

2011 BWSR Academy

The Basics of Local Water Management Planning

Doug Thomas – Comfort Lake Forest Lake WD

Chris Hughes – BWSR

Dan Steward - BWSR

Outline for Today's Session

- History of Water Management in MN – Doug Thomas
- Evolution of Water Planning – Chris Hughes
- What's different today that will influence future plans – Doug Thomas
- The Basics of water planning and future plans – Dan Steward

History of Local Water Management

Doug Thomas

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The Early Years

- 1937-1938 (The first water planners)
 - Federal standard soil conservation law
 - Formation of 1st SWCD (Burns-Homer Pleasant)
 - Oversight by State Soil and Water Conservation Board
- 1955 MN Watershed Law
 - Response to Federal PL566 (small watershed protection act)
 - Recognized a need for watershed approach to addressing pressing water management needs such as flood control and drainage
 - Formed through local petition process'
 - Have independent authority for levy & regulation
 - Oversight by MN Water Resources Board

History of local water planning (devolution of water management)

- 1979 state water plan (LCMR/WPB)
- 1980 consolidation feasibility study
- 1981 special study on local water management
- 1982 metropolitan surface water management act
 - Response to multi community water problems and disputes
 - Mandated by legislature
 - Required water planning in seven county metro area
 - Resulted in 41 WD/WMOs being formed
 - Required every city and town to develop a local water plan
 - Created new financing authorities
 - Oversight by

History of local water planning (devolution of water management)

- 1985 comprehensive local water management act
 - Greater MN version of metro local water plans
 - County based
 - Voluntary
 - Comprehensive (both surface water and groundwater)
 - Oversight by MN Water Resources Board
 - First guidelines and rule prepared by MN Planning
 - Started with pilot program involving 48 counties and 32 SWCD's
- 1987 BWSR establishment – executive branch identity for local governments
 - Legislative action to combine the SWCB, WRB, SMRBC into BWSR

History of local water planning (devolution of water management)

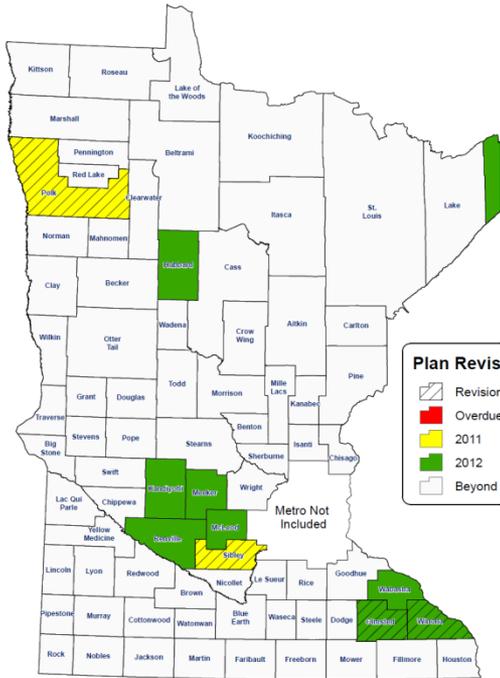
- 1987 Metropolitan County Groundwater Act
 - Voluntary authority to prepare and adopt groundwater plans by Counties
 - Metropolitan surface water management plans must conform to groundwater plan
 - No added authorities
- 1988 Ground water protection strategy (PCA/EQB)
- 1989 Ground Water Protection Act
 - Created Local Water Resources Protection and Management Program
 - Grants to prepare plan
 - Base grants for implementation
 - Competitive implementation grants

History of local water planning (devolution of water management)

