



Manitowoc County Lakes Association

MCLA

***Protecting and enhancing
the quality of area lakes
and watersheds for the
benefit of all***



Manitowoc Lake Profile

- **16 Lakes with public access**
- **~20 Lakes with no public access**
- **Only 5 lakes with substantial population**
- **Some Lakes have Zero Inhabitants**
- **Water runs to Lake Michigan**
- **Watersheds average ~400 – 800 acres**
- **Clay Soils with Generous Slope**

Profile Year 2011

- **Only 6 Lakes Under Citizen Lake Monitoring Network**
 - **Consistent Water Quality Test Data**
 - **DNR Provides Equipment and Test Funding**
- **Very Limited Testing / Documentation for Majority of Lakes**
- **No Comprehensive County Wide View**

Manitowoc Lake Issues

- **Water Quality Not Improving**
- **Improvement Efforts Disjointed**
 - **Soil and Water Conservation Dept**
 - **NRCS Natural Resources Conservation Service**
 - **FSA Farm Services Administration**
- **Lack of Action**
- **Lack of Measures**
- **Land Value Degrading**
- **Subjective Views of Water Quality**

Manitowoc Plan

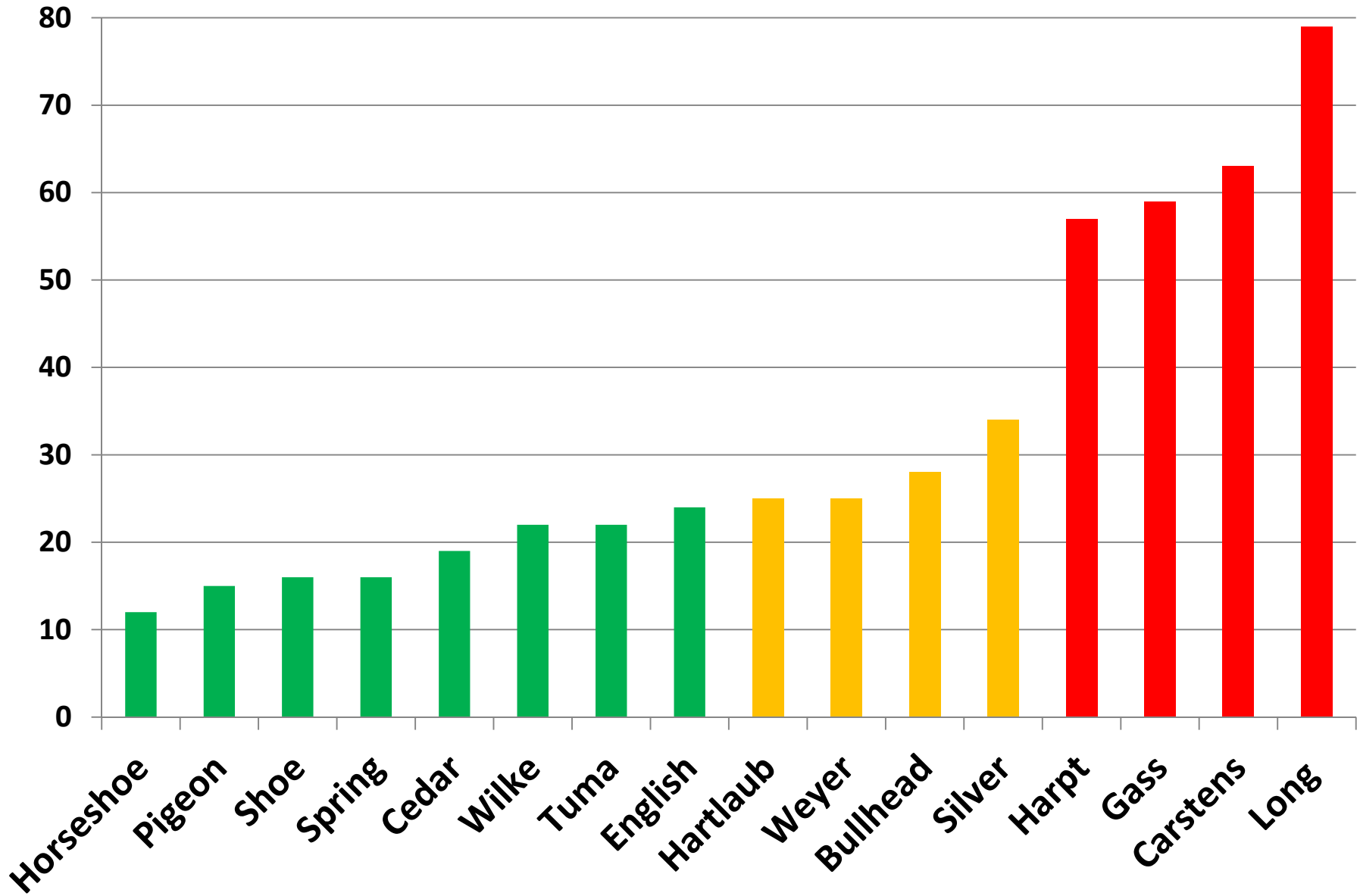
- **Use Water Quality Data to Drive Change**
- **Test All Lakes with Public Access**
 - Include some lakes without public access
- **Benchmark Lakes**
 - View Changes – Compare Annually
- **Eliminate Subjective Views**
- **Compare Lake Water Quality Between Lakes**

