A

APPENDIX A

Public Participation Materials

Presentation Outline

- Onterra, LLC
- Why Create a Management Plan?
- Elements of a Lake Management Planning Project
  - Data & Information
  - Planning Process

Onterra, LLC

- Founded in 2005
- Staff
  - Three full-time ecologists
  - One part-time paleoecologist
  - Three full-time field technicians
  - Five summer interns
- Services
  - Science and planning
- Philosophy
  - Promote realistic planning
  - Assist, not direct

Why create a lake management plan?

- Preserve/restore ecological function to ensure cultural services
- To create a better understanding of lake's positive and negative attributes.
- To discover ways to minimize the negative attributes and maximize the positive attributes.
- Snapshot of lake's current status or health.
- Foster realistic expectations and dispel any misconceptions.

A goal without a plan is just a wish!

Elements of an Effective Lake Management Planning Project

Data and Information Gathering

Environmental & Sociological

Planning Process

Brings it all together

Data and Information Gathering

- **Study Components**
  - Water Quality Analysis
  - Watershed Assessment
  - Aquatic Plant Surveys
  - Bio-Acoustic Survey
  - Fisheries Data Integration
  - Shoreland & CWH Assessment
  - Stakeholder Survey

Water Quality Analysis

- General water chemistry (current & historical)
- Nutrient analysis
  - Lake trophic state (Eutrophication)
  - Limiting plant nutrient
- Supporting data for watershed modeling

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Watershed Assessment

- Geographic area within which all water drains to a common point

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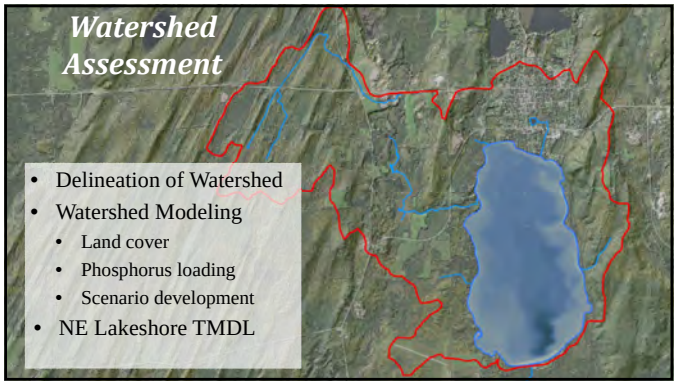
Watershed Assessment



- Delineation of Watershed
- Watershed Modeling
  - Land cover
  - Phosphorus loading
  - Scenario development
- NE Lakeshore TMDL

Aquatic Plant Surveys

- Concerned with both native and non-native plants
- Multiple surveys used in assessment
  - Early-Season AIS Survey
  - Point-intercept survey
  - Emergent & floating-leaf community mapping – Completed in July

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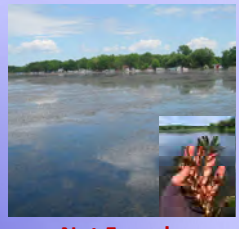
Non-native Aquatic Plants

Curly-leaf Pondweed



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Eurasian Watermilfoil

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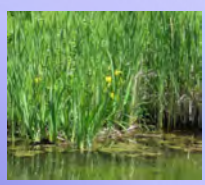
Non-native Aquatic Plants

Pale Yellow Iris



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Purple Loosestrife

Not Found

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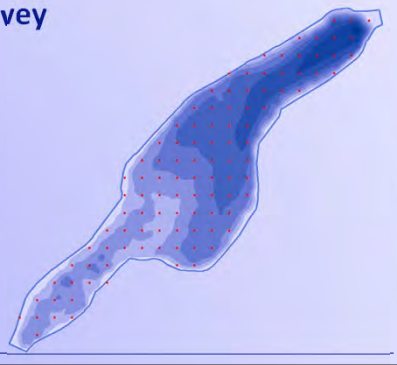
Point-Intercept Survey

Lake Chilton
20-meter Resolution
105 Total Points



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Emergent & Floating-leaf Plant Community Mapping Survey

- Important for habitat, water quality, and shoreland stabilization
- Negatively impacted by shoreland development
- Ecological indicator communities
- Sub-meter GPS delineation
- Separation by community type
- Identification of dominant species

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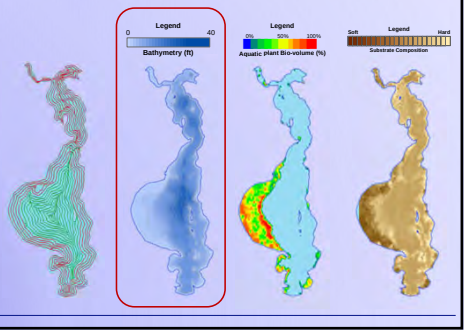
Acoustic Survey

- Systematically record multi-channel sonar data from entire lake
- Create models based upon processed data.



