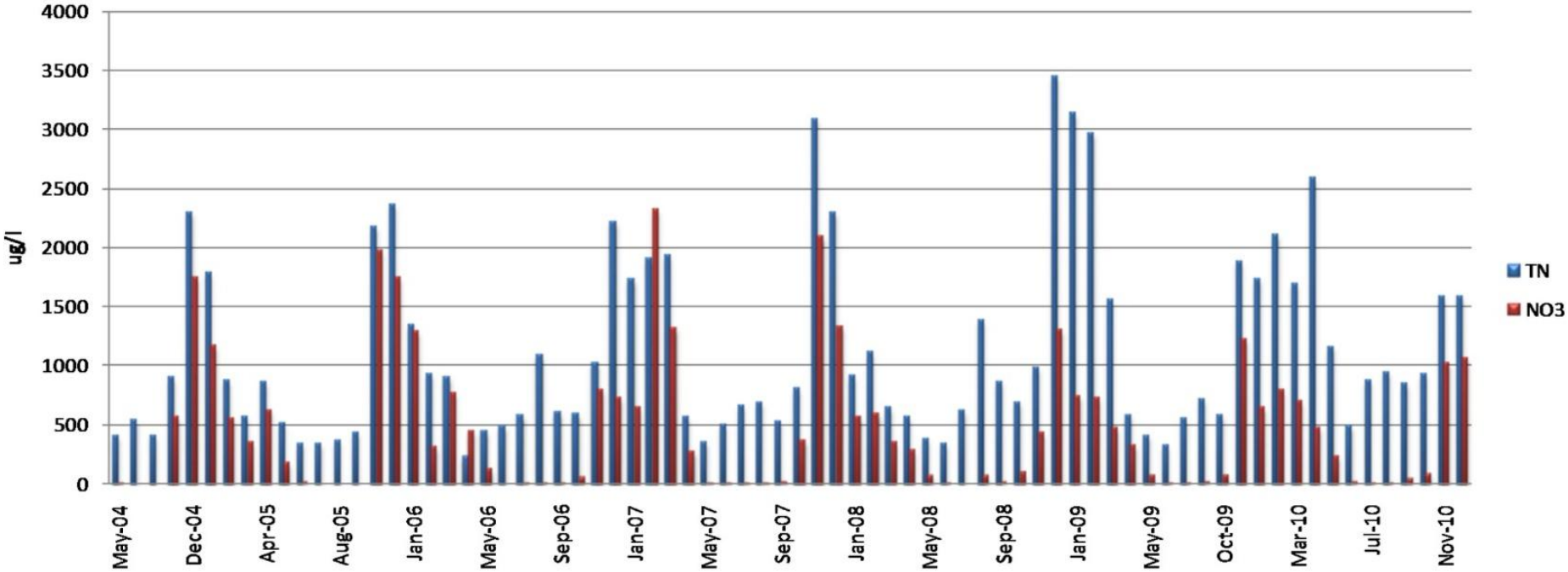
Parrot Feather



Brazilian Waterweed



# Nitrogen



# Non-native fish

BLUEGILL



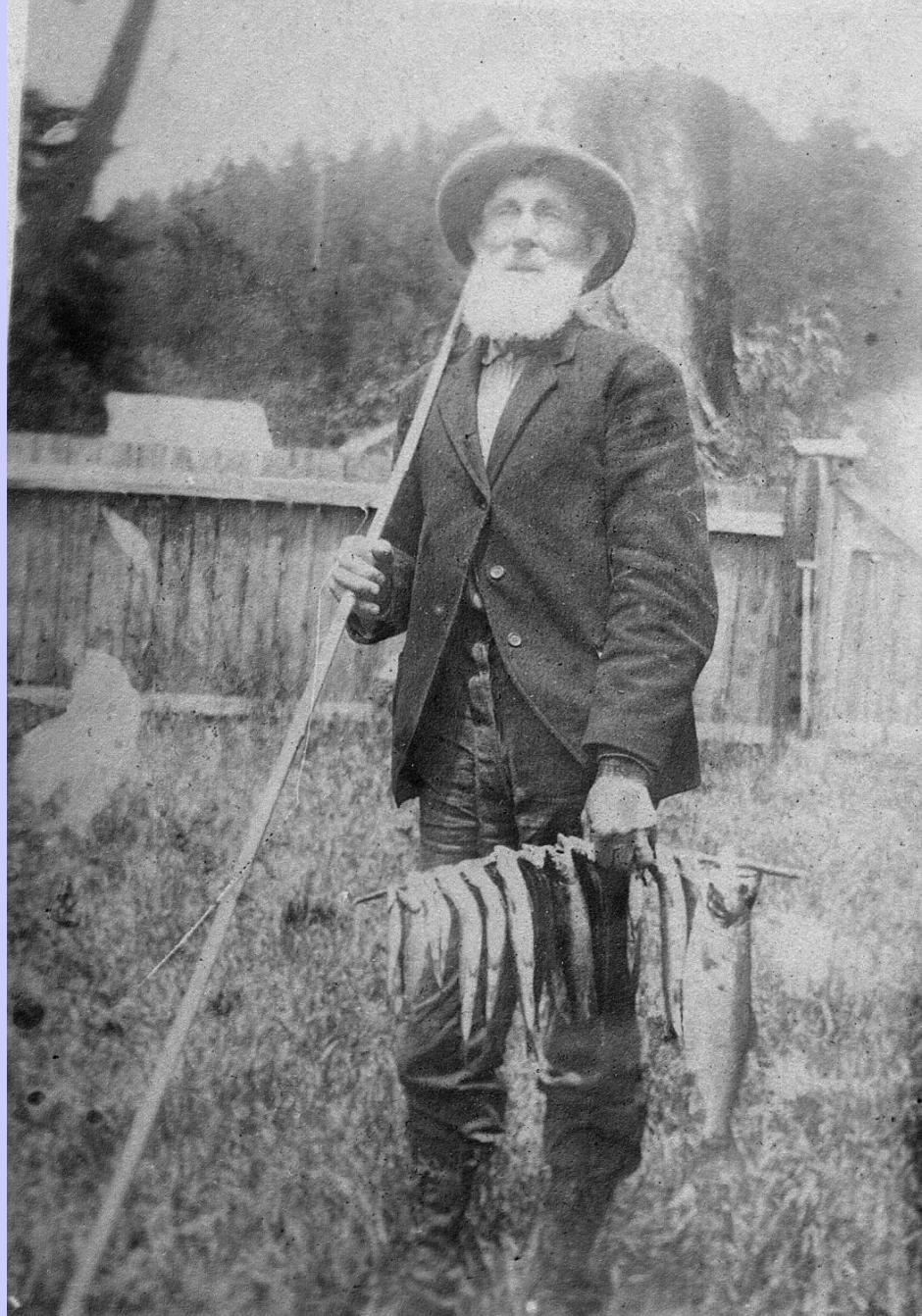
