Shoreline Incentives Program

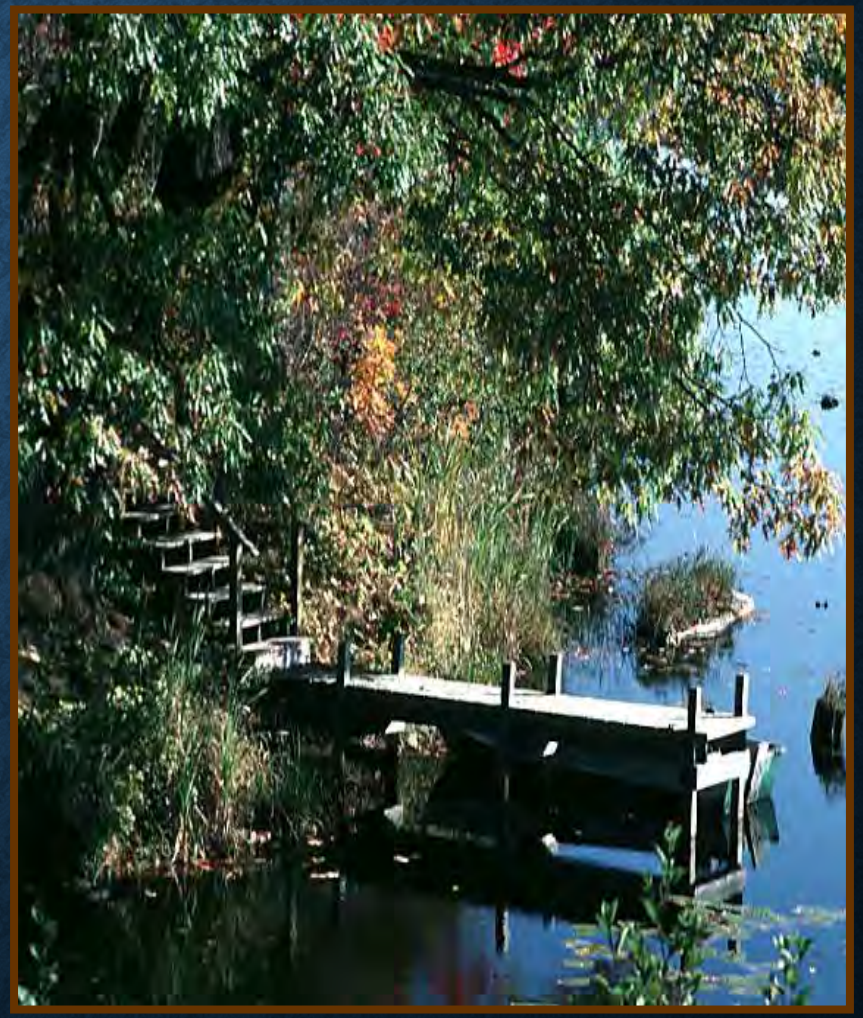
Dave Ferris, County Conservationist
Burnett County Land Services Department-
Conservation Division

Benefits of Natural Shorelines

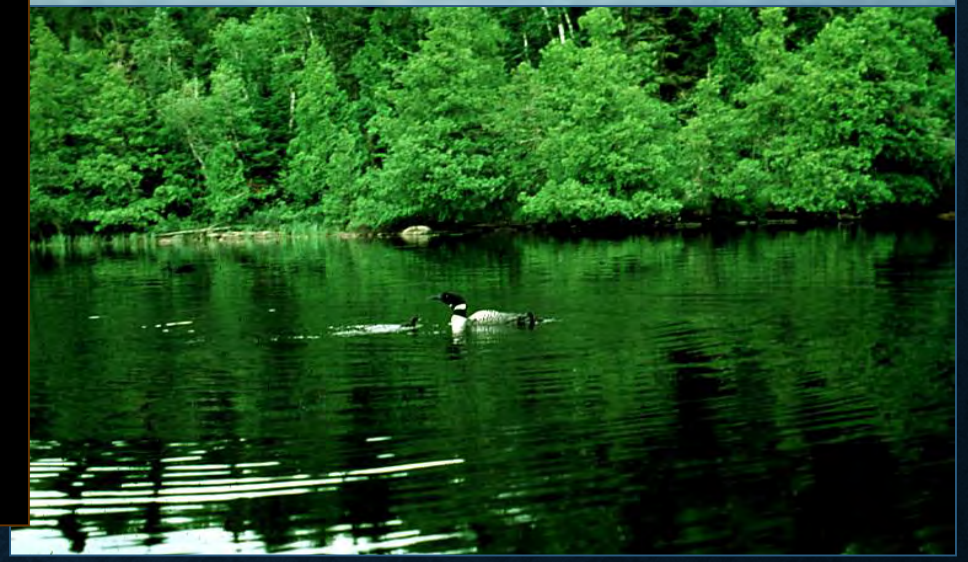
Natural Beauty

Layers of Natural Vegetation

- Frame desired views
- Provide a natural green screen
- Blend structures with environment



Providing a Home

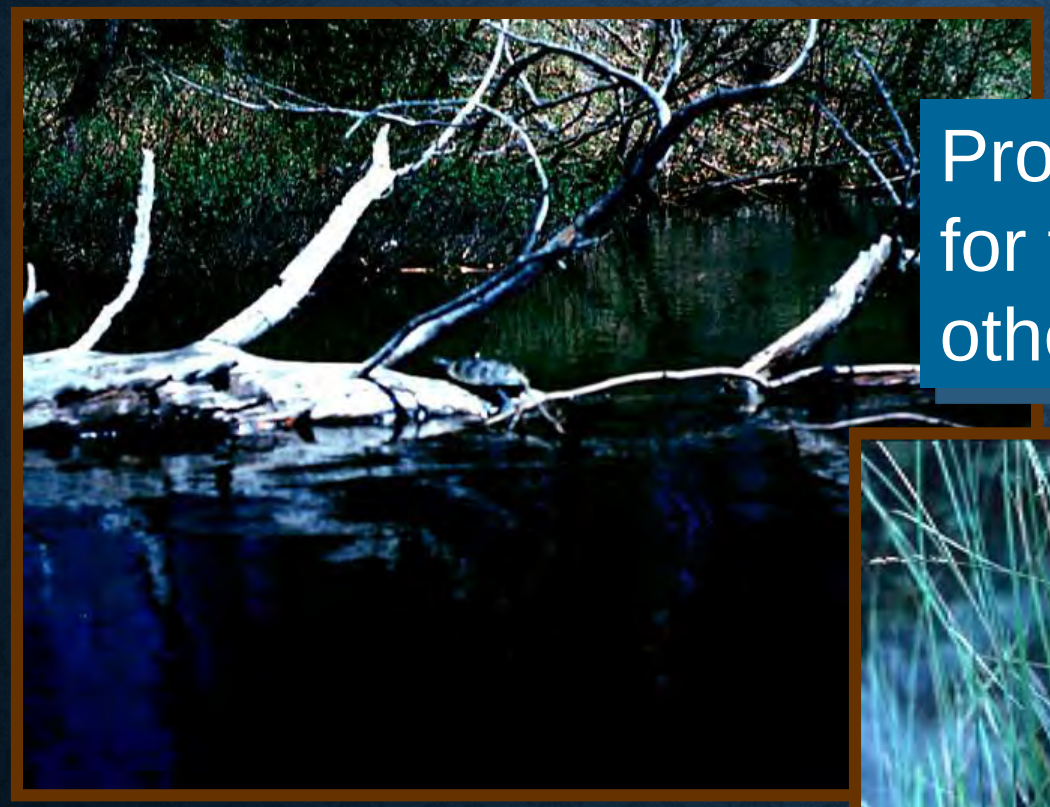


Shoreline vegetation

- Provides nesting and breeding sites
- Shelters young from predators
- Provides food

Providing a Home

In the Water



Provide shelter and food for fish, frogs, turtles, and other animals.

Woody Debris & Aquatic Vegetation

Fish and Wildlife Habitat

90% of all lake life is born, raised and fed in the area where land and water meet.

