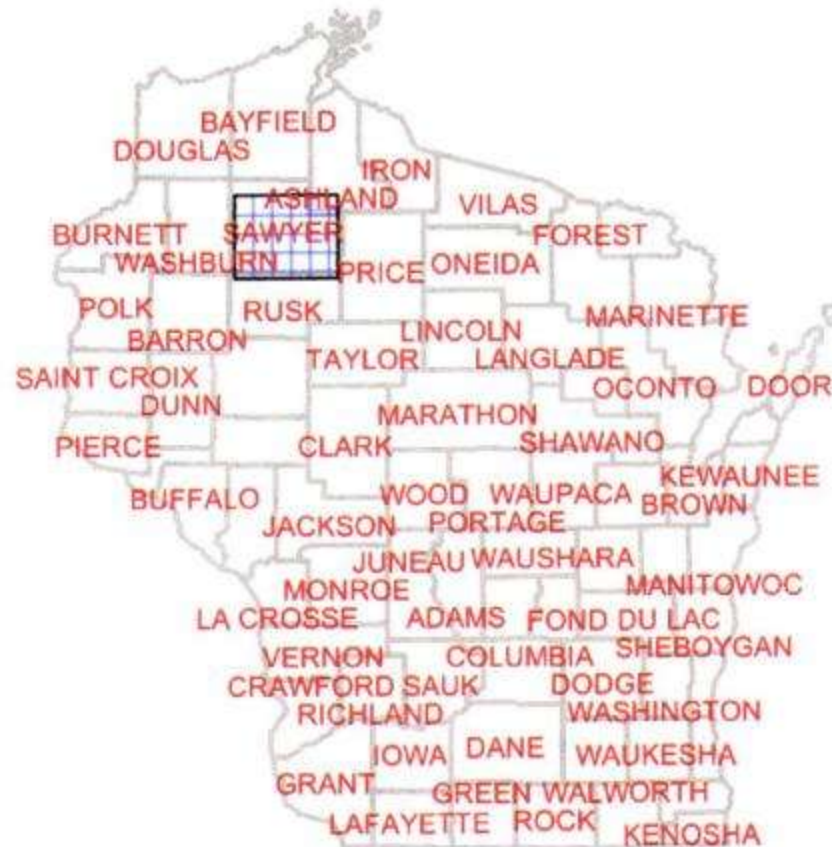


The COLA Experience

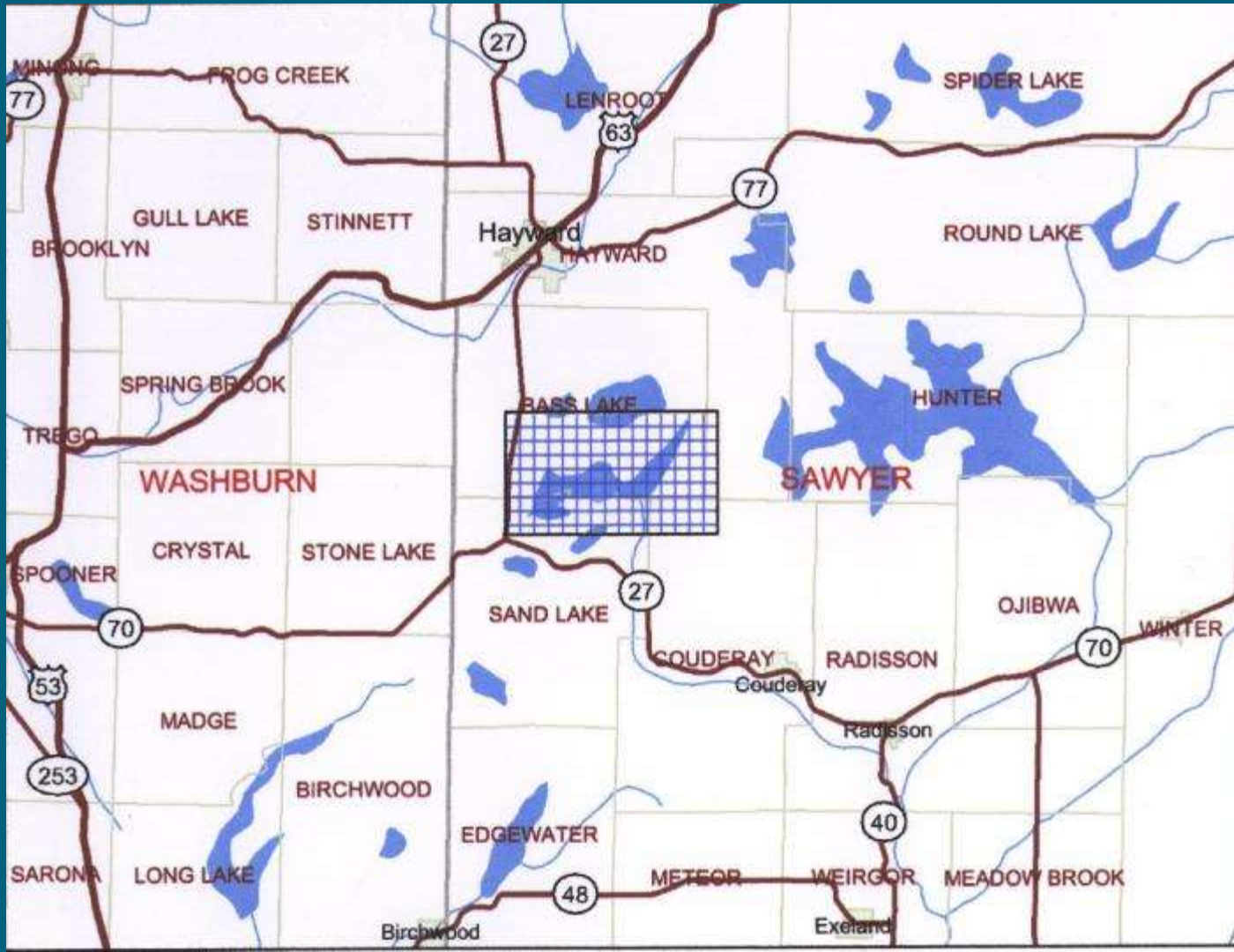
- A Partnership to Save the Lake



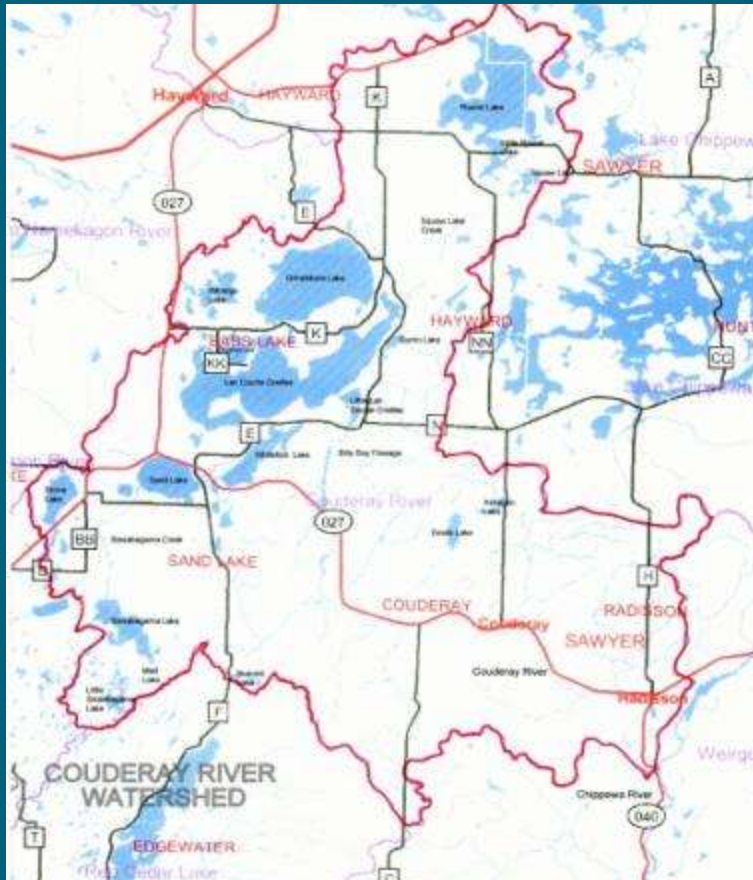
State Map



County map



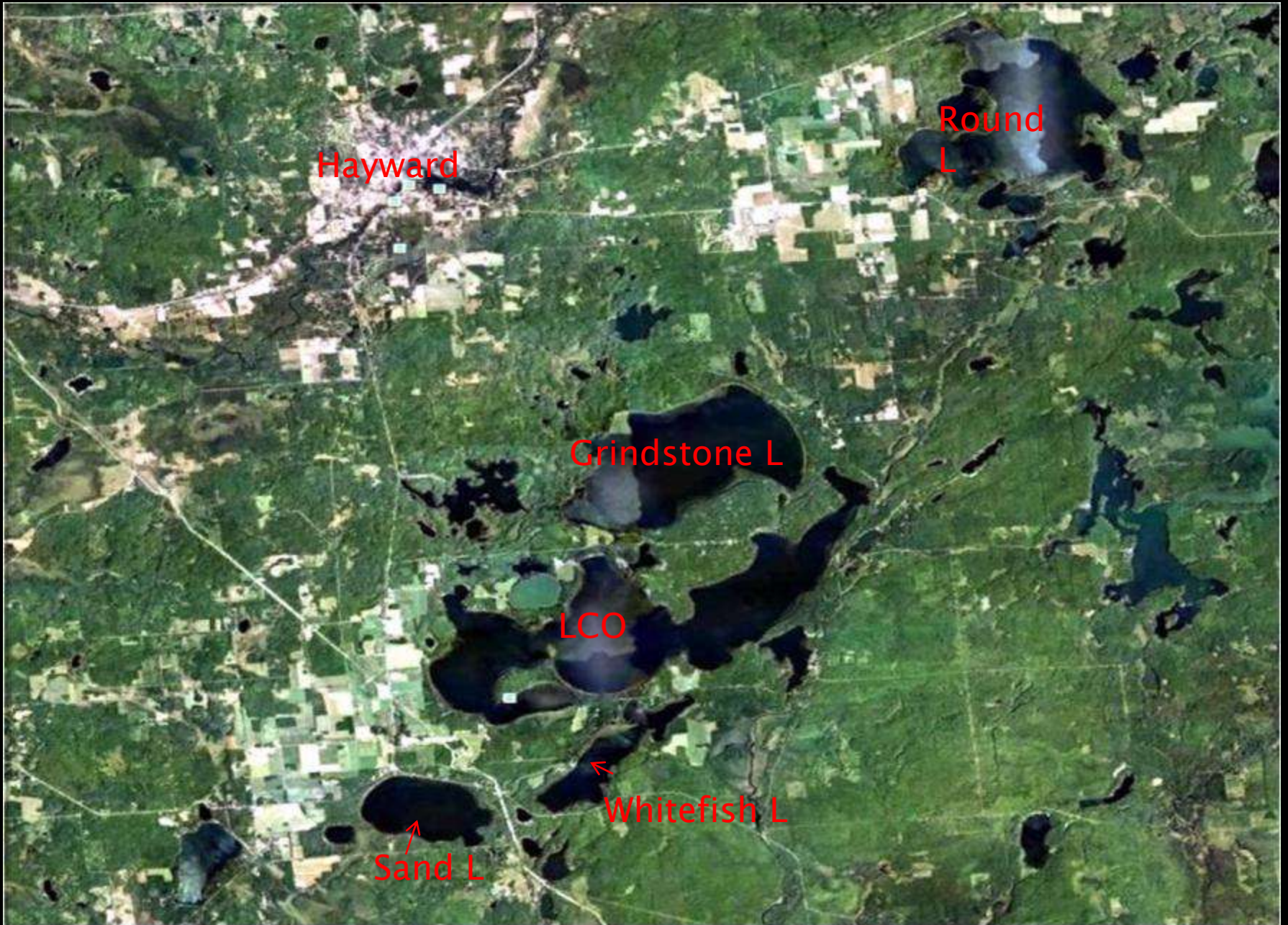
Lake map



Lac Courte Oreilles Watershed
68,990 ac



Lac Courte Oreilles



Hayward

Round
L

Grindstone L

LCO

Whitefish L

Sand L

Lac Courte Oreilles – A very sensitive lake

- 5,039 acre --8th largest natural drainage lake in Wisconsin,
- Classified: oligotrophic, Outstanding Resource Water (ORW)
- Max. depth—95 ft , Avg. depth -- 35 ft , stratified two-story cold/cool/warm water fishery
- 68,990 acre watershed--84% forest /water/wetland 4% urban, 4% animal/crop agriculture
- Current condition: TP -10 ppb, Chl-a --2 ppb, Secchi--14 feet

WATER QUALITY # 1

- THE 8TH LARGEST LAKE IN THE STATE IS ON THE VERGE OF IRREVERSIBLE DECLINE OF ITS WATER QUALITY
- WHY?
- EXCESSIVE IN-FLOW OF NUTRIENTS – PRIMARILY PHOSPHORUS

An aerial photograph showing a large, dark lake (Lac Courte Oreilles) in the center. The lake is surrounded by dense green forest. To the right of the lake, there is a large, flat, green area labeled 'East Marsh'. In the background, another body of water is visible. The date 'Aug 26, 2008' is printed in the bottom left corner.

Lac Courte Oreilles

East Marsh

Aug 26, 2008











History of COLA

- In the early 1960's Lac Courte Oreilles Protective Association formed