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Fisheries Data Integration

- No fish sampling completed
- Assemble data from WDNR, USGS, & USFWS
- Fish survey results summaries (if available)
- Use information in planning as applicable

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Shoreland Assessment

- Shoreland area is important for buffering runoff and provides valuable habitat for aquatic and terrestrial wildlife.
- EPA National Lakes Assessment results indicate shoreland development has greatest negative impact to health of our nation's lakes.
- Assessment uses WDNR protocol considers vegetative cover, maintained lawn, shoreline protection, impervious surfaces, and other shoreland development indicators.
- Coarse woody habitat is also assessed.

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Stakeholder Survey

- Survey will include all district households
- Standard survey used as base
  - Planning committee potentially develops additional questions and options
  - Must not lead respondent to specific answer through a "loaded" question
- Survey must be approved by WDNR
- Primarily online, but hardcopy available
- Third-party contractor used to maintain anonymity

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Planning Process

Planning Committee Meetings – Spring 2023

Study Results (including a stakeholder survey)
Conclusions & Preliminary Options
Management Goals
Management Actions
Timeframe
Facilitator(s)

Implementation Plan

Thank You

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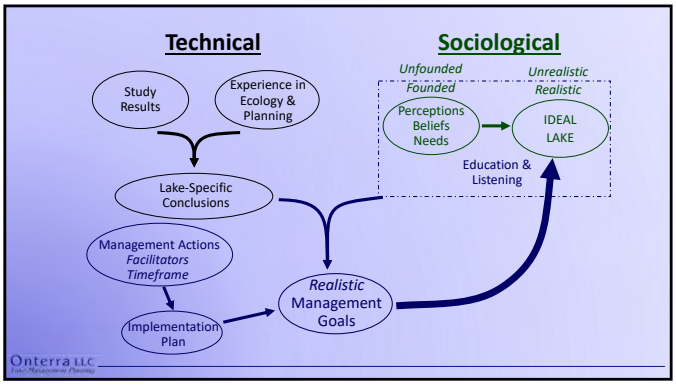
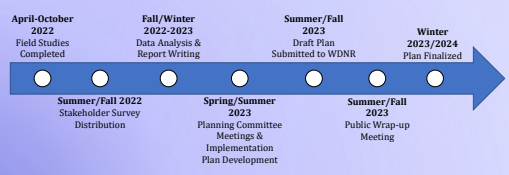
Lake Management Planning



Planning Committee

- Role
  - Provide perspective as Lake Chilton stakeholder representatives
  - Gain understanding of Lake Chilton ecosystem and communicate with others
- Responsibilities
  - Stakeholder survey development (next summer)
  - Review draft result sections
  - Two planning meetings (2023)
  - Review/approve entire draft report
- When project starts, record time spent on project activities (form will be provided)

Project Timeline



Presentation Outline

- Lake Management Planning Project Overview
- Meeting Objective
- Study Results
  - Water Quality
  - Watershed
  - Shoreland Condition
  - Fishery
  - Aquatic Plants

  } Planning Meeting II
- "Big Picture"
- Planning Meeting II

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Management Planning Project Overview

Collect and compile information about Chilton Millpond
Includes both environmental & sociological
Historical & current information
Past management actions

} **Planning Meeting I/II** Report Sections

Create a realistic and implementable management plan
Challenges facing lake and CLD
Create goals that will address challenges
Develop actions that will meet goals
Assign timeframes & facilitators

} **Planning Meeting II** Implementation Plan

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Summary of Project Results

Water Quality
- Water quality is fair to poor with large fluctuations in trophic parameters.
- Flushing rate likely controls algae and water clarity as much or more than nutrients.
- Carp impact on water quality is unclear (pun intended).

Watershed
- Watershed is incredibly large compared to size of lake.
- Near-watershed is partially urbanized with limited habitat and buffering capacity.

Aquatic Plant Community
- Aquatic plant community is not of high quality, but still provides habitat.
- No aquatic invasive plant species were located during 2022 surveys.
- Aquatic plants are abundant and at nusiance levels in some areas.

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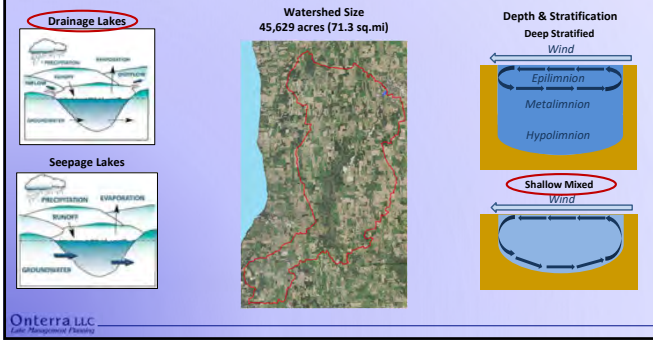
Wisconsin Lakes Natural Community Types



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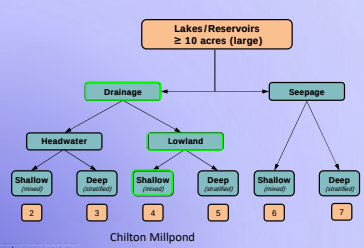
Natural Community Types

Categorization of lakes with similar features that influence water quality



Chilton Millpond

Ecoregions

An area containing similar geology, physiography, hydrology, climate, and soils. As well as common terrestrial and aquatic fauna.