Manitowoc Plan

- **Use Data to Drive Action**
 - **Publicize Lake Water Conditions**
 - **Drive Information to Soil and Water + Ag Community**
 - **Enlighten Elected Officials**
- **Provide Feedback to Lake Testers**
- **Ask Questions Based On Lake Comparisons**
- **Use the Data to Drive Action**
- **Build a Story....Keep It Simple**

3 Year Summer Average

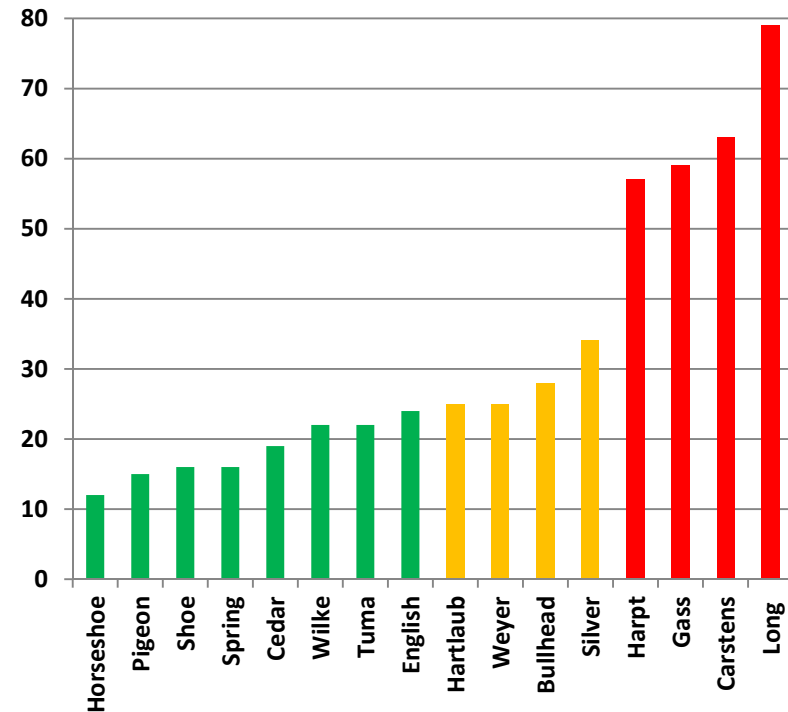
Phosphorus



Questions

- Why Differences
- Watershed Size
- Watershed Activity
- Population Around Lake
- Impairment....DNR
- Land Value
- Is Water Degrading
- What Is Being Done?