- Concerned about water quality, clarity, water levels, native plants and animals
- Funded first lake study of water quality – BARR study (1996) est. base line nutrient study
- In 1995 COLA established as the official lake organization

History of LCOFI

- The Lac Courte Oreilles Foundation Inc. was founded in 2009 as a 501 (c) (3) non-profit
- Primary purpose is the protection, preservation, and restoration of the water quality of LCO
- COFI raises and uses funds to stop pollution, restore habitat, research and study water quality issues, combat AIS, and educate people about proper lake stewardship

LCO Tribe

- Tribe monitors water quality on all lakes within the reservation
- COLA partners with the Tribe Conservation Dept
- Water quality testing – Major input
- Tribe hired to complete grant funded studies on the lake
- On-going and detailed monitoring of Musky Bay water quality

Tribal boundary line



COLA Actions

- Staff and fund Clean Boats inspection program at DNR boat landing
- Monitor and treat AIS
- Purchase and maintain buoys
- Fish stocking
- Purchase and place fish cribs
- Water quality/clarity testing
- Lakes studies, grants, and plans
- Shoreland monitoring
- COLA officially supported previous litigation
- COLA e-blasts members on important issues affecting the lake
- Annual picnic for members and guests

COFI Activities

- Raise funds for COLA activities
- Promote the education and awareness of lake issues to restore water quality
- Fund outside studies of lake i.e.. Turtle study
- Fund AIS treatments – 40–50K per year

COFI Fund Raising Brochure

Discharge pipe going into Lac Courte Oreilles just east of Point of View from Jovian's small industry park.

Showing the same place using Dechow's's upstream test. Murky water. But not as "Only Lac Protection".

Knapp's Boat Landing at the corner of K and before Angler Action Room. Water samples taken the next day indicated phosphorus concentrations 10-12 times over their natural level.

Lac Courte Oreilles is under attack. Here's how we're fighting back and why we need every lakeshore owner's help.

Imagine your property values dropping 24%.

It's no longer just a matter of protecting our use and enjoyment of the lake: our property values are now threatened! Studies have shown that for every 1-meter decrease in water clarity, there is a corresponding *drop in twenty-four percent decrease in property values*. A sobering fact is that our lake property values are directly tied to what we do, as lake property owners, right now.

As stewards of our land, we have to act on our own to protect and ensure a beautiful Lac Courte Oreilles for future generations.

The Lac Courte Oreilles Foundation, Inc. was created to provide funding to protect, preserve, and restore our water quality. Because of critical water quality issues facing Lac Courte Oreilles, it is apparent that despite the Courte Oreilles Lake Association's best attempts, COLA cannot adequately address those issues from its membership dues alone.