BLACK CRAPPIE

LARGEMOUTH BASS





100 LBS. TROUT - ONE DAY'S CATCH  
AT TEN MILE LAKE  
COOS CO. ORE. - 269





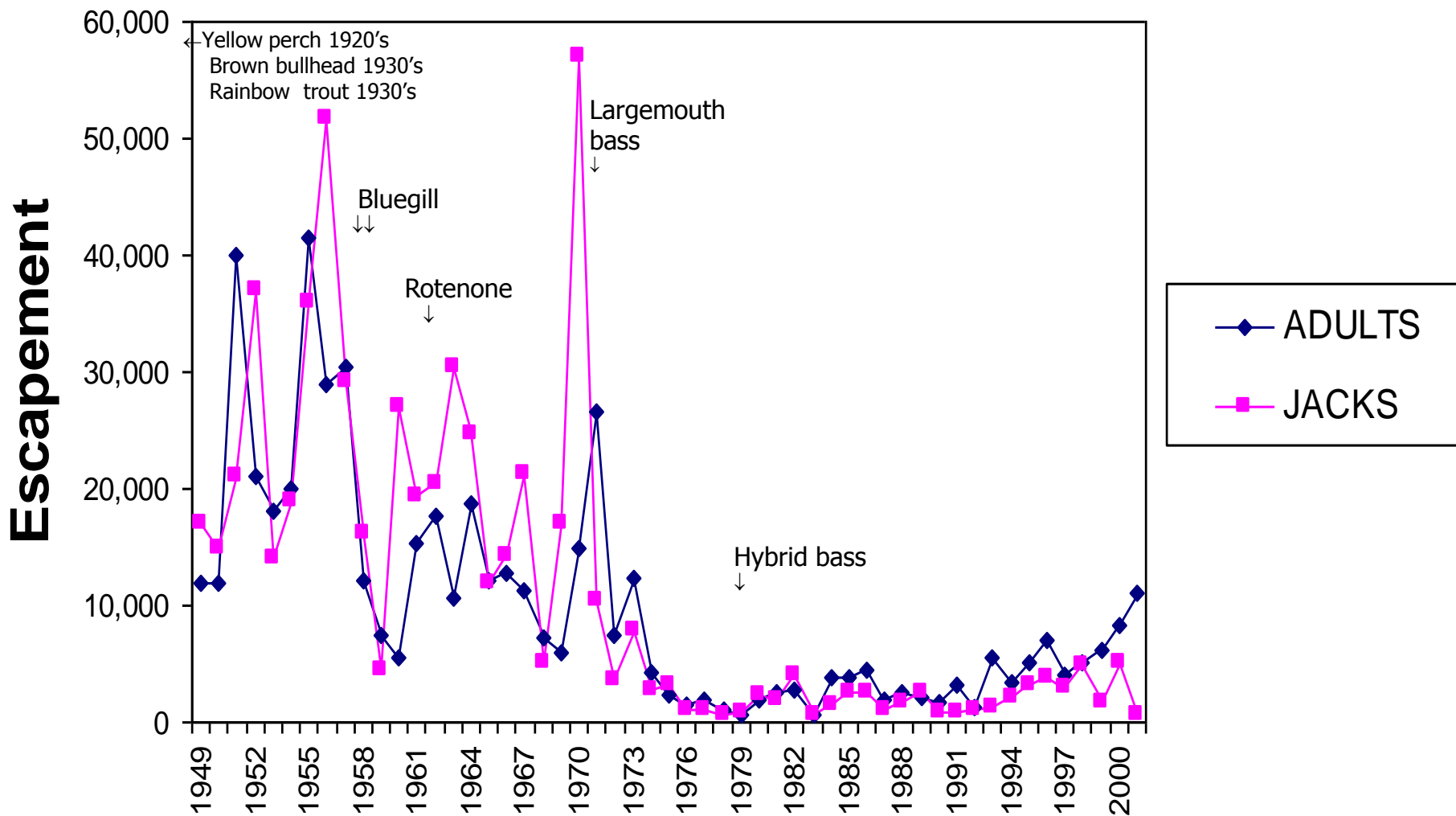
SALMON RUN  
LAKESIDE ORE.

5M62



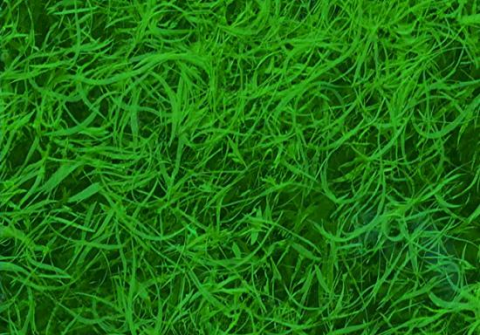
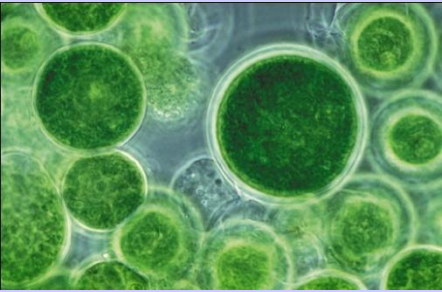