3 Year Summer Average



Soil and Water

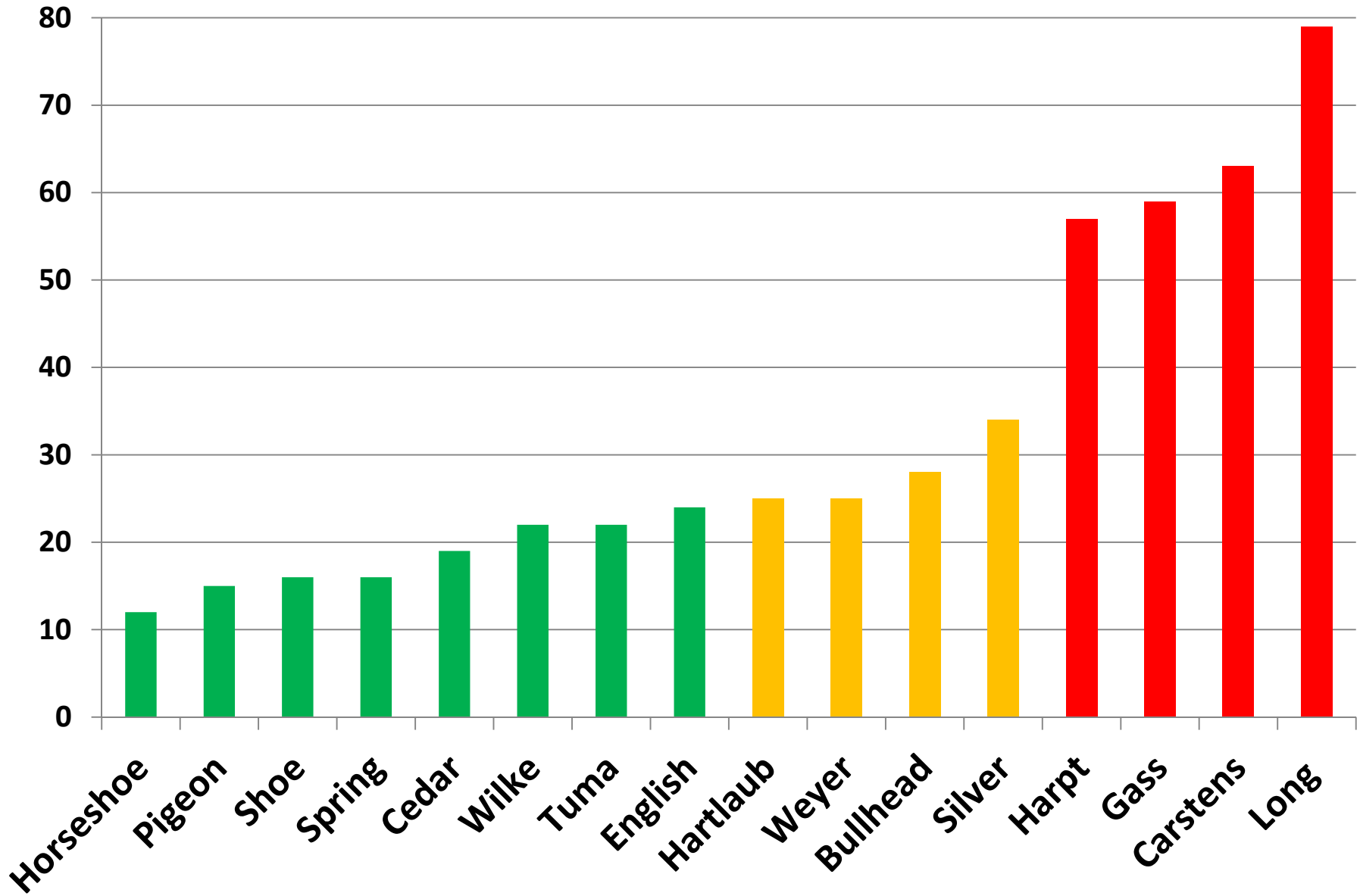
- **Better Focus Soil and Water Dept to Right Watersheds**
- **Use Charts to Drive Action ... Enforcement**
 - **Nutrient Management.....Phosphorus Levels**
 - **Manure Spreading – Incorporation**
 - **Tile Line Blow-outs**
 - **Cover Crops Major Storm Events**
- **Communicate to Farmers Show Chart**
- **Model Watershed to Demonstrate Results**