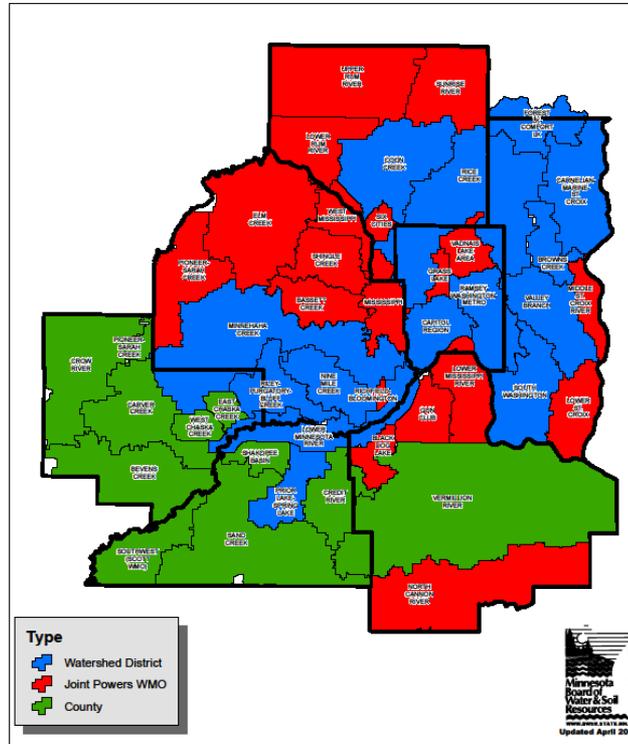
- 1991 Minnesota Water Plan – continued emphasis on local governments as the primary delivery system
- 2011
 - 12 years of budget challenges
 - Not much has changed in the legal/rule framework
 - Discussions about organizations and governance continue

Local - This is where the action is at!

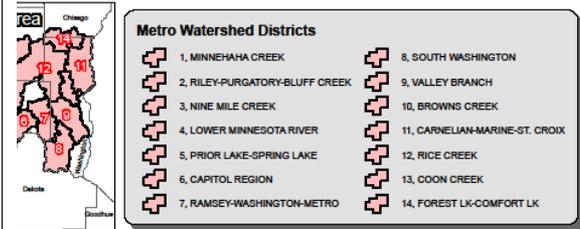
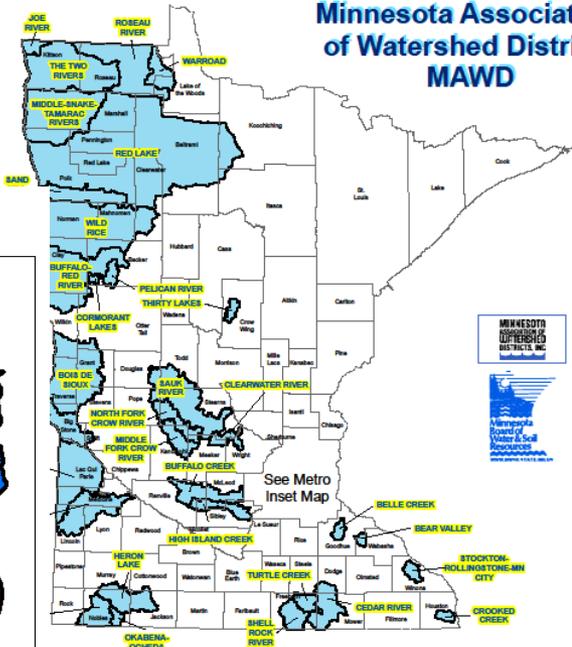
County Water Plan Revision Dates



Watershed Districts and Management Organizations in the Twin Cities Metropolitan Area



Minnesota Association of Watershed Districts
MAWD



What's Next

- How county/comprehensive local water management planning has evolved
- What's changed since 1989
- The basics of water management and the future

Attend the next session on the “The Future of Water Planning” to hear more on governance or just another fancy name for reorganization

Evolution of County Comprehensive Local Water Planning (1989 - 2011)

Chris Hughes – Minnesota Board of Water and Soil Resources

1987 (The First Generation)

Statute 110 B (now 103B)