# Tenmile Lakes Coho Escapement Estimates



# Biomanipulation

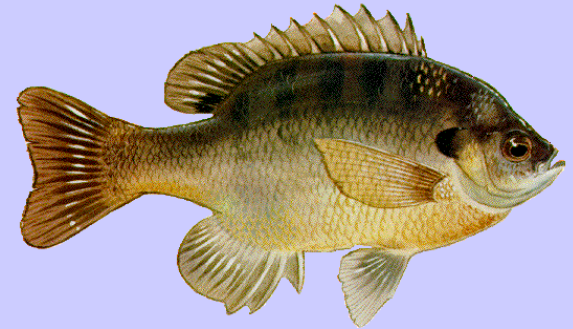
Algae



Zooplankton



Zooplanktivores





Zebra Mussel



Quagga Mussel



New Zealand Mud Snail



Copyright 2002 Univ. Florida  
Photo by Don Schmitz  
Hydrilla  
*Hydrilla verticillata*

Hydrilla

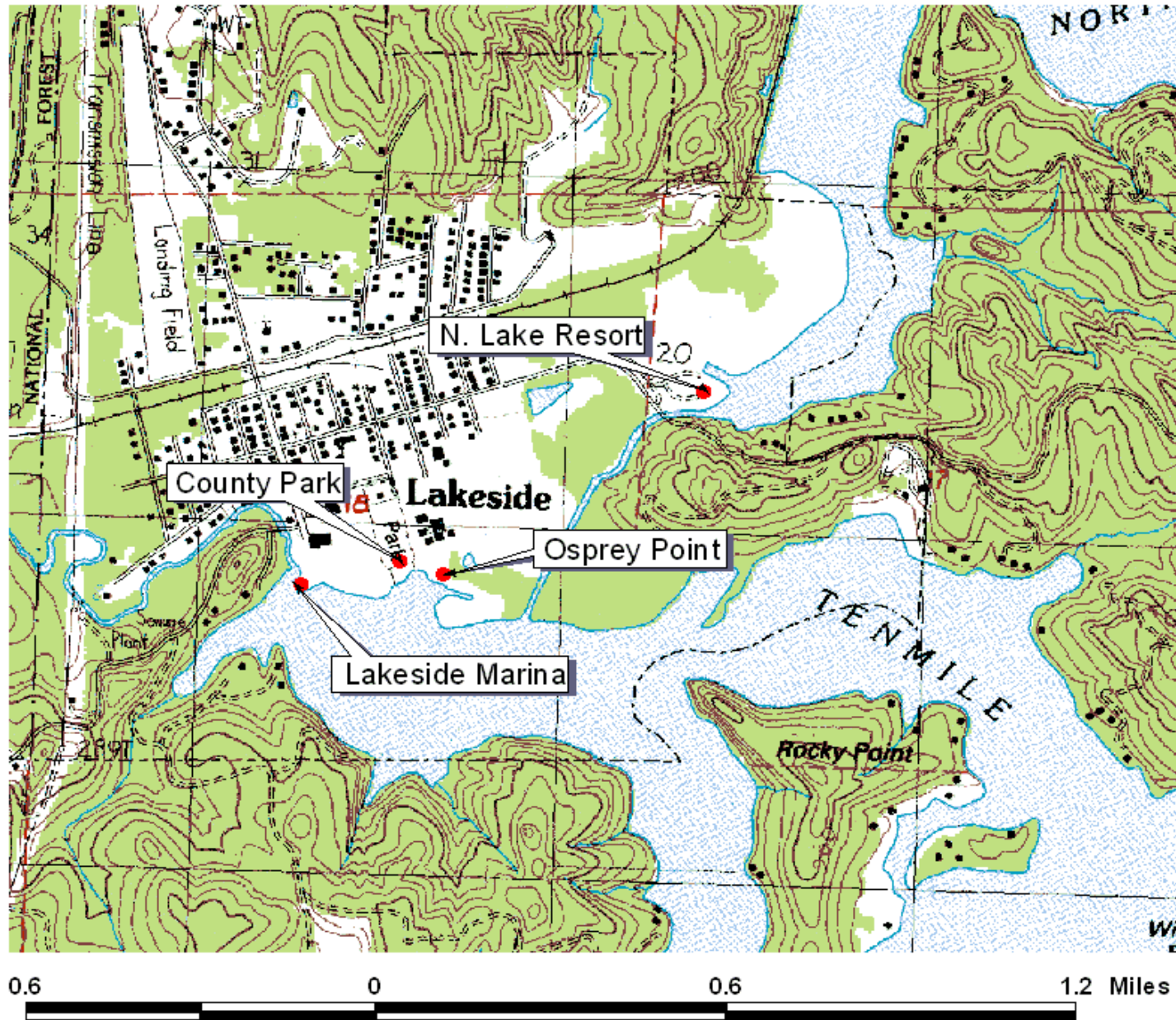
# Davis Dam Penstock Gate Oct.07



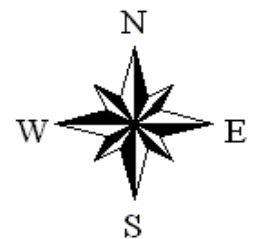
RECLAMATION



# Invasive Species Monitoring



● Check Points





Tennile Watershed  
(541) 759-2414

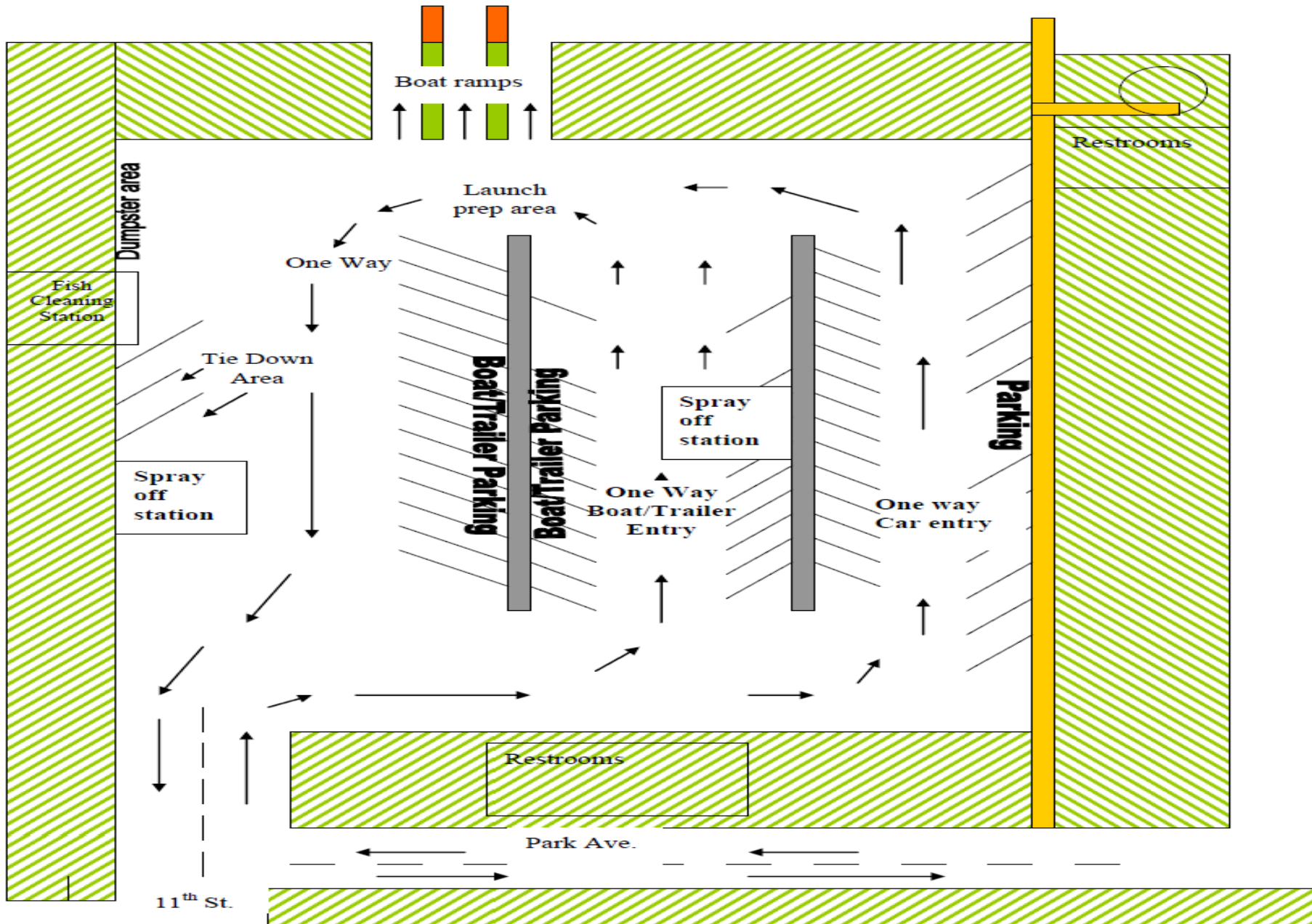
# 1 Year After Installation







# Tennile Lakes County Park Draft Boat/trailer Spray-off Project



**TENMILE LAKES RESORT and MARINA  
INVASIVE SPECIES BOAT and TRAILER GUEST  