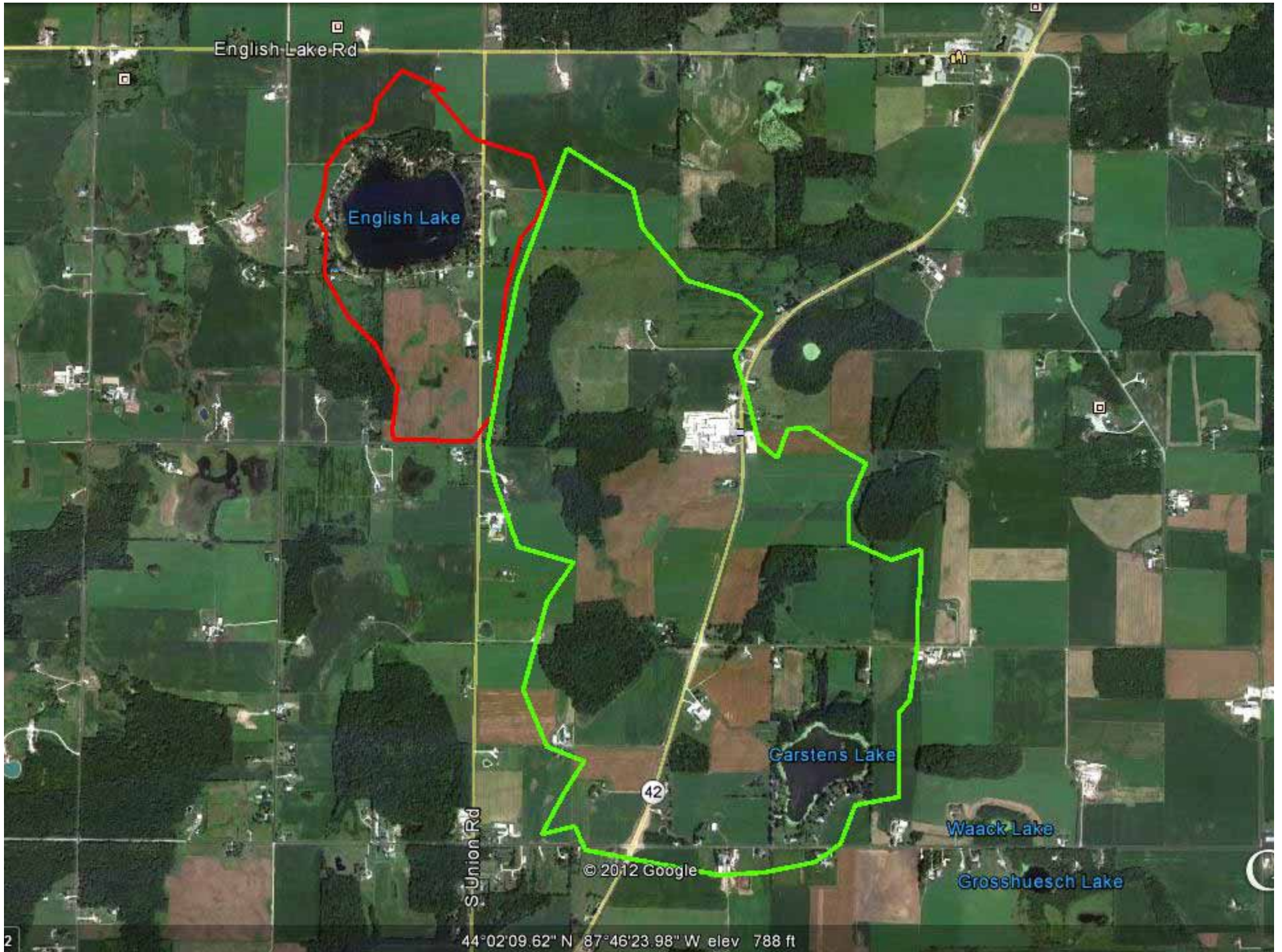
County Dairy Agent + Discovery Farms

- **8000 Cows added to Manitowoc Co Over Past 3 Years**
 - **Phosphorus Load 17 People = 1 Cow**
 - **136,000 Population Increase Past 3 Years**
 - **17% of Economic Activity and 12% Jobs**
- **Chart Shown at Forage Meetings**
- **Farming Image...Emerging Issue**
- **Not a “Flushing Problem”**

3 Year Summer Average

Phosphorus





English Lake Rd

English Lake

S Union Rd

42

© 2012 Google

Carstens Lake

Waack Lake

Grosshuesch Lake

44°02'09.62" N 87°46'23.98" W elev 788 ft

Federal Agencies

- **NRCS – Natural Resources Conservation Service**
 - Majority of Funding for Manure Storage + Handling
- **US Fish and Wildlife**
 - Limited Funds
- **Use Charts to Get Preferential Consideration**



Elected Officials

- **Land Value**
 - **25% Property Depreciation for “Dirty” Water**
- **Tax Base**
- **Impaired Waters Listing**
- **Zoning and CAFO Location [Concentrated Animal Feeding Operation]**