Rule 9300

Handbook for Comprehensive local Water
Planning

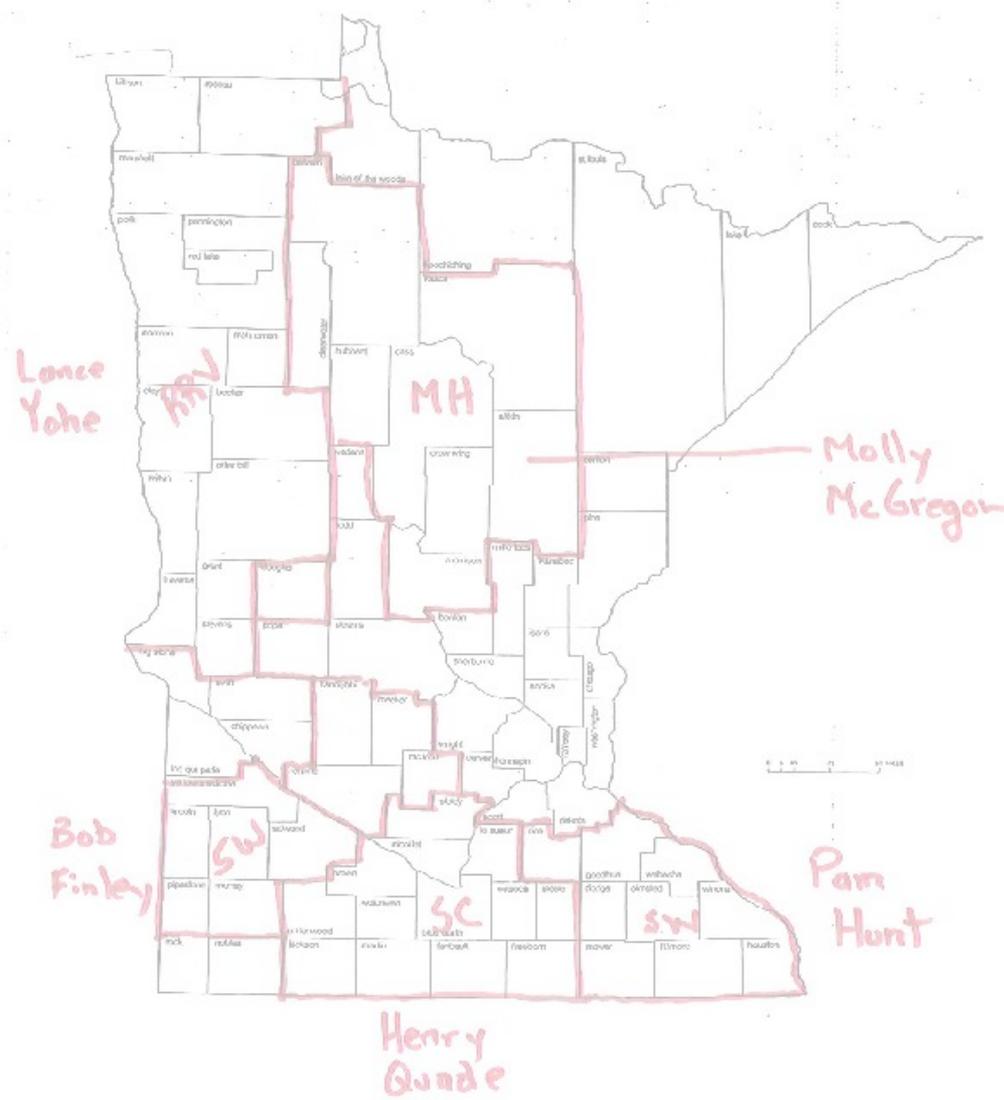
The Handbook For Comprehensive Local Water Planning

Under Minnesota Statutes Chapter 110B



Prepared by the Minnesota State Planning Agency

November 1967



Lance Yohe

Molly McGregon

Bob Finley

Pam Hunt

Henry Qunde

MH

MH

SW

SC

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Why Do A Comprehensive Local Water Plan

- People are concerned
- Anticipate and prevent problems
- Good Investment (Pay now or Pay later)
- Local Ownership
- County gets new authority
- Demonstration of county ability
- Compilation of Data (55 data items)
- Data compilation (organized info, info. gaps,)
- Provide direction on state programs

Why Do a Comprehensive Local Water Plan

- Coordinated with other counties
- Groundwater & Surface Water (Assessments)
- Local plan of action (what, why, who, when)
- Tie together water related activities
 - Land & Water Treatment
 - Monitoring Data Collection
 - Inventory
 - Information & Education
 - Planning & Environmental Controls

Why Do a Comprehensive Local Water Plan

- Cooperative local and state effort
- Small county contribution = addl. \$
- Future state programs & grants tied to plan
- Local Water Planning Committee (Task Force)