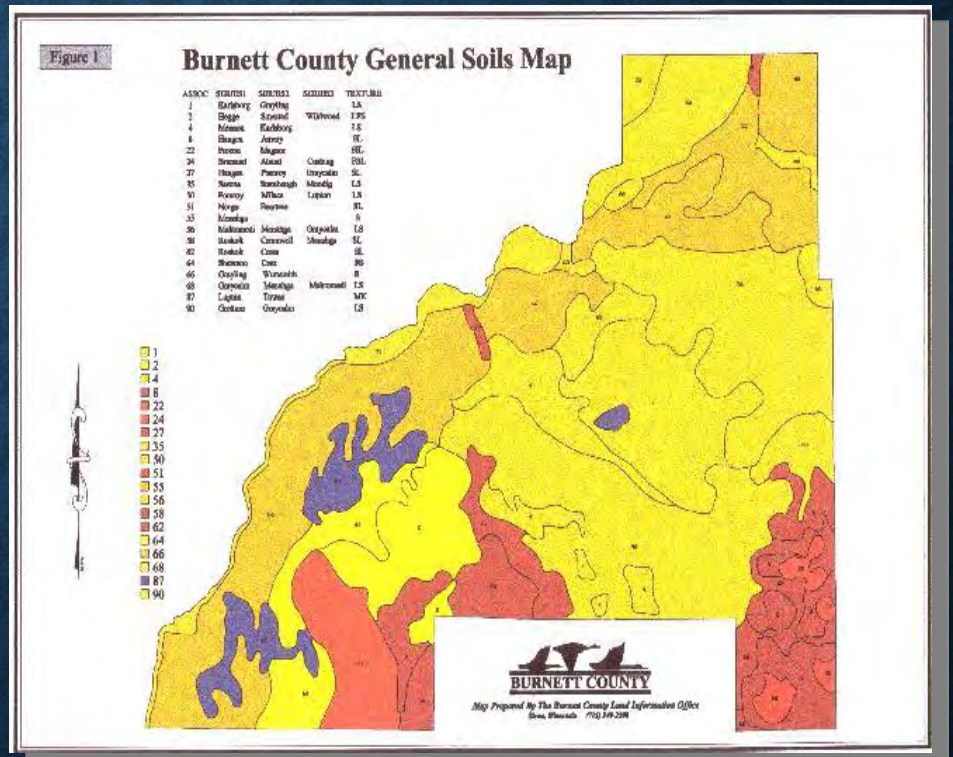
Water Quality Protection

Shoreline Buffers

- Increase Infiltration of Water and Capture Sediment
- Decrease Shoreline and Upland Erosion

Special Considerations

- Very Sandy Soils
  - Extremely dry
  - Prone to erosion
  - Infiltrate well
- Seepage Lakes
  - Water level fluctuations
- Oak/Pine Forest
  - Limited flora