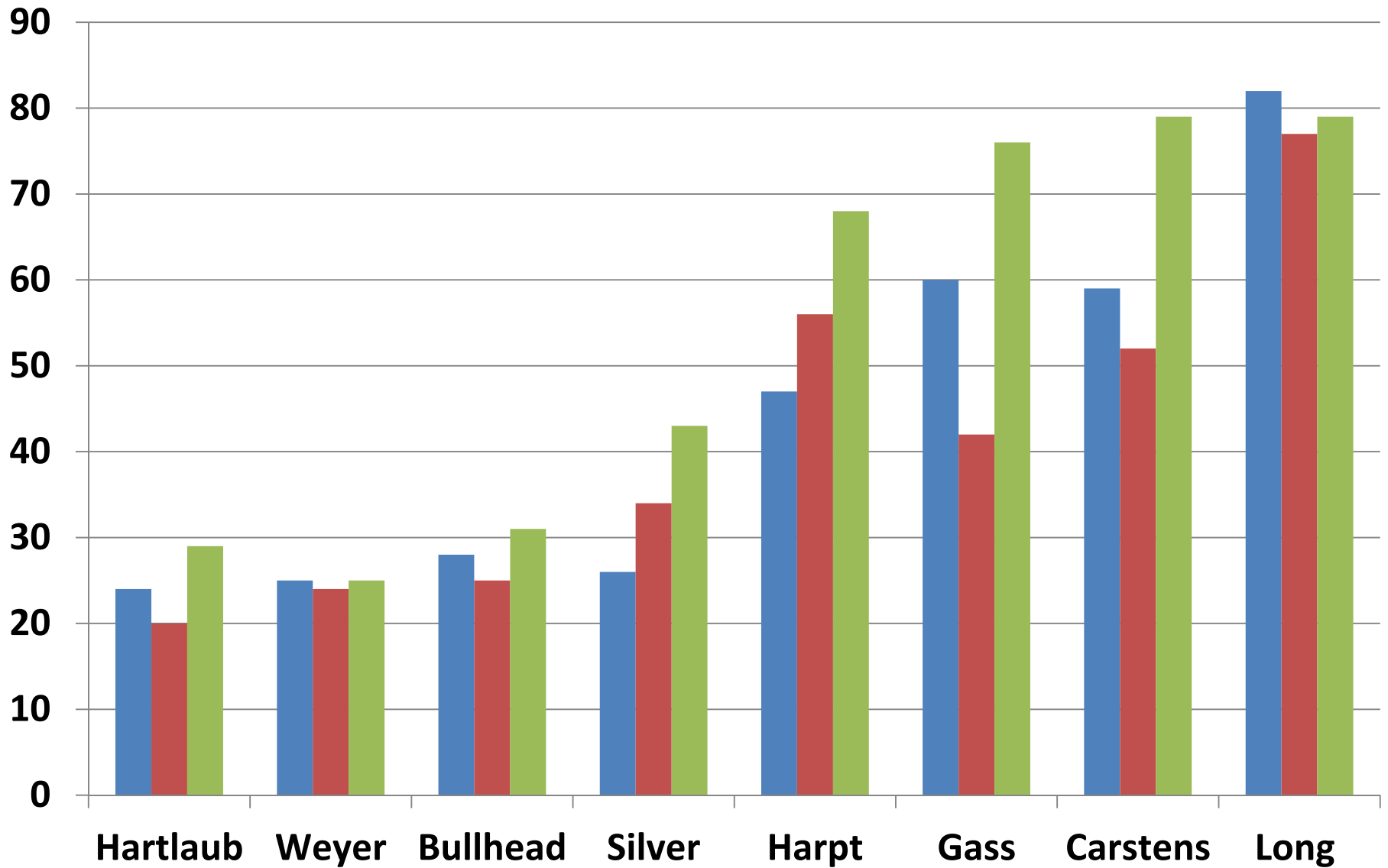
Lake Owners and General Public

- **Paint a Picture of Their Lakes Health**
- **Publicize Results**
- **General Population to Help Generate Awareness – and Meaningful Action**