1989

- Local Water Resources Protection and Management Program (103B.3369)
- Watonwan County is the first state approved and locally adopted county comprehensive water plan
- Most plans written for 5 year timeframe

1991 - 1995

- **State Technical Assistance:**
 - **Criteria and Guidelines for Assessing Geologic Sensitivity of Groundwater Resources**
 - **Inventory Guidebooks (feedlot, wetland, dump and landfill, above and below ground storage tanks, abandoned wells)**
 - **Guidelines on Water Retention**
 - **Guidelines for Developing Public water Supply Emergency and Conservation Plans**

1995 - 2000 (The Second Generation)

- Watershed based planning begins
 - Coordinating goals/obj./actions within a particular watershed
- Strengthening of working relationships
 - Cities in addressing quantity of water available for residential use

1995 - 2000 (The Second Generation)

- More focus on priorities
- Less emphasis on data and assessment
- Surface water quality becomes a bigger issue
- Annual Water Planners conference
- LARS
- Local Water Planning Updates

2000 - Present (The Third Generation)

- Water Planners Goals:
 - GIS
 - Wellhead Protection Plans
 - Non-conforming ISTS (SSTS)
 - Monitoring
 - Feedlot permitting, ordinances, manure management
 - Additional funding

2000 - Present (The Third Generation)

- Trends:
 - Increased recreational & seasonal land use
 - Large, concentrated livestock operations
 - Fewer small livestock operations
 - Residential Development
 - Lakeshore, shallow lakes, ag-land near cities, bluffland, woodlots

I

2000 - Present (The Third Generation)

- Priority Concerns Scoping Document
- Focus on “measurable” implementation outcomes
- Less focus on data collection and assessment
- Continued effort to improve watershed based context to comprehensive planning
- 5 – Year implementation plan updates

What's Different Today

Doug Thomas

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Things to think about (are these game changers)

- Groundwater and wellhead protection plans
- Total Maximum Daily Load (TMDL) Studies & Plans
- Municipal Separate Storm Sewer System Permits (MS4)
- Non-degradation rule making
- Invasive species

Big game changers ??

- Clean Water Legacy Act
- Clean Water Fund Allocations
- MN Sustainability

Clean Water Legacy Act (CWLA)

To protect, restore, and preserve the quality for Minnesota's surface waters by providing authority, direction and resources to achieve and maintain water quality standards for surface waters as required by section 303(d) of the federal Clean Water Act

Chapter 114D



Restoration

Actions, including effectiveness monitoring, that are taken to achieve and maintain water quality standards for impaired waters in accordance with an approved TMDL.