This corporation was created exclusively for charitable and education purposes within the definition of the IRS Code for 501(C)(3). Your charitable contributions are tax deductible.

Please write a check today!

Whatever contribution you give — \$500, \$1,000 or \$1,500 — will help assure we have the needed funds to protect Lac Courte Oreilles from the threats that now confront us. Make your tax-deductible contribution our today and send it to:

The Lac Courte Oreilles Foundation, Inc.
6756 N. Victory Heights Circle, Stone Lake, WI 54876-5054

For more information visit the Foundation website: www.cofi.org
Courte Oreilles Lake Association website: www.cola-wi.org

Before.



After?



COFI Fund Raising Brochure

Lac Courte Oreilles. Love it or lose it.

For the last several years, our lake has been under attack from an invasive species, Curly Leaf Pondweed, which if allowed to spread will not only curtail your enjoyment of the lake, it will dramatically lower your property values as well. The water quality we cherish in Lac Courte Oreilles will be a thing of the past unless you and all of us lake property owners help fight back quickly and aggressively. CLP was first discovered in Musky Bay in 2007. In 2009, it was found in Barberstown Bay and Struckey Bay. Although treatment sponsored by COLA has been effective in the areas treated, CLP continues to spread quickly, threatening every shoreline on Lac Courte Oreilles. As CLP spreads, the cost of treating it has inflated to over \$60,000 for 2011.

What we've done with your generous contributions from last year:

- Impaired Waters (EPA efforts)
- TMPL (Total Maximum Phosphorous Levels) Monitoring
- Lake Management (aquatic plant management study)
- Curly Leaf Pondweed Fight
- Boat Ramp Monitoring and Buoy placement
- Turtle Study



2010 Spread of Curly Leaf Pondweed without aggressive and effective treatment.

What we need to fight for in 2011:

- Impaired Waters fight and implementation of 303d listing when approved.
- TMPL Monitoring (for years to come)
- Curly Leaf Pondweed Treatments \$60,000 a year for at least the next five years.
- Boat Ramp Monitoring
- Lake Management Plan
- Economic Impact Study of our lake for the County



LEFT: 6+ acres of CLP were discovered in Musky Bay, Aug, 2007. Survey in summer of 2010 revealed no new bays over 90 acres of CLP in Musky Bay alone.

The EPA is still poised as of this writing to place Musky Bay on the National 303d impaired waters list. It is not enough for us to wait for this important designation. We have two important projects for Lac Courte Oreilles that require our resources and money:

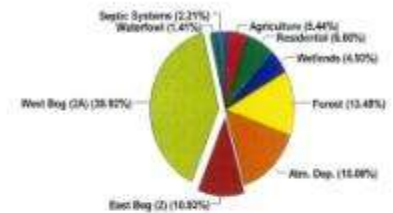
The Aquatic Plant Survey is under way and important for future projects and grants when completed. The Lake Management Grant is underway and is equally important.

The TMPL (Total Maximum Phosphorous Levels) initiative that is going through the legislation right now currently excludes Cranberry Ag Operations from compliance. We are working to rectify this glaring omission.

The graph on the right indicates how much phosphorus levels come from which sources. Unfortunately, phosphorus stimulates the growth of CLP and other weeds and makes a perfect growing environment.

Zawistowski's east and west cranberry bogs contribute somewhere between 40 percent and slightly more than 50 percent of total phosphorus (TP) entering Musky Bay. Source: State v Zawistowski, No. 04-CV-75, at 12-13 (W.V. Ct. Supr. County, W.V. April 5 2006). Atmospheric deposition, forest and wetlands, the other major sources of phosphorus in Musky Bay, have existed for thousands of years without causing water deterioration in Musky Bay.

Source of Phosphorous in Musky Bay



Without controlling phosphorus levels discharging into Lac Courte Oreilles the battle to control CLP is much more difficult and questionable. The financial costs associated with treatment and legislative efforts to protect water quality are substantial.

We are making every effort to submit and acquire grant money when and where available. But right now the burden is on us the Lake Property Owners to raise the funds to fight for our own lake.

Lac Courte Oreilles property owners can not count on anyone in our government, the DNR, or others to help us protect our lake. It's up to us!

It's not just your loss of enjoyment and use of the lake that is at stake, it's all of our property values too.

You can save this lake.

CHALLENGES FOR LCO

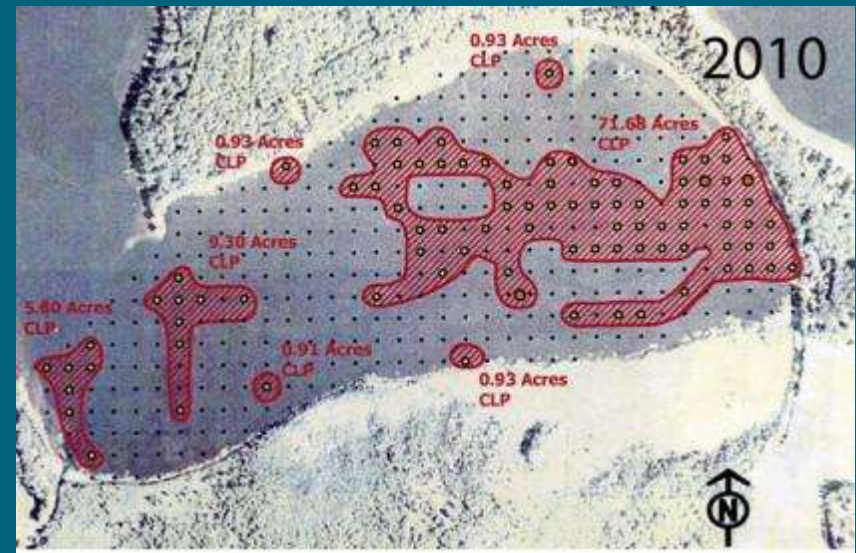
- THE 8TH LARGEST LAKE IN THE STATE IS ON THE VERGE OF IRREVERSIBLE DECLINE OF ITS WATER QUALITY
- WHY?
- EXCESSIVE IN-FLOW OF NUTRIENTS – PRIMARILY PHOSPHORUS
- THE PRIMARY SOURCE? CRANBERRY BOG DISCHARGES
- Effect of phosphorus on AIS in LCO