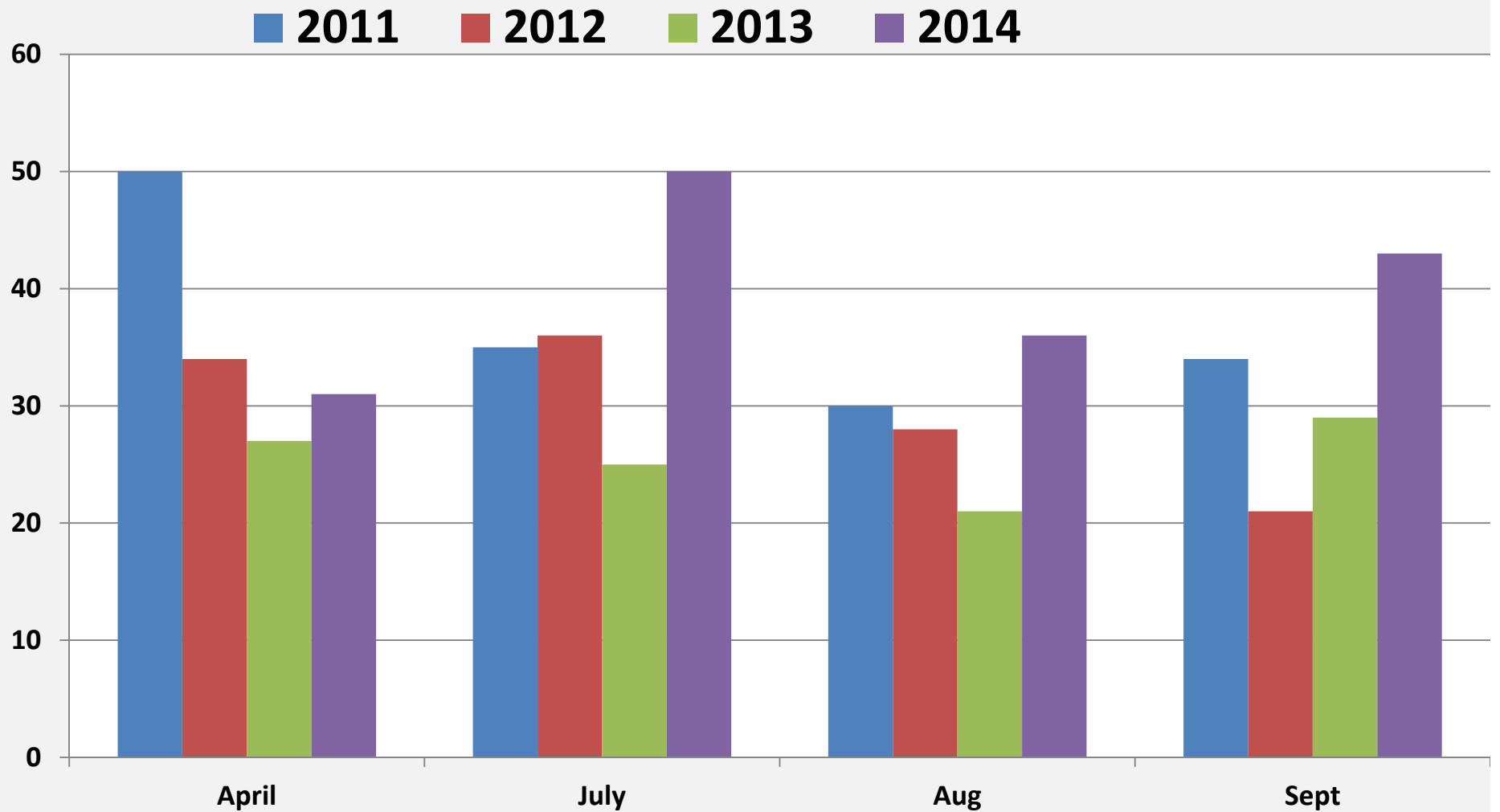
- **Feedback to Lake Testers**
 - **Recognition**