INSPECTION QUESTIONNAIRE # \_\_\_\_\_**

DATE: \_\_\_\_\_

RESORT/MARINA: \_\_\_\_\_

RECORDED BY: \_\_\_\_\_

---

- 1) ARE YOU TRAVELING WITH A BOAT and TRAILER?: YES NO
- 2) WHAT STATE ARE YOU FROM?: \_\_\_\_\_
- 3) LAST STATE BOAT and TRAILER WERE IN?: \_\_\_\_\_
- 4) LAST WATERBODY BOAT and TRAILER WERE IN?: \_\_\_\_\_
- 5) LAST TIME and LOCATION BOAT and TRAILER WERE INSPECTED?: \_\_\_\_\_
- 
- 6) IS BOAT and TRAILER FROM STATE or WATERBODY WITH PRESENT INFESTATIONS?:  
YES NO (Refer to Map and Literature)
- 7) CONDITION OF BOAT and TRAILER: CLEAN UNCLEAN
- 8) IS BOAT OWNER WILLING TO VOLUNTARY CONDUCT BOAT and TRAILER  
INSPECTION?: YES NO
- 9) ON CURSORY VISUAL INSPECTION, DOES BOAT and TRAILER LOOK UNCLEAR:  
(DIRTY FILM, VEGETATION HANGING) YES NO

Taking all aspects of this report into account, If you suspect the presence of QUAGGA or ZEBRA MUSSELLS or invasive aquatic plant species, strongly suggest to Owner that you jointly inspect boat and trailer.

If you find invasive species, DO NOT ALLOW BOAT TO BE LAUNCHED! CALL FOR ASSISTANCE.

For Report and Assistance:

Public Reporting Number 1-800-437-2744 (24-7) or

The City of Lakeside at 541-759-2414/541-260-0914

# ATTENTION BOATERS



## STOP AQUATIC HITCHHIKERS!

Prevent the transport of nuisance species.  
Clean all recreational equipment.  
[www.ProtectYourWaters.net](http://www.ProtectYourWaters.net)

HELP PROTECT EEL LAKE AGAINST POLLUTION  
FLUSHING OF MOTORS AND BILGES MAY PUT YOU IN  
VIOLATION OF STATE LAWS

PLEASE FLUSH BOAT MOTORS AT HOME!