Protection/Prevention

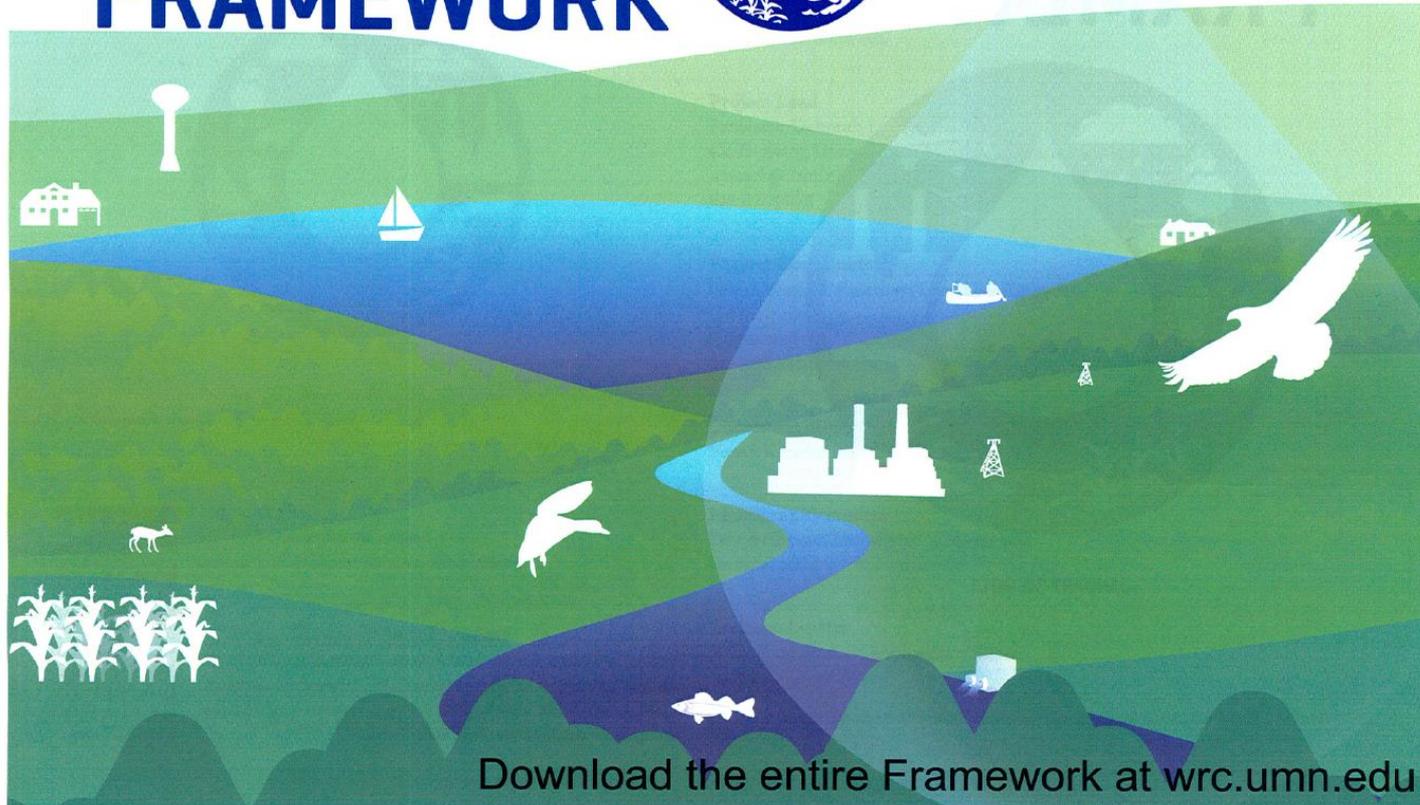
Measures to prevent waters from becoming impaired and to improve waters that are listed as impaired but have no approved TMDL addressing the impairment.



FY 2012 Clean Water Fund Competitive Grants Policy



MINNESOTA WATER SUSTAINABILITY FRAMEWORK



- Require integrated land and water planning
- Improve management of hydraulic systems
- Ensure long term citizen engagement
- Provide a governance structure to ensure water sustainability

The Basics of Local Management Planning

Dan Steward, MN Board of Water & Soil Resources



- Is Local Water Planning still relevant?
- Does it need to change to stay relevant?
- If so, what should it look like?
- North Central MN example:
 - Can County water plans become a comprehensive protection strategy for the regions unimpaired but frequently threatened water quality?

Local Water Planning Categories for Implementation Actions

- Administration/Coordination
- Information Education
- Monitoring & Data Collection
- Inventory & Mapping
- Land & Water Treatment
- Planning & Official Controls

Monitoring and data collection have played a key role in water planning since the outset

- Focus of first generation plan was to collect all the water related data into one place.
- Identify reasonable implementation actions.
- Have someone to ride herd on the plan.

Getting water plans to include good data assessments has always been a challenge:

- Often wasn't much data to assess
- Data wasn't the driver; common sense and intuition were
- Often led to “practice type actions”
 - Example: Non-conforming septic systems are a threat to surface and ground water quality and should be brought into compliance.

That was then and this is now:

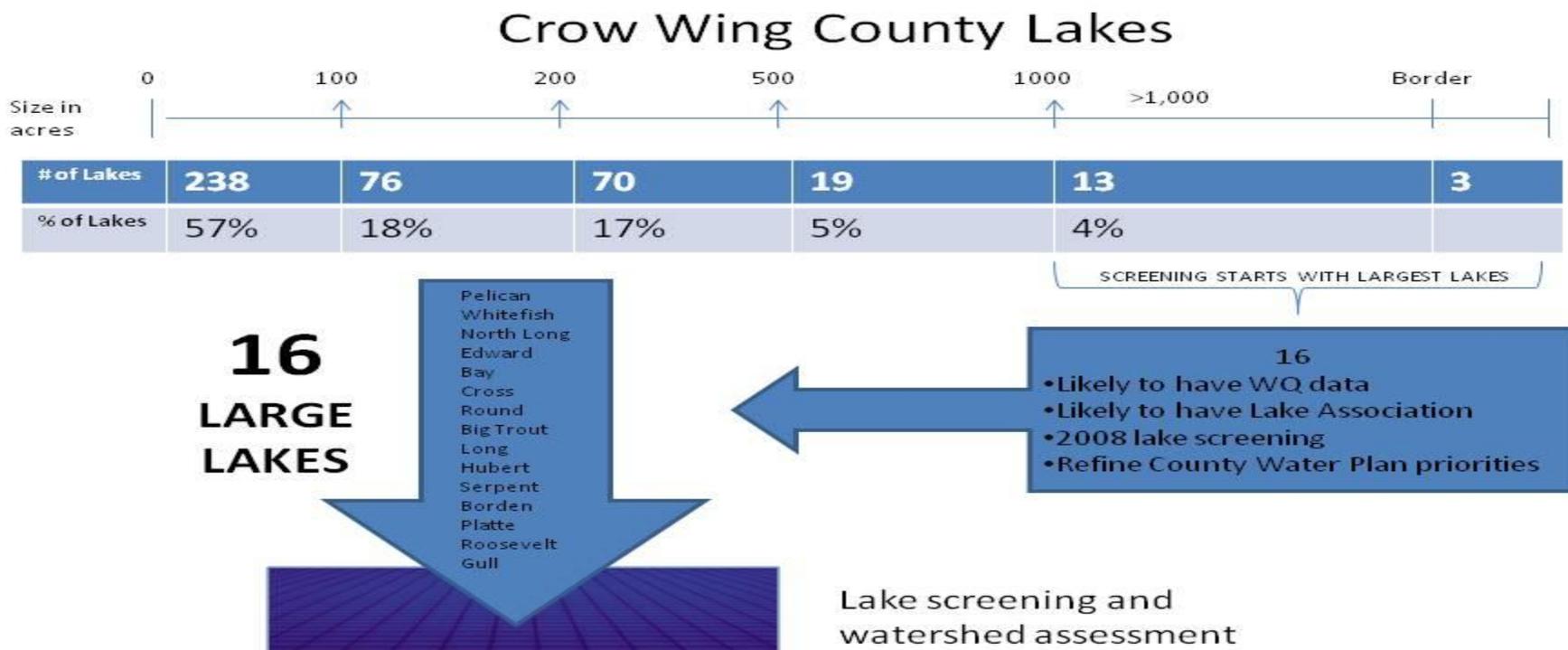
- Clean Water Legacy
- Constitutional Referendum
- Large sums pumped into data collection
 - 81 Watershed Monitoring
- Lake Associations kept building up their data

Result:

- Local Water Planning exists in a relatively data rich environment.
- GIS make land cover information more useful, (LIDAR too).
- We have had a sea change in our capacity to develop good resource assessments!
- Focus is returning (full circle) to good resource assessments.

- Clean Water Fund implementation dollars are competitively outcome based.
- After 25 years priorities and projects are becoming data driven.
 - TMDL process
 - Protection process

Example: Crow Wing County with 416 Lakes. How does the County begin to develop a lake water quality protection strategy?



16 LARGE LAKES

Pelican
Whitefish
North Long
Edward
Bay
Cross
Round
Big Trout
Long
Hubert
Serpent
Borden
Platte
Roosevelt
Gull