AIS in LCO

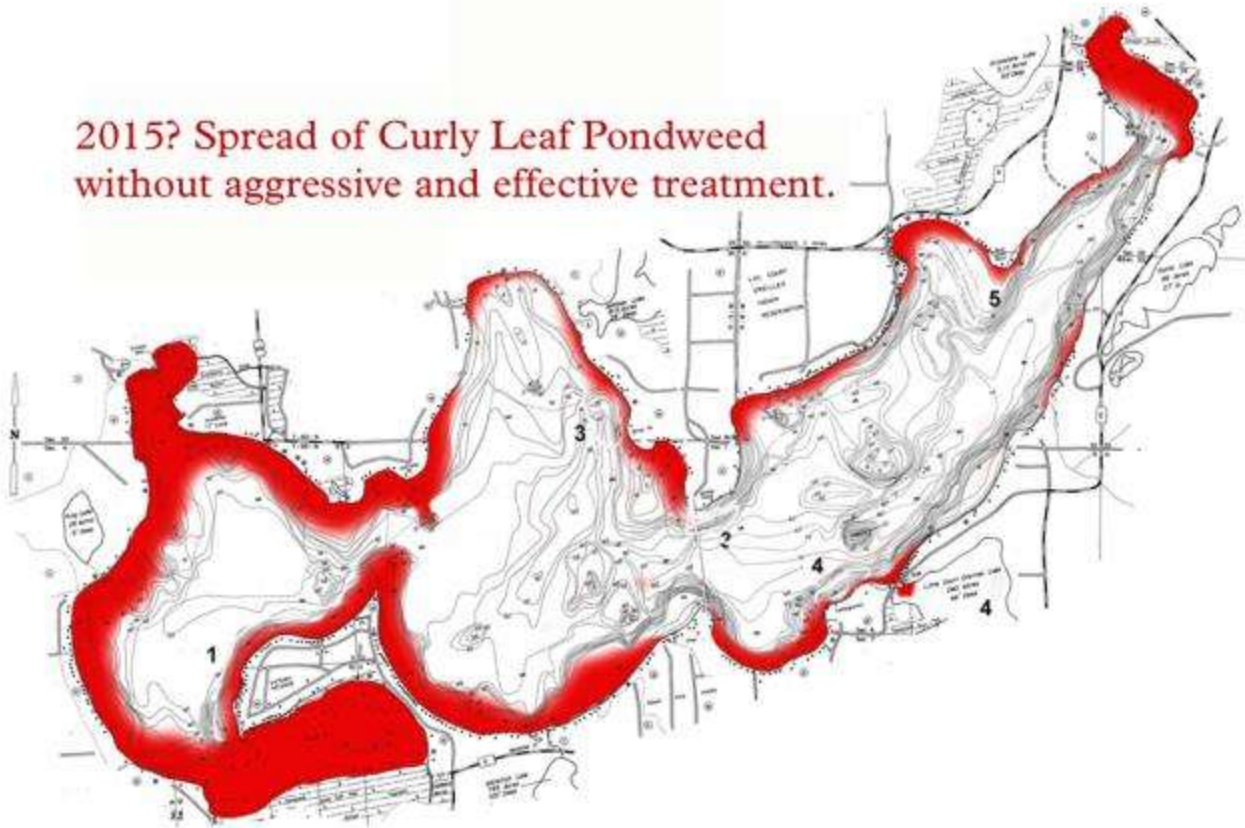
2009 CLP

2010 CLP

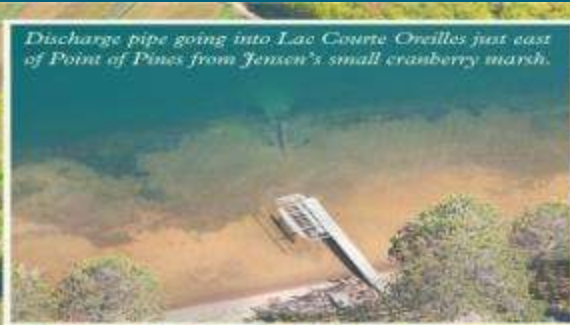


AIS in LCO untreated

2015? Spread of Curly Leaf Pondweed
without aggressive and effective treatment.



POINTS OF INFLOW



Discharge pipe going into Lac Courte Oreilles just east of Point of Pines from Jensen's small cranberry marsh.