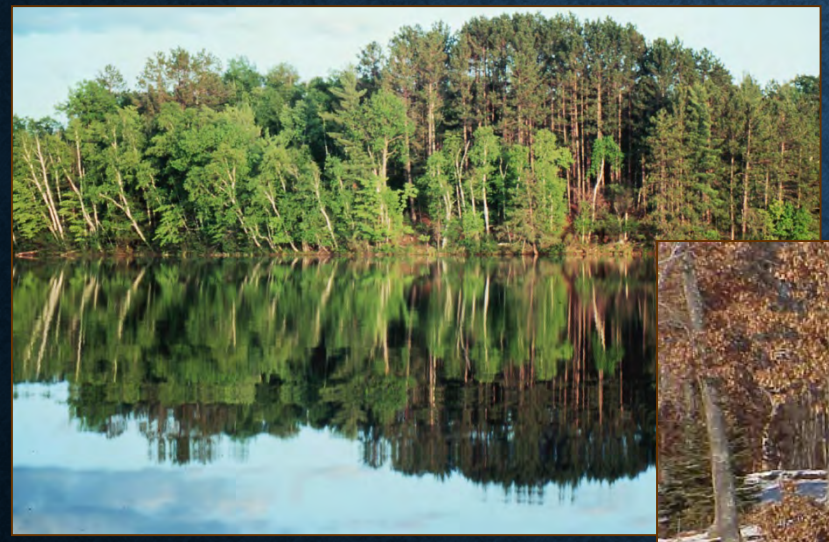


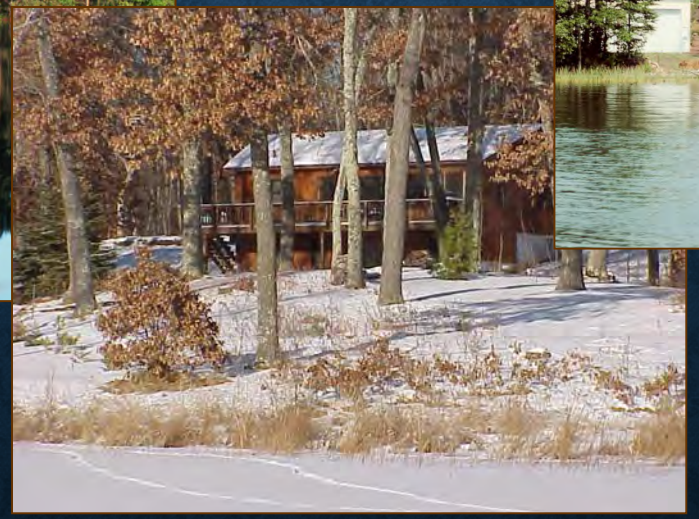
Development Trends

IMPACTS OF DEVELOPMENT

KEEP IN MIND CUMULATIVE IMPACTS

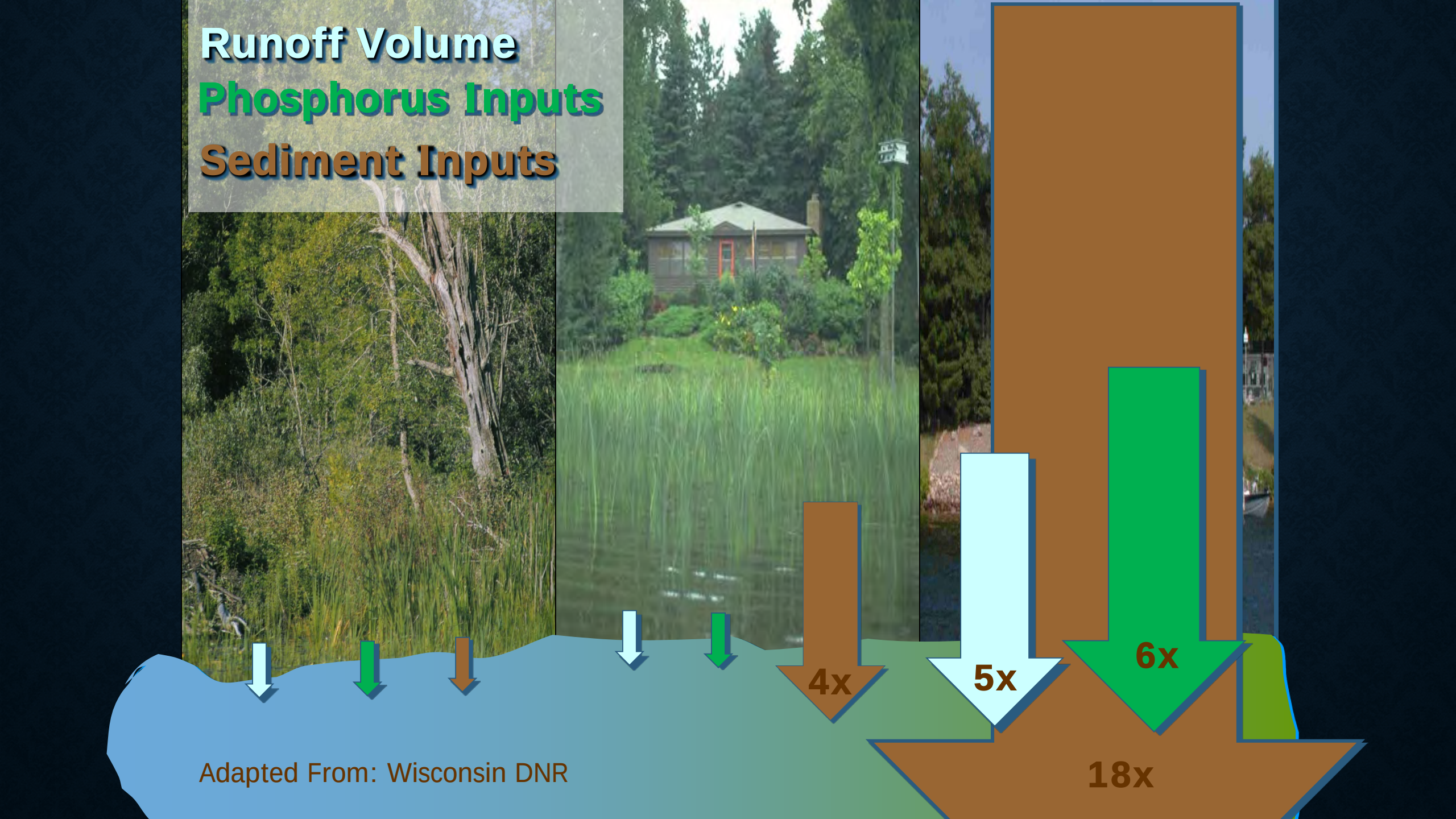
DEVELOPED SHORELINES CHANGE LAKES





Impacts of Development

- Loss of Vegetation
- Increased Run-off and Erosion
- Loss of Fish and Wildlife Habitat


Runoff Volume
Phosphorus Inputs
Sediment Inputs
4x
5x
6x
18x
Adapted From: Wisconsin DNR

- 1 pound of Phosphorous equals 500 pounds of aquatic plant/algae growth.

STORMWATER/EROSION SOURCES

Erosion from bare soil

Runoff from house above

Impervious surfaces


08.05.2011 11:05


8 22 '00

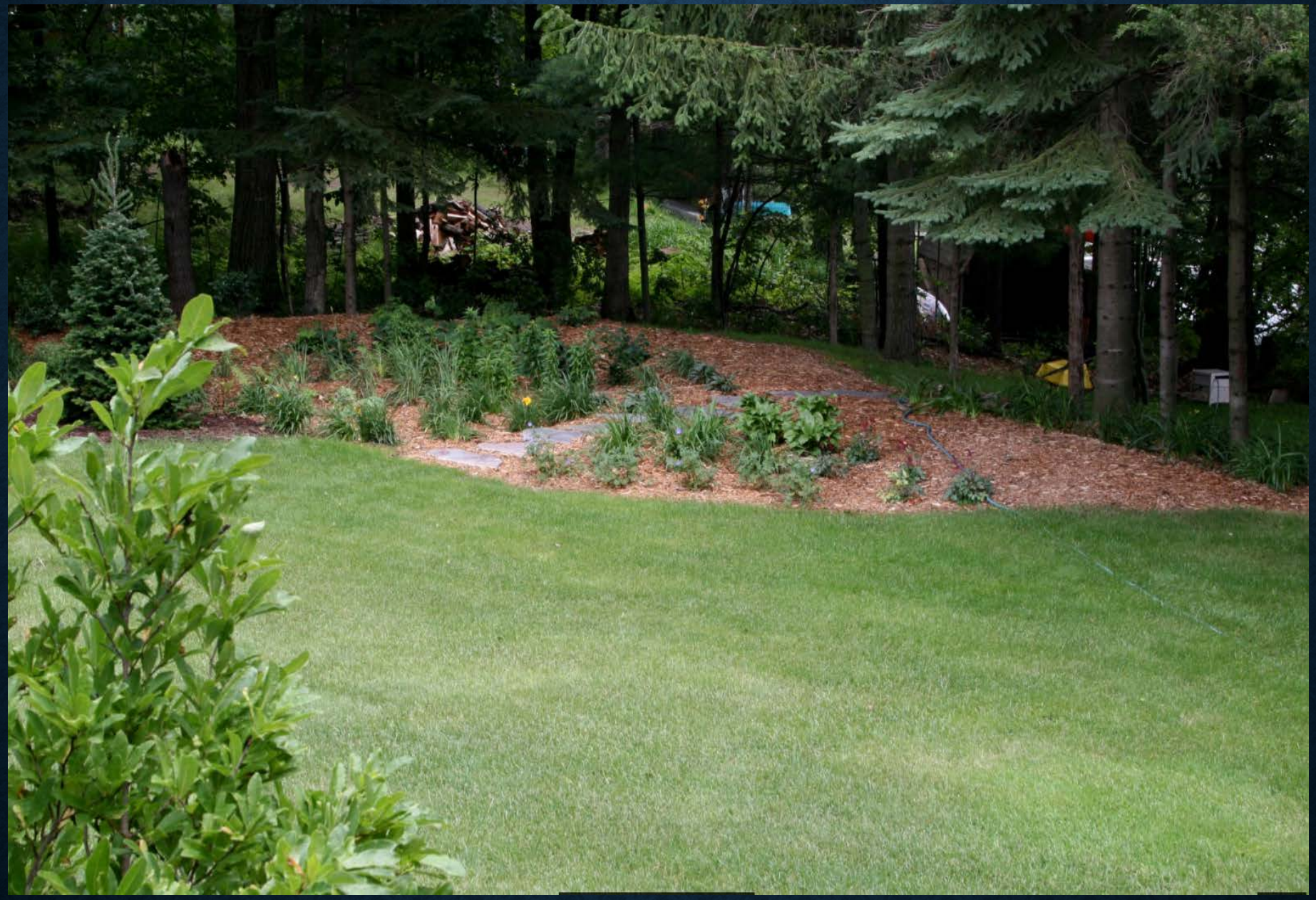

8 22'00