Lake screening and watershed assessment

Lakes with stable water quality

Edward
Round
South Long
Hubert

Lakes with Increasing W.Q. trends

Pelican
Bay
Cross
Gull
Roosevelt

Lakes without enough W.Q. data to determine trend

Borden

Lakes with declining W.Q. trends

Whitefish
Big Trout
North Long
Serpent
Gull
Platte

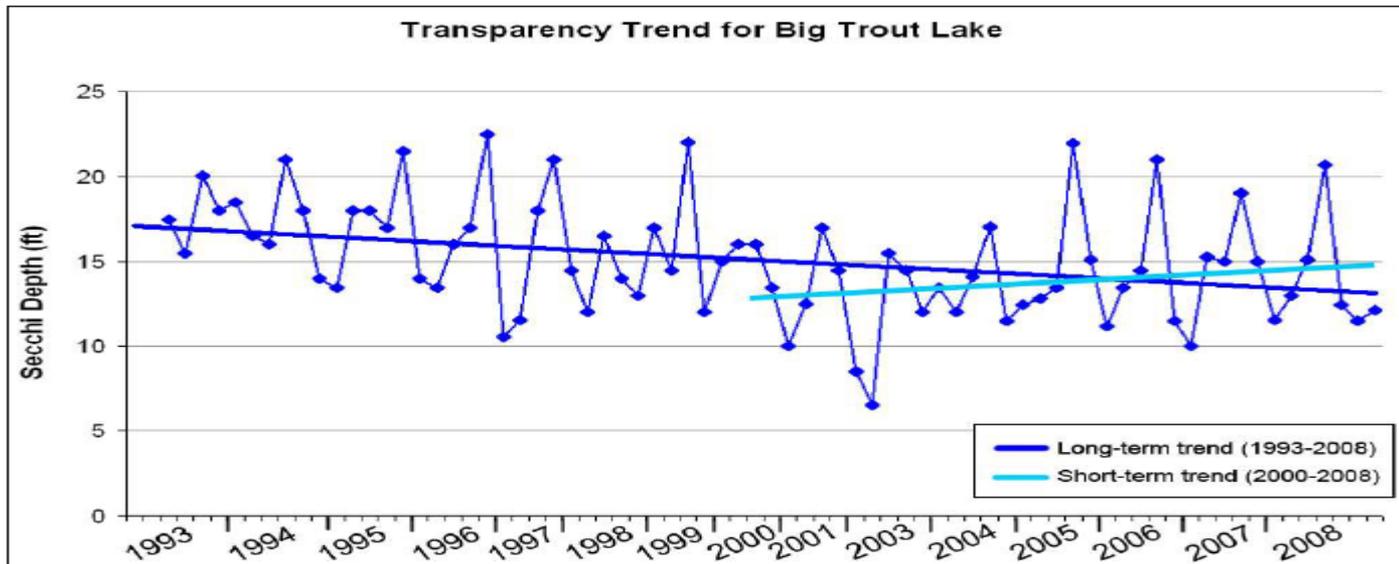
Crow Wing County – Clean Water Fund Application = **\$136,000 funded**

Trend Analysis

For detecting trends, a minimum of 8-10 years of data with 4 or more readings per season are recommended. Minimum confidence accepted by the MPCA is 90%. This means that there is a 90% chance that the data are showing a true trend and a 10% chance that the trend is a random result of the data. Only short-term trends can be determined with just a few years of data, because there can be different wet years and dry years, water levels, weather, etc., that affect the water quality naturally.

There is not enough historical data to perform trend analysis for total phosphorus or chlorophyll *a* on Big Trout Lake. Site 16201 had enough transparency data to perform a short-term and long-term trend analysis. The data was analyzed using the Mann Kendall Trend Analysis.

Lake Site	Parameter	Date Range	Trend	Probability
16201	Transparency	1992-2008	Declining	99.9%
16201	Transparency	2000-2008	No Trend	--



- 25% Threshold Data
- DNR Fisheries

- MPCA
- Impaired Waters List
- Watershed Assessment



These Lakes are generally over 400 acres, significant fish lakes with declining water quality trends, but with good opportunities for protecting water quality into the future.



- Priority Cisco Lakes
- DNR Fisheries

- Large Lakes Screening Unimpaired with declining water quality trends
- 13 Counties
- 144 Lakes (plus 45 in pilot)

Local Water Planning is still voluntary...*but*

- If Counties want they can still do the minimum, and barely clear the bar.
- But increasingly preparing an application that can compete will result in strategic type (416 to 2) type thinking anyway,
- So why not build it into your Local Water Plan?

WHAT DO YOU THINK???

- Do the basics of Local Water Planning need to change?
- Is Local Water Planning still relevant?
- Is Local Water Planning flexible enough to adjust to the referendum era?
- Is Local Water Planning only now coming into its own, now that data, GIS and the referendum have all aligned?