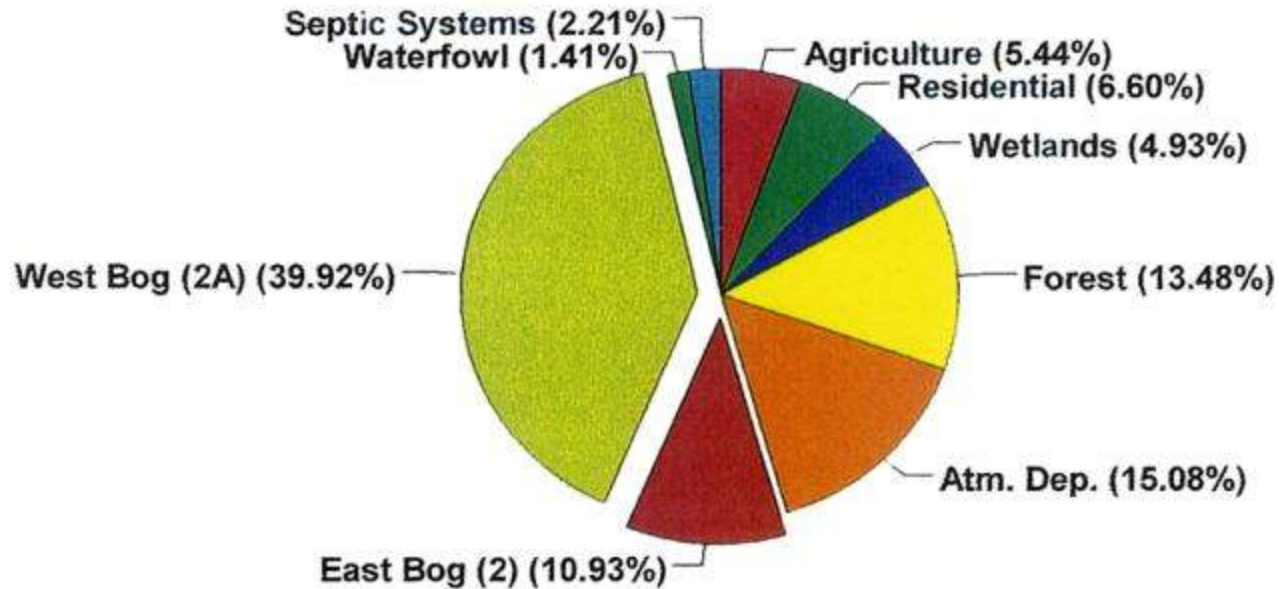
Showing the plume exiting Zawadzowski's operation into Musky Bay. Red tint is Curly Leaf Pondweed.

Jonjak's Farm dumping at the corner of K just before Anglers Haven Resort. Water samples taken the next day indicated phosphorous concentrations 10-12 times more than natural levels.

Lac Courte Oreilles is under attack. Here's how we're fighting back and why we need every lakeshore owner's help.