CONSEQUENCES OF CONSERVATIVE NORMAL LANDSCAPING ON BEAUTY LAKE

- Erosion increases to 100 times! With a C factor of .1, 1485 tons per year run into the lake.
- The lifespan to fill it in decreases from 37,000 years to 370 years.

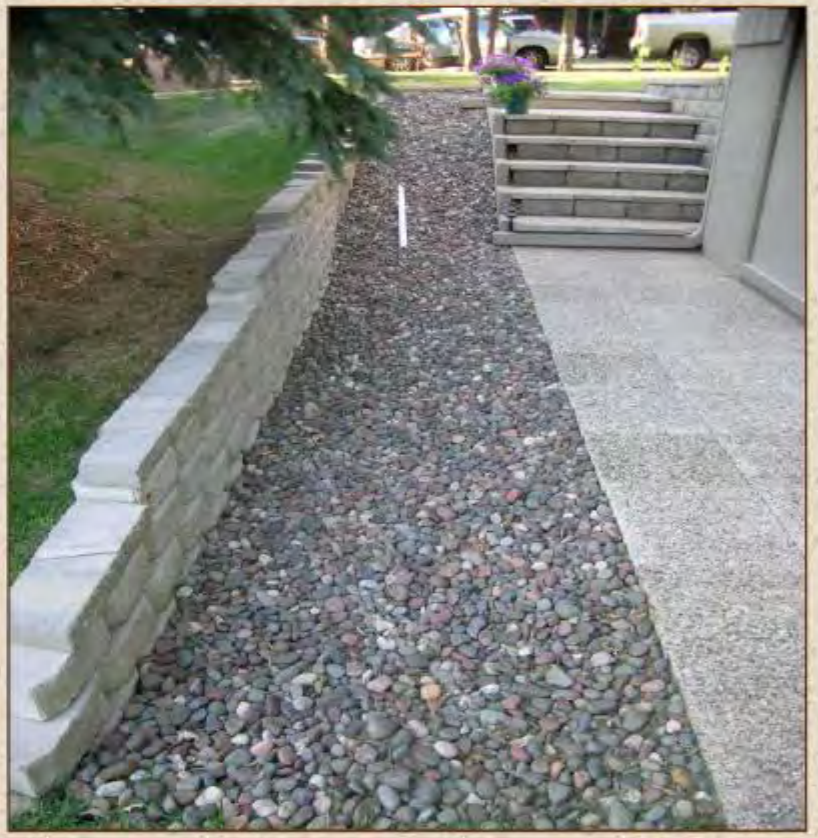
BUSINESS AS USUAL, C=.4

- Time to fill in the lake shortens to 90 years.
- Nutrient loading will shift the lake quickly to eutrophic. Our data suggest it is now marginal.
- Finer sediments will cloud the water and cloak the bottom, probably decreasing diversity and health.
- Environmental quality is the big loser; from a real beauty to a soupy pond in two decades!
- Academically an interesting site. Otherwise a pending disaster.
- Property Values may plummet.