Summer Averages

■ 2012 ■ 2013 ■ 2014



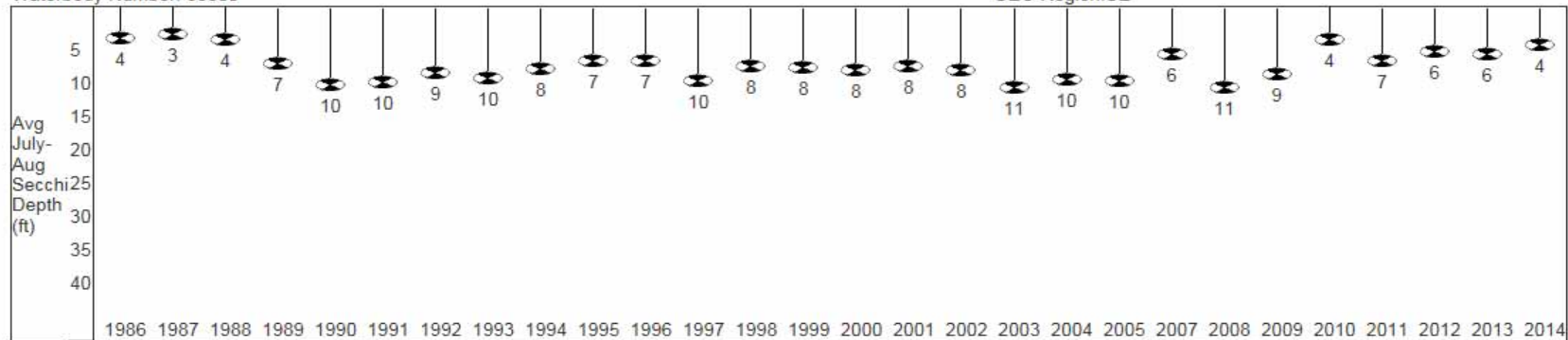
Bullhead Lake



Wisconsin Department of Natural Resources

Bullhead Lake
 Manitowoc County
 Waterbody Number: 68300

Lake Type: SEEPAGE
 DNR Region: NE
 GEO Region: SE



Past secchi averages in feet (July and August only).

Year	Secchi Mean	Secchi Min	Secchi Max	Secchi Count
1986	3.66	2.25	5.25	8
1987	3.09	1.5	4	8
1988	3.75	2.25	5	7
1989	7.42	4.25	11.5	9
1990	10.52	7	12.75	10
1991	10.22	9	11.25	9
1992	8.86	7.5	11	9
1993	9.69	5	14	9
1994	8.23	5.5	14.6	7
1995	7	5	10.5	8
1996	7.01	4.5	10.5	13
1997	10	8.5	12.25	7
1998	7.75	6.5	10.5	8
1999	7.94	5.5	9.5	9
2000	8.33	4.5	14.5	9
2001	7.89	4.5	10.5	9
2002	8.43	7	11	7
2003	11	10.5	11.5	9
2004	9.81	7	12	8
2005	9.93	6	12.5	7

Results

- **All Lakes Tested and Documented**
- **Benchmark Data - Measures**
- **Overall Public Awareness**
- **Data Actively Used**
- **Slowly Changing**

- **Only 18% of Wisconsin Lakes Tested**

**You Can Easily Implement
A Similar Program**

Requirements

- **Trained Volunteers**
- **Equipment**
- **Dollars for Chemical Analysis**
- **Someone to Summarize Results**

Volunteers

- **DNR has Lake Contacts**
- **Make Phone Calls – Set Up Meeting**
- **DNR Provides Training**
- **Decide What to Test.....CLMN protocol**
 - **Secchi** **Water Clarity**
 - **Phosphorus** **Nutrients**
 - **Chlorophyll.....** **Algae [Water Clarity]**

Equipment

- **Secchi** **Equipment no problem**
- **Phosphorus** **Equipment no problem**
- **Chlorophyll** **Difficult to get equipment**
 - **Cost to DNR ~ \$600 - \$700**
 - **Shared equipment between lakes**

Funding for Testing

- **Conservation Groups**
- **Wisconsin DNR**
- **Self Funding**

- **Cost is “Reasonable”**
 - **\$25 Phosphorus 4 Samples \$100**
 - **\$25 Chlorophyll 3 Samples \$ 75**

Someone to Summarize Data

- **Simple Graphs**
 - Use CLMN Data Also
- **Paint the Picture**
- **Ask the Questions**
 - “Why Are There Differences”
- **Provide Feedback to Water Testers**

Learnings

- **Keep the Story Simple**
 - Newspaper
 - Conservation Meetings
 - Meet with Elected Officials / NRCS / Soil + Water
- **Provide Graphs....To Everyone**
- **Use State Lab**
- **Use Secchi Data Instead of Chlorophyll**
- **Have Fun**

YOU'RE DOING IT WRONG.