SOURCES OF PHOSPHORUS

Source of Phosphorous in Musky Bay



78% OF THE CONTROLLABLE PHOPHORUS IN-FLOW INTO MUSKY BAY IS FROM CRANBERRY BOGS















May 19, 2010 – P levels 10–12 times normal



Lac Courte Oreilles



Cranberry
Operation
3 Fields



Field

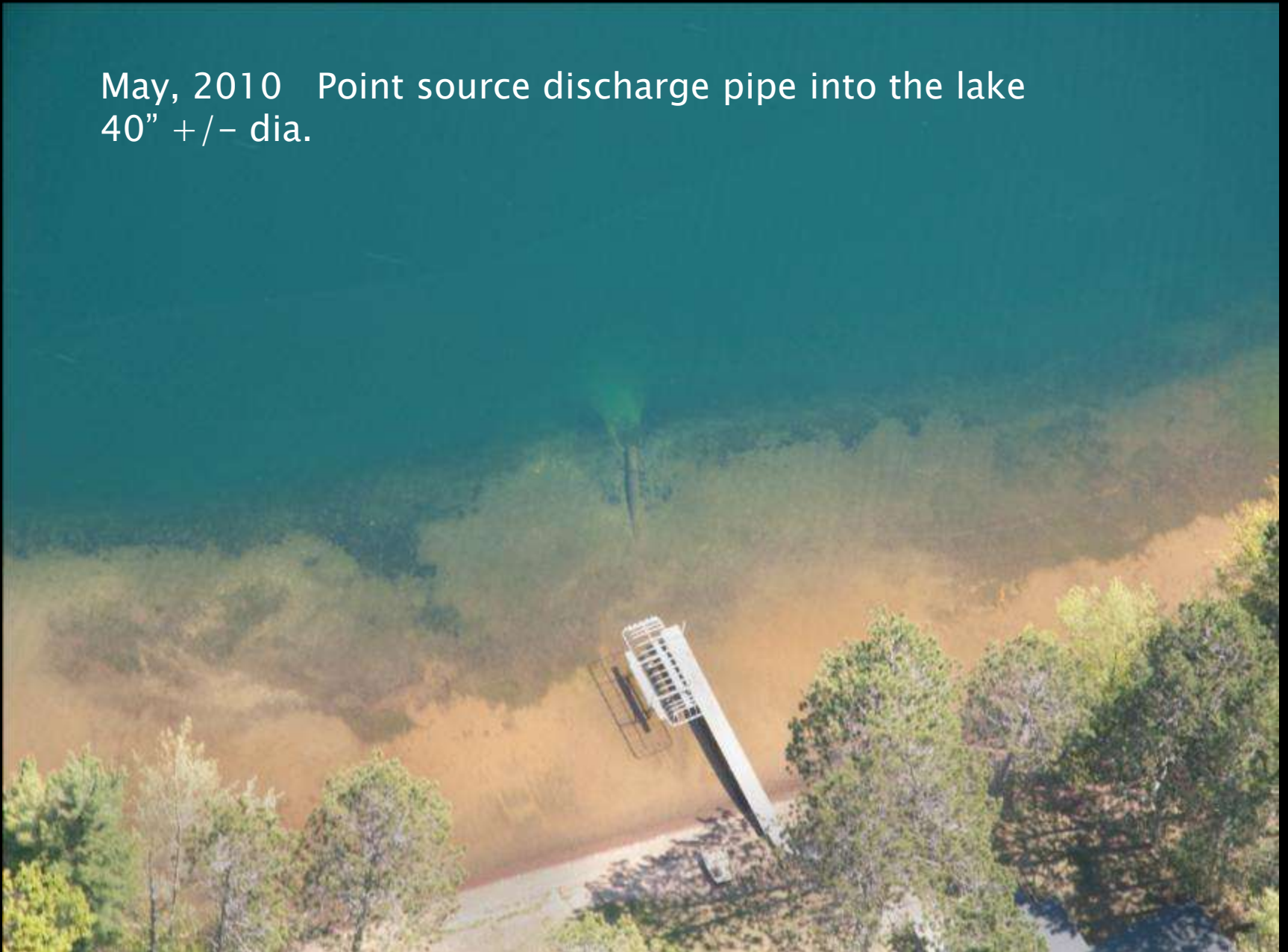
E

E

Whitefish Lake



May, 2010 Point source discharge pipe into the lake
40" +/- dia.







Major Concerns for LCO

- Slow degradation of water quality
- Explosive growth of Curly Leaf Pondweed (AIS)
- Fueled by excessive phosphorus inflow
- Changes in land use with LCO watershed
- Shoreland development and buffers

LCO and Cranberry bogs

- Cranberry bog discharges have the single greatest detrimental impact upon the water quality of Musky Bay and impacts LCO
- 15+ years of water testing, water studies, and legal action have proven this
- Bog discharges account for 78% of the controllable P inflow into Musky Bay
- Lack of meaningful regulation at local, regional, state, and federal levels

Cranberry Fun Facts

- Cranberry farms are exempt from DNR regulations related to water use – 1867 cranberry law – NO regulations from DNR
- Cranberry farms do not report pesticide use – only ag crop in State that does not
 - (Lake Tides, Vol. 34, No.2 spring 2009)
- Cran Assoc advocates BMP #447 Tail water recovery system– 250 farms – only 12 use this BMP (2009). Their marketing leads you to believe all do
- NOT sustainable farming – environmental impacts to surface waters

Cranberry Fun Facts pg 2

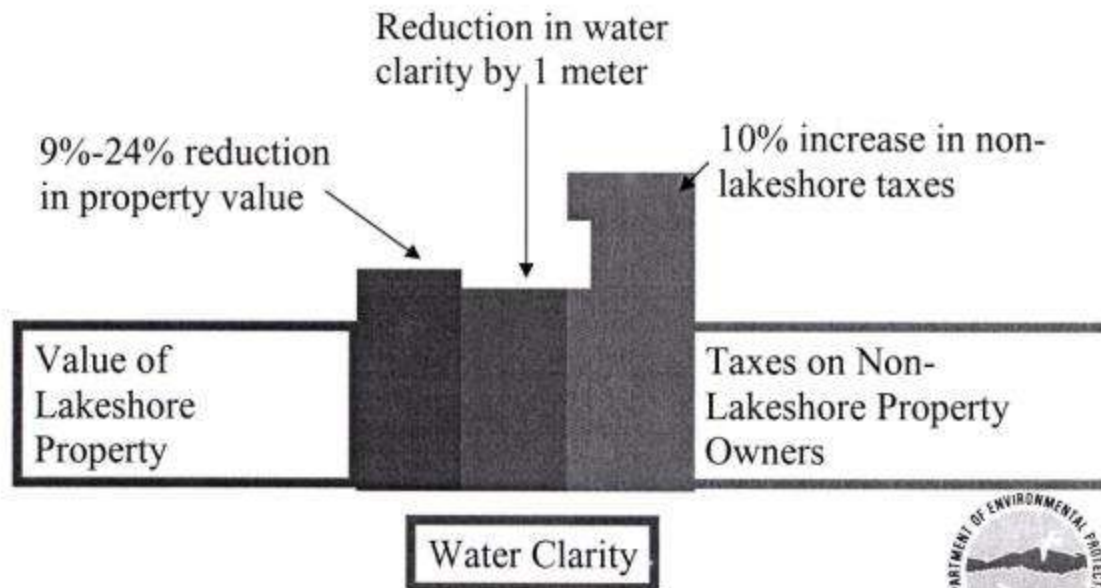
- Cran Assoc has its own in-house liaison to NRCS
 - Why does no other ag entity have a liaison?
 - Great for marketing ?
 - OR do they have special conservation needs?

If we can't eliminate the controllable phosphorus inputs into the lake -How will this affect us?