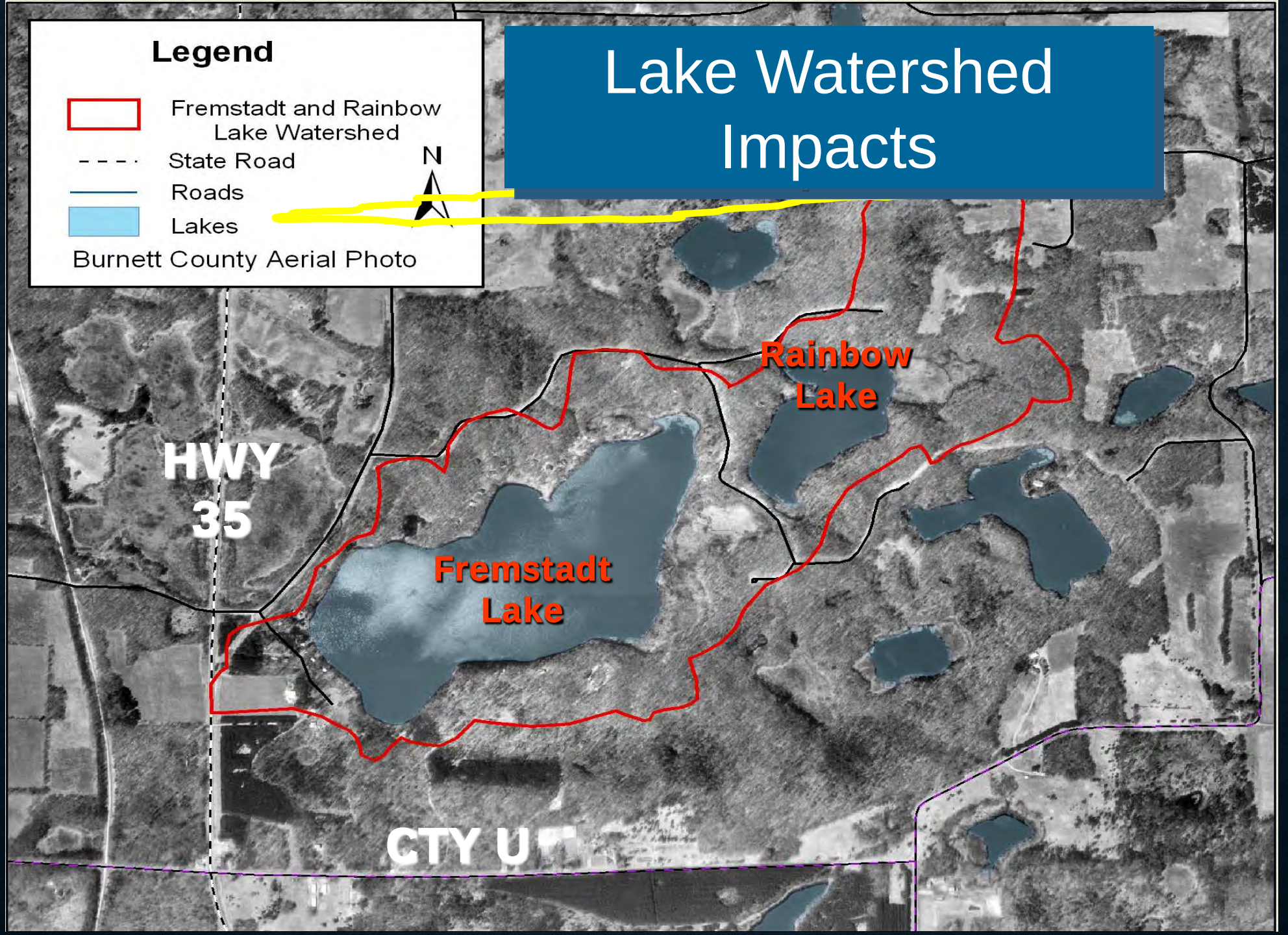


Options for Infiltration

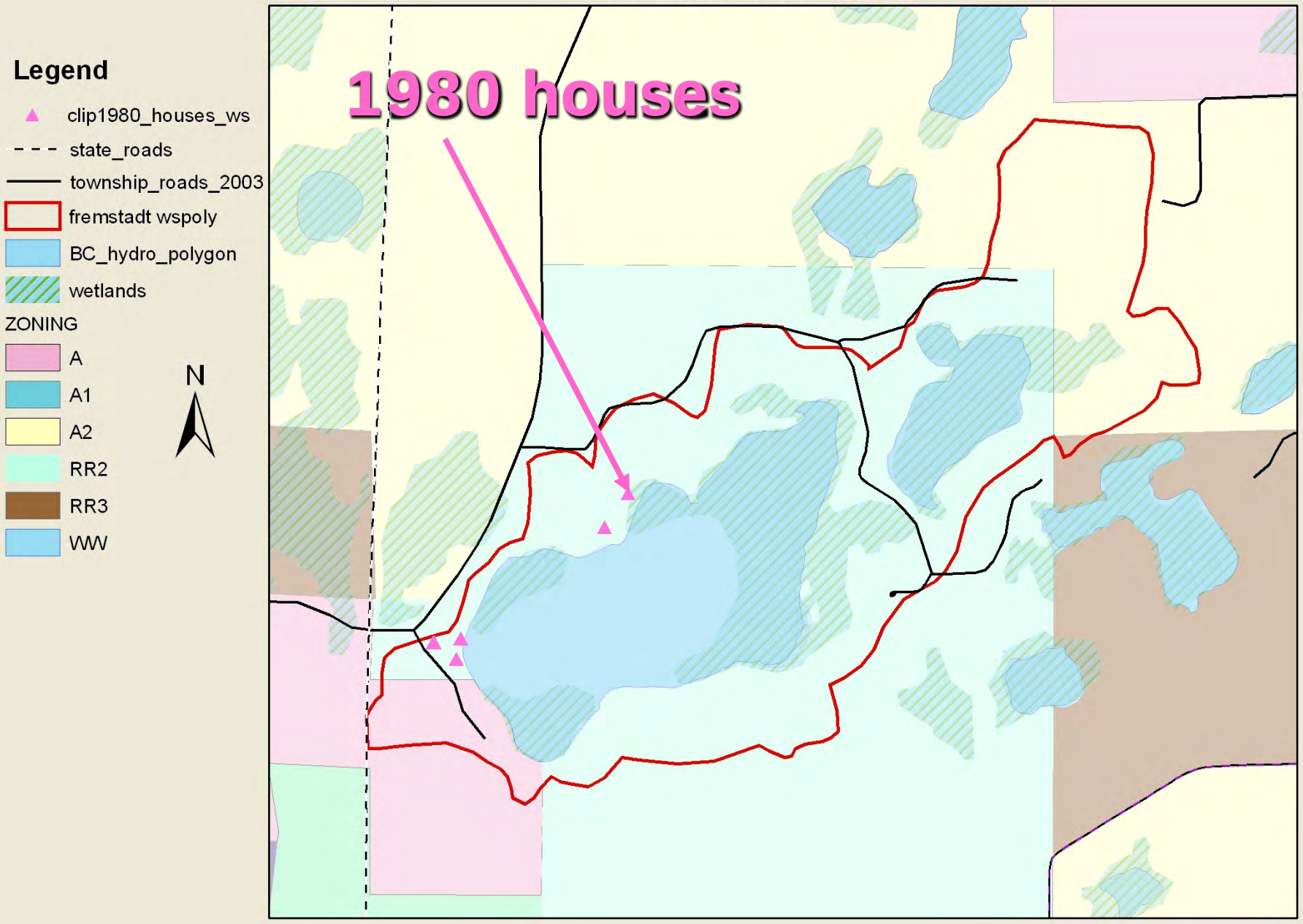
Rock Infiltration Pit



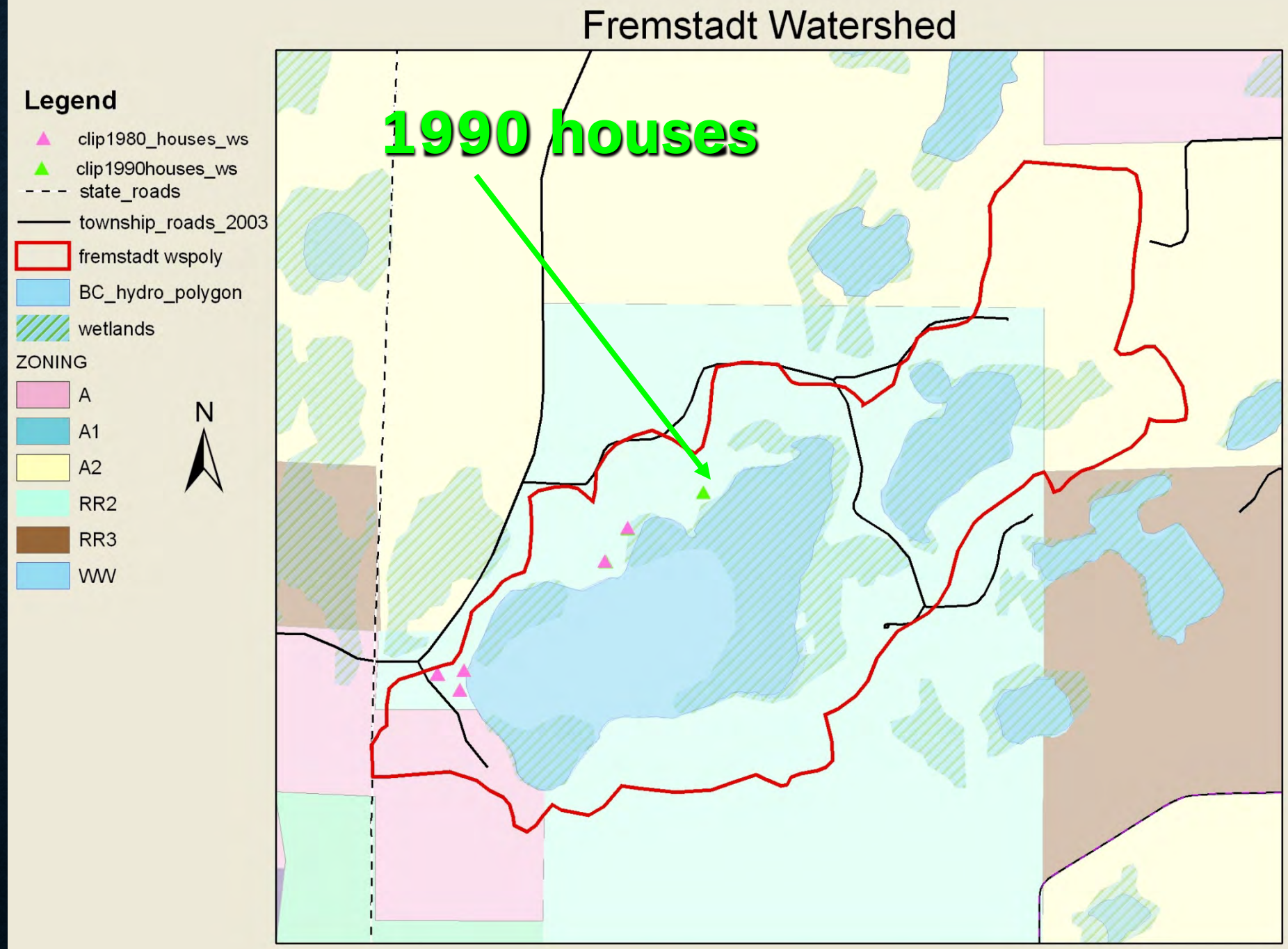
Rock Infiltration Trench


Legend
Fremstadt and Rainbow Lake Watershed
State Road
Roads
Lakes
Burnett County Aerial Photo
N
Lake Watershed Impacts
Rainbow Lake
Fremstadt Lake
HWY 35
CTY U