- \* Aquatic Invasive Species such as the New Zealand Mud snail can live in both brackish waters and fresh water. This species is found in lakes and bays up and down the Oregon Coast. Please help to **STOP** the spread of these harmful species. **CLEAN**, **DRAIN** and **DRY** your boat away from storm drains, ditches and waterways.

### Oregon State Laws and Administrative Rules:

830.560 – It is unlawful to launch a boat that has ANY visible aquatic species on its exterior hull, motor, trailer or any other exterior surface. -Class B Violation-

Launching a boat includes the act of placing a boat into a waterway for recreational boating, for flushing or testing an engine or for any other purpose.

OPRD 736-010-0040 (5) – A person may not dispose of garbage, recyclables, sewage or waste generated by activities conducted outside a park area in a park area. -Class D Violation-

EEL LAKE IS A DRINKING WATER SOURCE, PLEASE DO YOUR  
PART TO HELP PROTECT THIS WATERBODY

CLEAN BOATS PROTECT CLEAN WATERWAYS



Lakeside Water  
District Logo

OR Parks &  
Rec. Logo

Tenmile Lakes  
Basin  
Partnership



These are your lakes, you can  
shape their future.





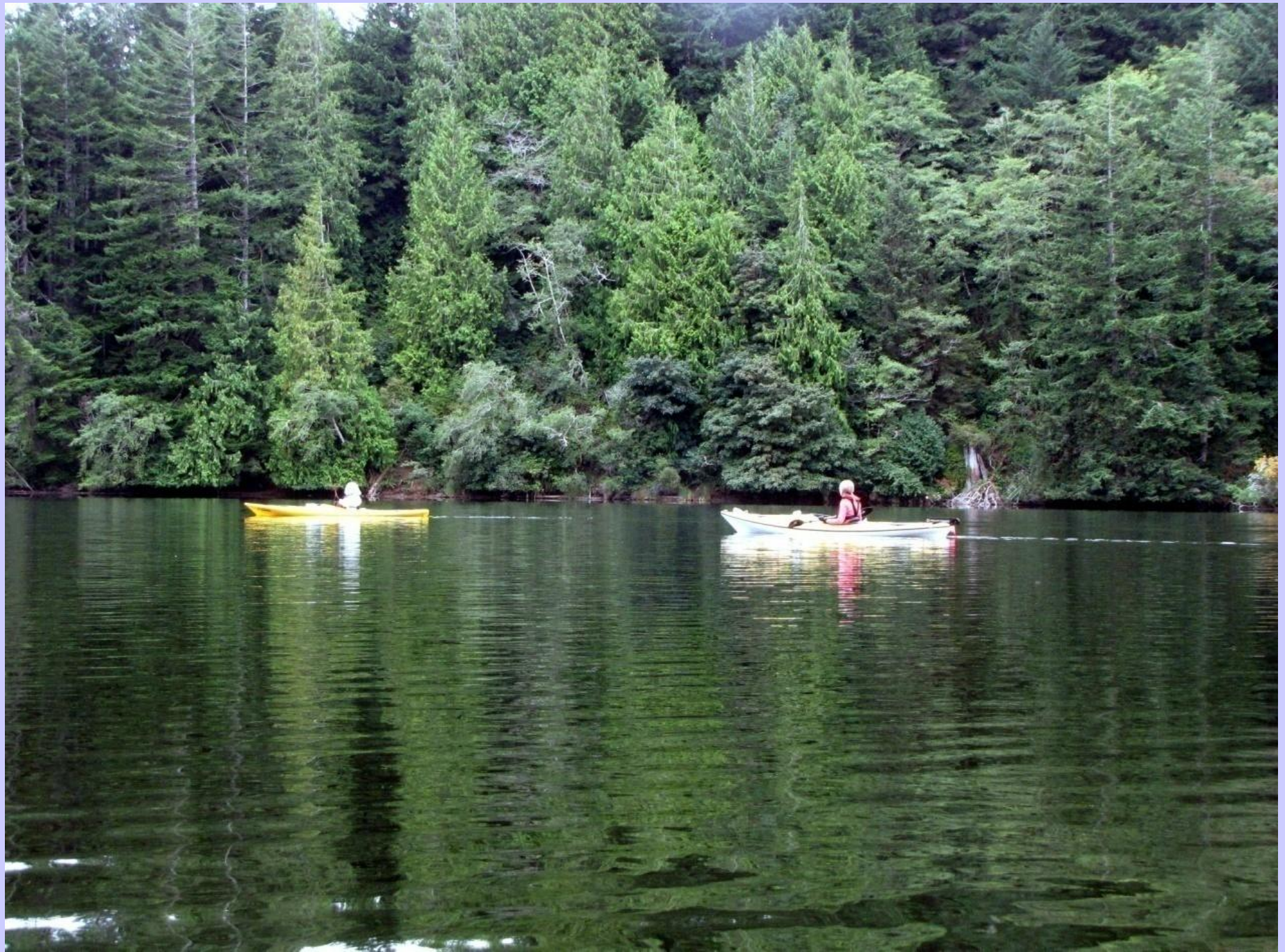































Home Enhancement Projects Lake Information Documents About Tenmile Monitoring



# Tenmile Lakes Basin Partnership

## welcome

The Tenmile Lakes Basin Partnership is a balanced representation of groups interested in the Tenmile Lakes Watershed. The main focus of the Partnership is to improve the water quality in the basin for the residents as well as the fish and wildlife that live within our Watershed.