- Property Values
- Water Quality
- Watershed degradation
- Regional economics

The Lake Economy

Lakeshore Property Value Study 1995



WATER QUALITY – PROPERTY VALUES

- AS WATER QUALITY DEGRADES PROPERTY VALUES DECLINE
- AS LAKEFRONT PROPERTY VALUES DECLINE NON-LAKEFRONT TAXES GO UP

Competition for Travel and Tourism \$

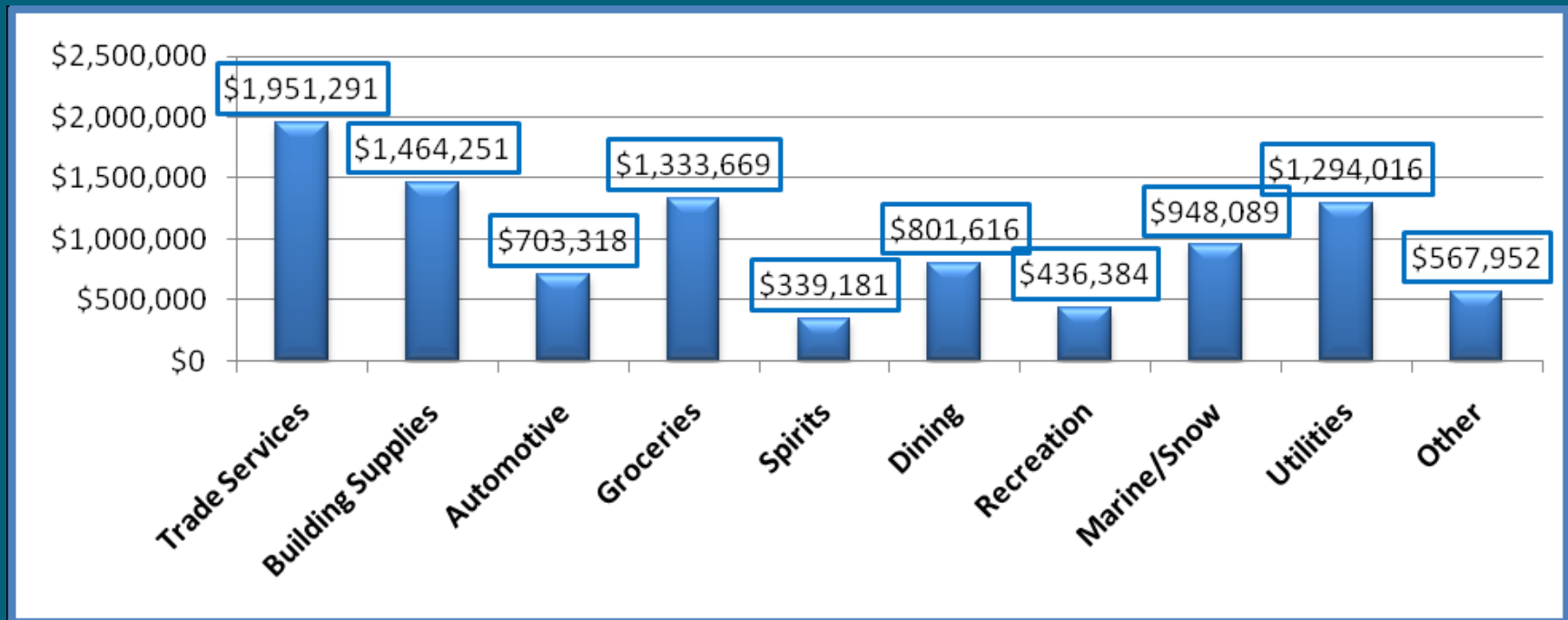
- Travel and tourism relies upon discretionary dollars that can be spent in other competing areas for better (1) quality products and (2) quality of experience.
 - Water Quality is Job #1.
- ‘Northwood Charm’ product must compete against other states & Canada.
 - Survey Respondents: 28% WI, 49% MN, 11% IL, OH, FL, KY, AZ, KS, GA, TX, HI, Mexico

Economic Survey (2009)

219 Respondents (out of 650)

- Northwood Charm has economic value
 - Real estate value linked to clarity
- ~84,000 Visitor Days
- ~\$11 to \$15 million per year to local economy
 - Average Family Spends ~\$16,000/year

COLA Resident Expenditures: Significant (and Shouldn't Be Taken- for-Granted!)



Dollars largely generated from out-of-region sources

COLA Real-Estate & Taxes (2009)

- \$331 million tabulated Fair Market Value
 - ~ 85% seasonal, 15% year-round residents
- \$2.9 million local taxes
- ~ \$ 2 million cranberry – FMV
- ~ \$ 15,000 + cranberry – taxes

- Watershed estimates – ~ 1.18 Billion dollars FMV
 - ~10.4 million local taxes

Survey Results

- 93% Pursue Water-Based Recreation
 - Boat, swim, fish strongly related to water quality
- 77% Perceived Excellent Water Quality at purchase
- 59% Perceive Water Quality Worse Today

Long-Term Considerations:

- Community Stability: 57% Long-term Family Ownership, 11% Plan Retirement
- Water quality strongly influences long-term ownership intent, based on loss of clarity
 - 20% would not stay if lost avg 2 – 3 feet
 - 49% would not stay if lost avg 4 – 6 feet
 - 61% would not stay if lost avg 7 –10 feet

LCO Lake Management Plan

❑ To achieve the water goals, COLA must address the following five management areas over the coming years and decades:

1. Cranberry Discharge
2. Changing land use in the LCO Watershed
3. LCO Shore Land Development and buffer areas
4. Invasive Species Management
5. Lake and Stream Monitoring
6. Establish a watershed coalition of all lake Assoc.

The Solution?

- Best Management Practice #447
- Tail Water Recovery Systems

YOUR LAKE

- Do you have degraded water quality/clarity on your Lake?
- Is there excessive growth of native and invasive plants?
- Look around – is there a cranberry bog draining into your lake? Is there a bog upstream in your watershed?
- Grindstone Lake examples (1700 ppb measured)