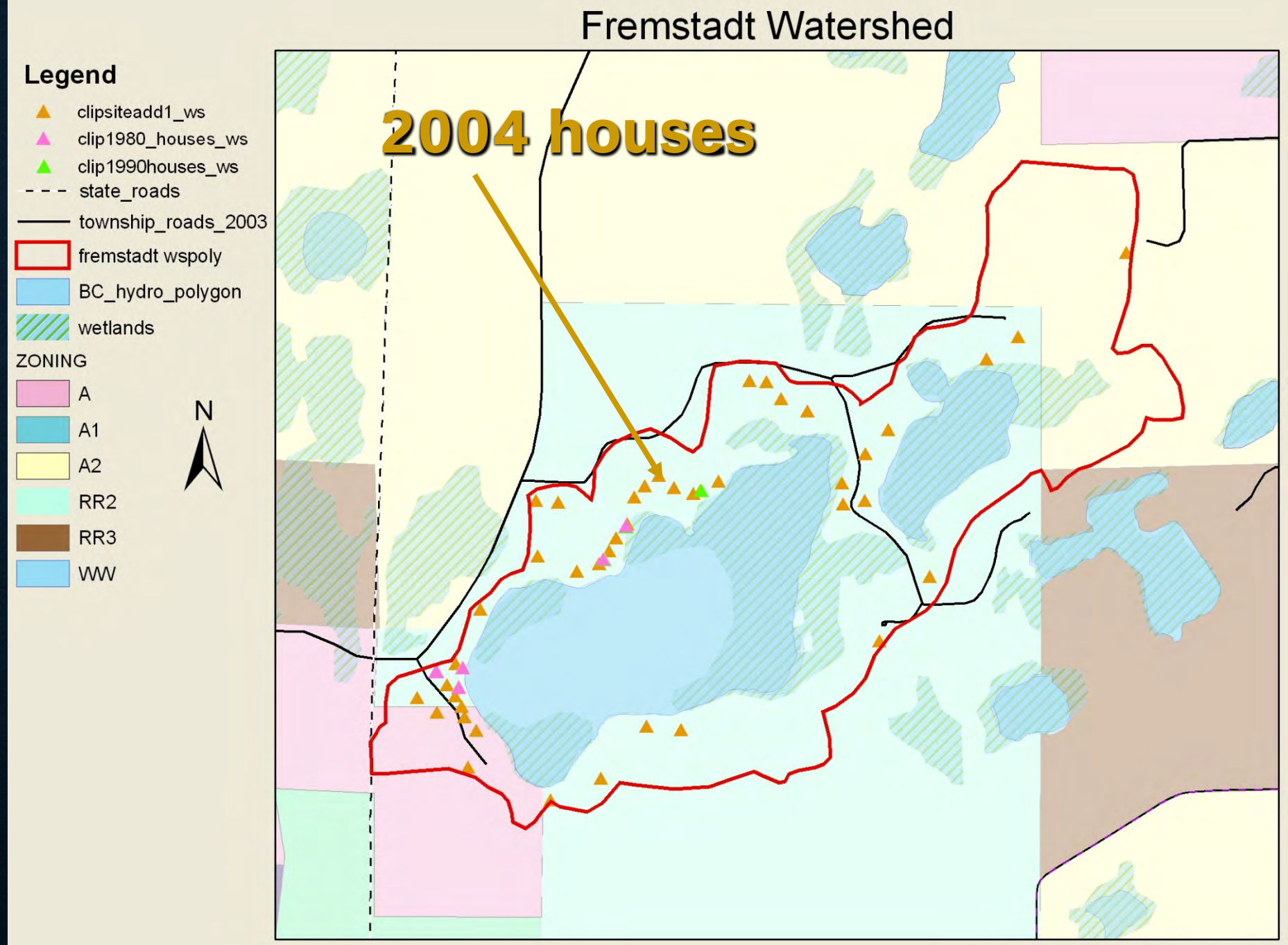
Fremstadt Watershed



Fremstadt Watershed

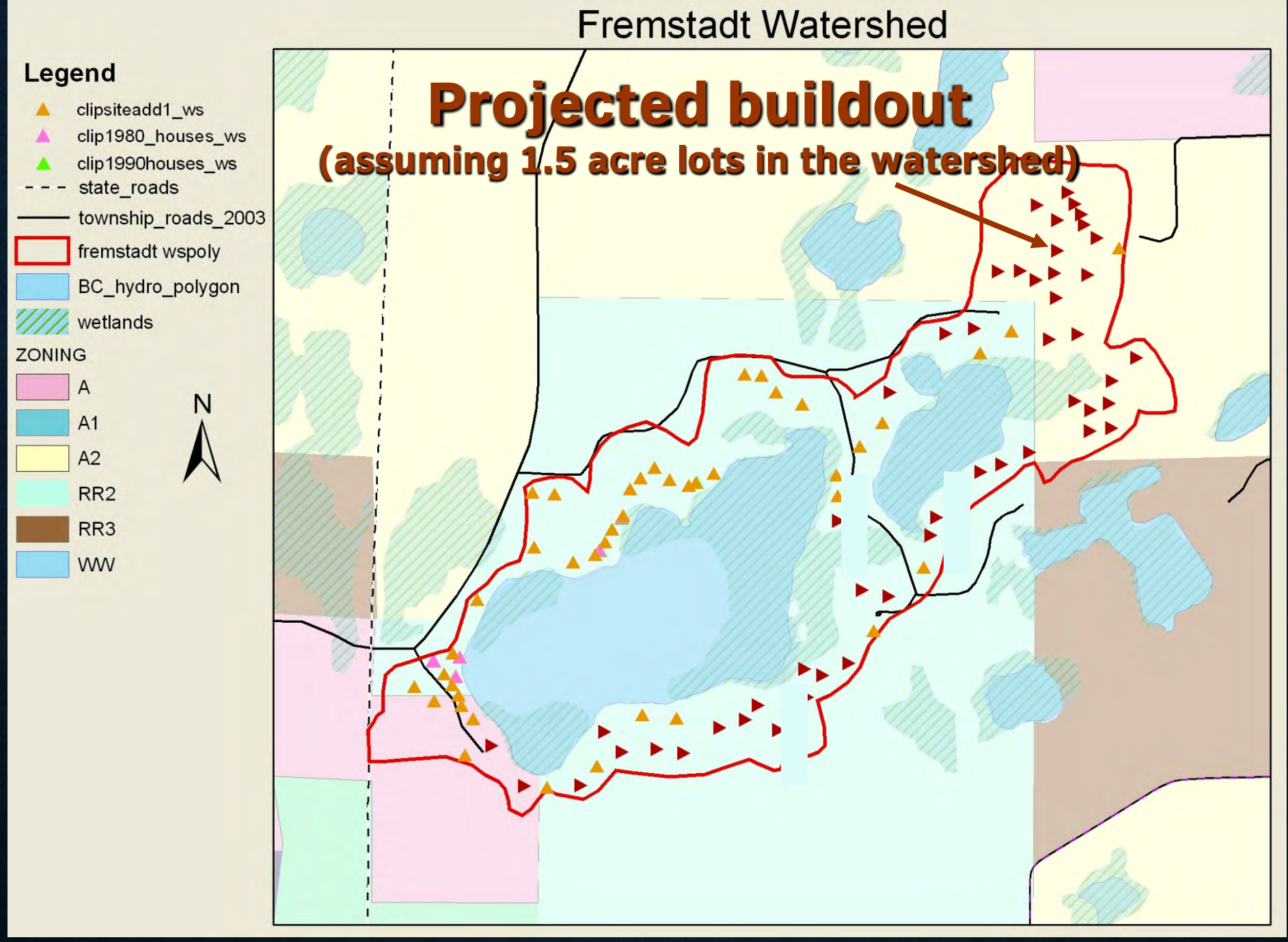


Fremstadt Watershed



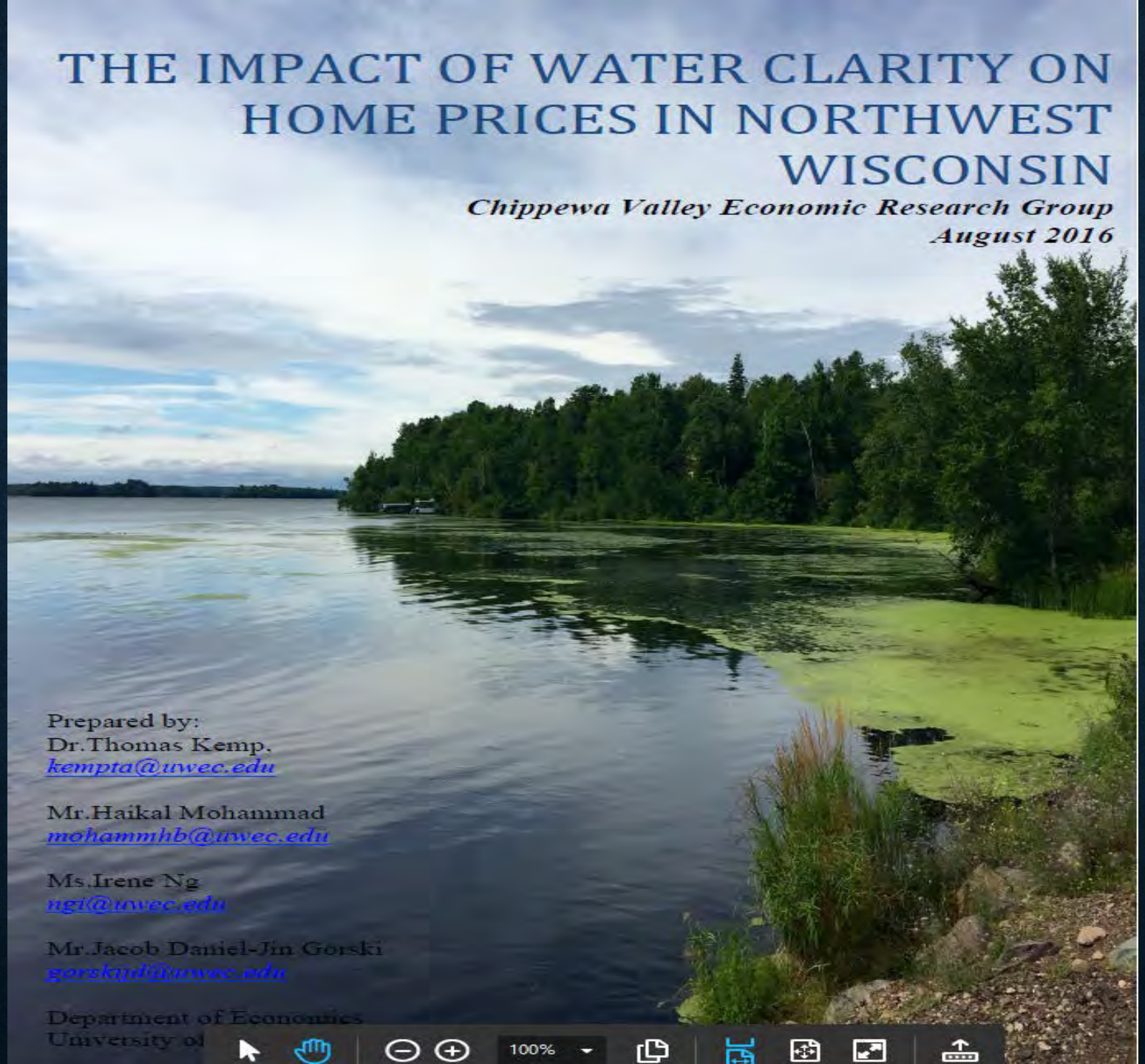

Fremsted Lake
28640
OLD 35 RD
28562
7144
7145
7176
7131
7109
7125
7101
7076
7047
7025
7037
RAINBOW LN
7246
7218
28515
7266
FREMSTED RD
28527
28522
28511
28497
28493
17
16
15
7300
7328
7197
7201
28477
7311
7259
7271
7217
7325
7285
7293
7299
7305
28450
35
28436
7022
OAKLAND
28430
28418
28409
28402
Fremsted Lake
JOHNSON RD
S FREMSTED RD
28408
28402
28392
28384
28380
28368
28362
7254
7244
7230
28290
7266
7272
20
21
22
28261

Fremstadt Watershed



THE IMPACT OF WATER CLARITY ON HOME PRICES IN NORTHWEST WISCONSIN

Chippewa Valley Economic Research Group
August 2016



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University of

On Lake Chetac we estimate a an additional 3 feet of water clarity would bring a 10 – 11% improvement in the value of the average property adjacent to the lake. This translates to an increase market value to $269,400 from $243,477 on the average property and an additional $10.4 million in total property valuation. Given the Sawyer County 2015 property tax rate of 1.085% the increased valuation would bring another $112,800 in annual county property taxes collected.