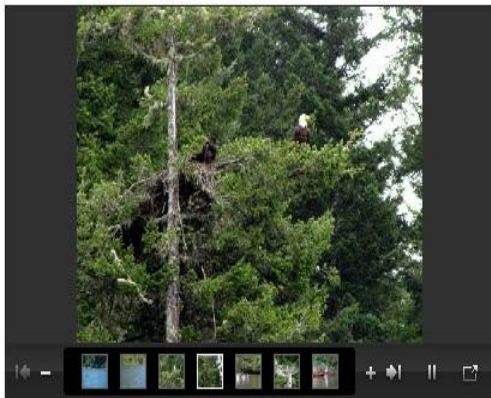
City of Lakeside OWEB ODEQ STEP Program

- ▶ [Developing Lakefront Property](#)
- ▶ [Algae Information](#)
- ▶ [About Tenmile Watershed](#)



### Lake Information

- Information
- [Lake Gauge](#)
- [Algae Information](#)
- [Invasive Species](#)
- [Lakfront Development](#)
- [Oregon State Marine Board](#)
- [Summarized Weather Station Data](#)
- [North Bend Airport Weather Conditions](#)
- [NOAA 10 Day Forecast](#)
- [24 Hour Satellite Loop](#)
- [Weather Observations for the Last 3 Days](#)



## Tenmile Lake Report

Mon Aug 16 13:40:00 PDT 2010

Rainfall In Last 24 Hours 0

Current Lake Level as of last report 6.847

Current Lake Water Temperature as of last report 68.95

Current Air Temperature as of last report 68.08

[Contact Tenmile Lakes Basin Partnership for additional information](#)



[7/11/2011 Algae Sampling](#)

[6/27/2011 Algae Sampling](#)

[2010 Algae Summary](#)

[2009 Algae Summary](#)

[2008 Algae Summary](#)

[2007 Algae Summary](#)

[2006 Algae Summary](#)

[2005 Algae Summary](#)

[2004 Algae Summary](#)

# Thank You

City of Lakeside

OWEB

ODEQ

Milo Crumrine

ODFW

Ringo's Lakeside Marina

Preferred Systems

BLM

Dr. Jacob Kann

ODSL

Project Site Landowners

Osprey Point Resort

Lakeside Lions

Eel/ Tenmile STEP

Lakeside McKays

Jeff Fletcher

TLOA

North Lake Resort

Zacch Seay

Mike Knips