Table 2	Est Price	Value WQ	Plus 1 ft	Plus 3 ft	Increase Value	% Increase
Lake Chetac	$243,477	$64,406	$74,773	$90,406	25999.37	10.68
Birch Lake	$245,878	$64,406	$74,773	$90,406	25999.37	10.57
Balsam Lake	$579,709	$94,409	$100,131	$109,815	15405.56	2.66
Red Cedar Lake	$339,264	$108,575	$112,860	$120,400	11825.29	3.49
Long Lake	$403,642	$96,899	$102,339	$111,615	14716.38	3.65
Sissabagama Lake	$262,266	$104,837	$109,464	$117,529	12691.74	4.84
Stone Lake	$330,006	$147,534	$149,435	$153,019	5485.06	1.66
Whitefish Lake	$532,549	$120,747	$124,079	$130,101	9354.42	1.76
Petenwell Lake	$282,119	$41,059	$57,128	$78,521	37461.47	13.28
Lake Lucerne	$406,530	$143,986	$146,035	$149,880	5893.79	1.45
Metonga Lake	$330,113	$145,552	$147,534	$151,262	5710.04	1.73
Shell Lake	$284,574	$124,079	$127,187	$132,843	8764.33	3.08
Yellow Lake	$319,503	$82,305	$89,602	$101,458	19152.62	5.99
Eau Claire (Upper)	$394,526	$127,755	$130,635	$135,908	8152.59	2.07
Eau Claire (Middle)	$249,673	$136,305	$138,713	$143,183	6878.45	2.75
Eau Claire (Lower)	$211,469	$130,045	$132,790	$137,836	7791.66	3.68
Butternut Lake	$173,815	$57,803	$69,568	$86,748	28945.16	16.65
Devil's Lake	$385,714	$128,551	$131,383	$136,576	8025.53	2.08
Round Lake	$393,790	$139,045	$141,557	$145,774	6478.13	1.65
Lake Nebagamon	$287,477	$83,476	$90,604	$102,236	18760.53	6.53
Big Sand Lake	$343,667	$107,393	$111,783	$119,486	12093.54	3.52
Combined	$335,126	$116,564	$120,198	$126,710	10145.91	3.03

WHAT DOES THAT 5.99% MEAN?

- It means that for a 3 foot decrease or increase in water clarity on Yellow Lake, the direct revenue loss or gain to the county is approx. $32,000/year.

BACKGROUND

- Shoreland zoning ordinance first passed in 1971.
- Limited clear-cutting and removal of shrubs
- BUT many natural buffers destroyed on developed lakes

TOP COMMUNITY ISSUES

- Need a new stronger ordinance;
- Stronger enforcement of existing ordinances;
- Aggressive land use education;
- Septic and other systems;
- Consistent economic and development policies;
- Land stewardship ethics; and
- Seek partnerships

Land Use Plan- Shoreland Protection Recommendations

Preserve Natural Qualities of Lakes and Streams

- **Lakes Classification**
- **Manage Future Development**
- **Encourage Restoration/Preservation of Shorelands**

PROGRAM HISTORY

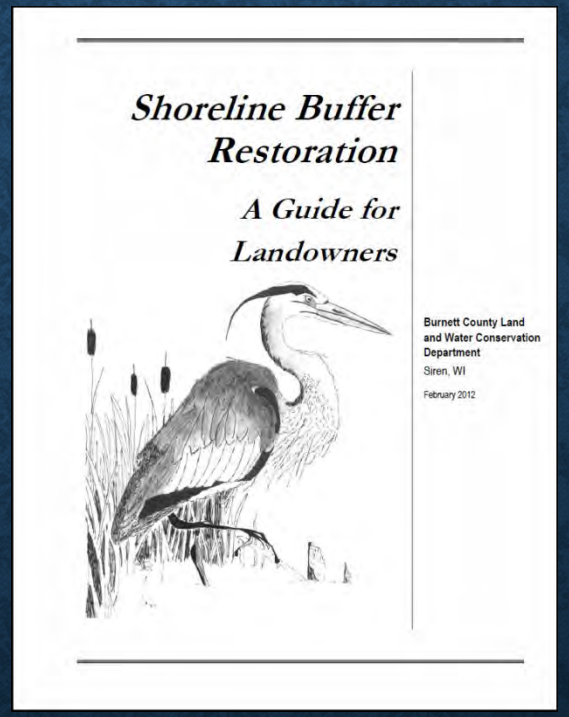
- Land Use Plan (1997)
- Shoreland Restoration Subcommittee (1998/99)
- Voluntary Assistance (1998/99)
- Lakes Protection Grant (1999)
- Tax Credit Incentive Passed (2000)

Natural Shorelines Program

- Technical Assistance
- Financial Assistance
- Shoreline Incentives
- Education and Outreach

RESOURCES


Self-Evaluation Checklist for Waterfront Runoff
Runoff from waterfront property impacts lake water quality and may cause unsightly erosion problems for you.
Use this checklist to assess the need for water quality improvements on your property.
Analyze water flow patterns and sources of runoff on your lot
Consider potential solutions to runoff problems
Find out where to go for additional assistance
A project of
Balsam Lake Protection and Rehabilitation District
Burnett County Land and Water Conservation Department
Deer Lake Conservancy
Harmony Environmental
Wisconsin Department of Natural Resources


Shoreline Buffer Restoration
A Guide for Landowners
Burnett County Land and Water Conservation Department
Siren, WI
February 2012


Controlling Runoff and Erosion from Your Waterfront Property
A Guide for Landowners
June 2009
A project of
Burnett County Land and Water Conservation Department
Balsam Lake Protection and Rehabilitation District
Harmony Environmental
Wisconsin Department of Natural Resources

SIP SURVEY Q&AS

- **How did you hear about Burnett County shoreline incentives? News articles, word of mouth, neighbors, lake presentations.**

- **Do you feel that establishing or maintaining a buffer zone on your property improves the water quality of the water body? …. enhances the beauty of the property?…. increases its economic value? Yes, Yes, and Yes (but not as many)**

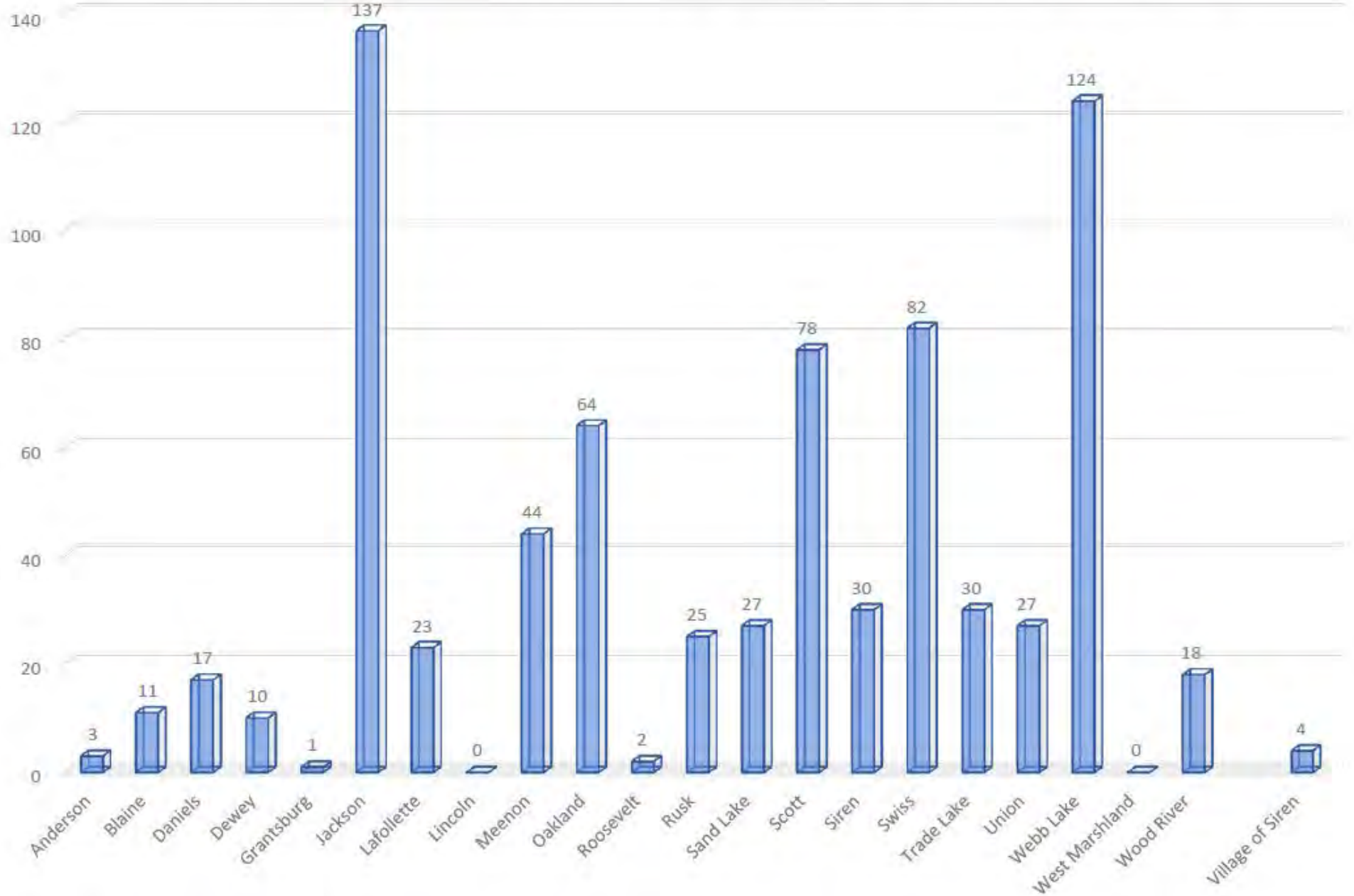
- **Please choose the 3 most important reasons why you have (or would) establish a shoreline buffer zone on your property. Water Quality. Habitat, Prevent Erosion, Environmental Commitment, Aesthetics**

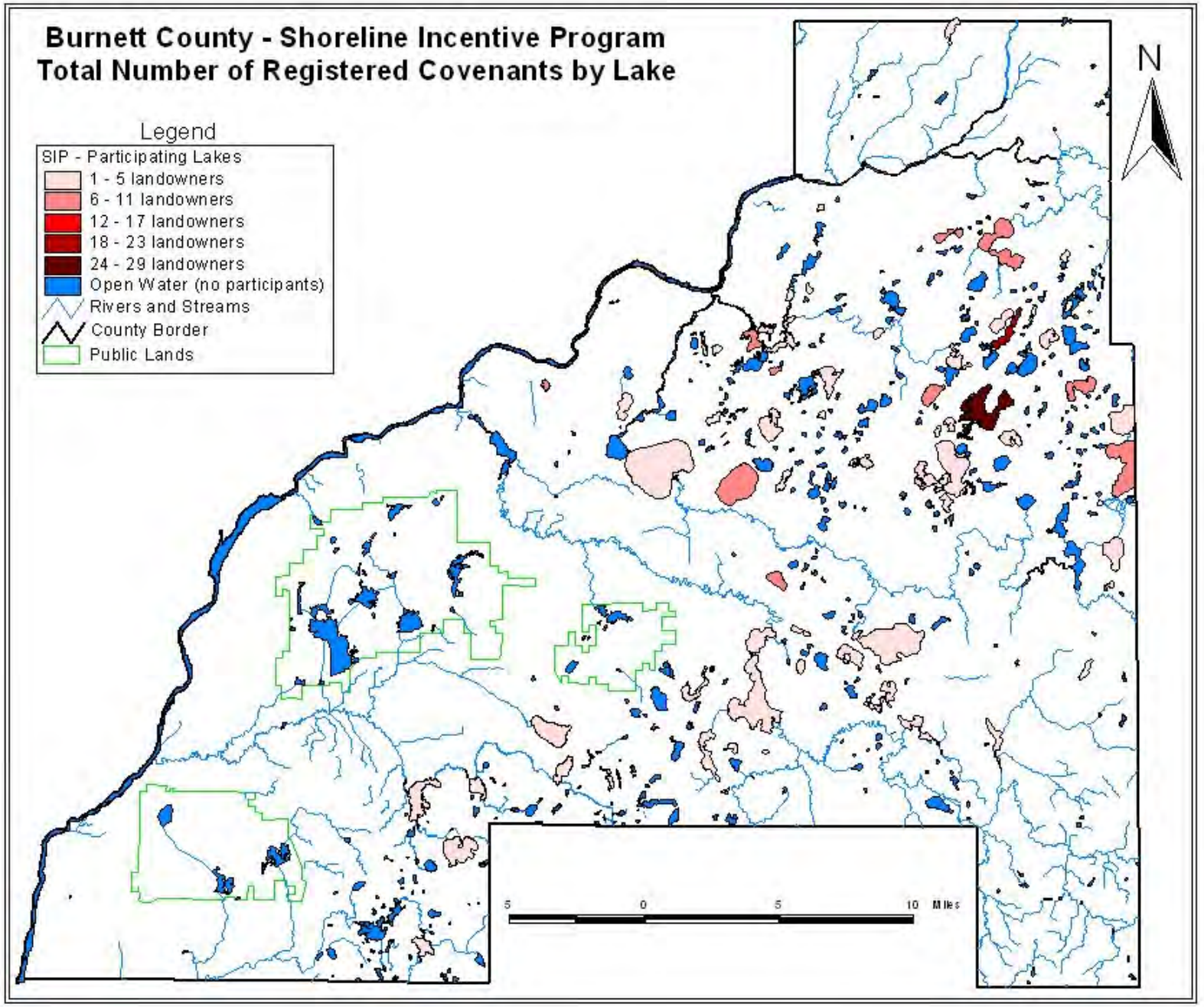
SURVEY CONT…

- **Which of the following incentives have been (or would be) the most important in motivating you to participate in the Burnett County Natural Shoreline Program? Tax Credit, then C/S and Cash, Trinkets**

- **If you have not (or are not) going to participate in this program, why not? Buffer Depth, Cost Too much, not enough Tax Credit.**

SHORELINE INCENTIVE COVENANTS BY MUNICIPALITY as of 1/1/2019




Burnett County - Shoreline Incentive Program
Total Number of Registered Covenants by Lake
Legend
SIP - Participating Lakes
1 - 5 landowners
6 - 11 landowners
12 - 17 landowners
18 - 23 landowners
24 - 29 landowners
Open Water (no participants)
Rivers and Streams
County Border
Public Lands
N
5
0
5
10 Miles

ON-THE-GROUND RESULTS

- Shoreline Length Preserved = 50.52 miles
- 757 Parcels!
- Shoreline Area Restored= 2.97 acres

NUTRIENT REDUCTION

- The average shoreline buffer provides 0.4 pounds reduction in Phosphorous annually
- The buffer on the properties in the program keep 1231 pounds of phosphorous out of the lakes annually.
- We've done approx. 15 infiltration systems and approx. 25 rain gardens since they were added to the program.
- Rock Trenches reduce P by 4 to 10 pounds each depending on runoff area
- Rain Gardens provide 2 to 5 pounds of P reduction each depending on size.

FINANCES

- DNR Grants-$1.5 million since inception. Pays for all program expenses ($45,000 to $65,000/year)except for the tax rebate.
- County share- tax rebate- average over life of the program, approx. 16,500/year. Currently approx. $37,000/year.


QUESTIONS?