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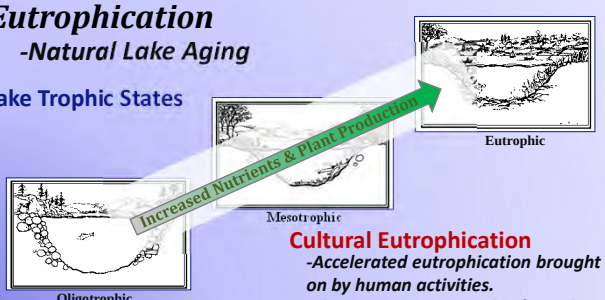
Eutrophication
-Natural Lake Aging

Lake Trophic States



Cultural Eutrophication

-Accelerated eutrophication brought on by human activities.

-Flowages experience this from the day they are created.

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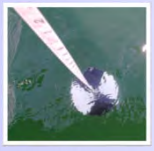
Lake Water Quality – Trophic Parameters

Phosphorus
Naturally occurring & essential for all life
Regulates phytoplankton biomass in **most** WI lakes
Most often 'limiting plant nutrient' (shortest supply)
Human activity often increases P delivery to lakes

N:P = 9:1
Nitrogen Limited

Chlorophyll-*a*
Pigment used in photosynthesis
Used as surrogate for phytoplankton biomass



Secchi Disk Transparency
Measure of water clarity
Measured using a Secchi disk

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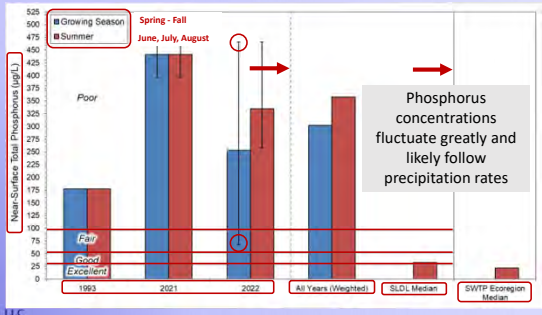
Chilton Millpond Water Quality - Phosphorus



Phosphorus concentrations fluctuate greatly and likely follow precipitation rates

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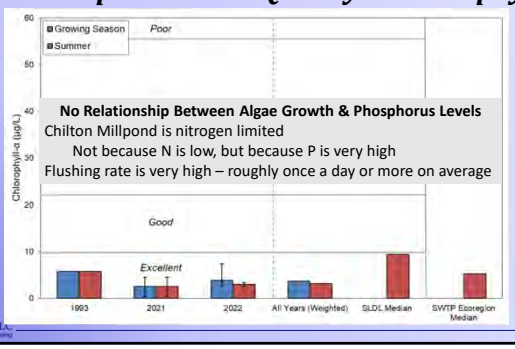
Chilton Millpond Water Quality – Chlorophyll-a



No Relationship Between Algae Growth & Phosphorus Levels
Chilton Millpond is nitrogen limited
Not because N is low, but because P is very high
Flushing rate is very high – roughly once a day or more on average

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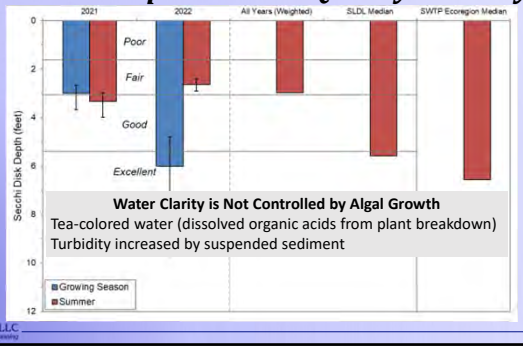
Chilton Millpond Water Quality – Clarity



Water Clarity is Not Controlled by Algal Growth
Tea-colored water (dissolved organic acids from plant breakdown)
Turbidity increased by suspended sediment

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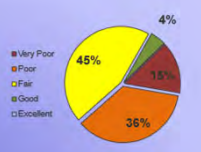
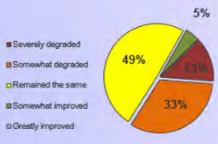
Water Quality – Stakeholder Survey Questions

Please Note: 79 surveys were completed

Stakeholder survey response Question #14. How would you describe the overall current water quality of Chilton Millpond?



Stakeholder survey response Question #15. How has the overall water quality changed in Chilton Millpond since you first visited the lake?



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Water Quality – Stakeholder Survey Questions

Stakeholder survey response Question #16. Which of the following answers is the single most important aspect when considering water quality?

Answer Options	Response Percent	Response Count
Water clarity (clearness of water)	20.9%	14
Water color	6.0%	4
Aquatic plant growth (not including algae blooms)	19.4%	13
Algae blooms	29.9%	20
Smell/odors	11.9%	8
Water level	0.0%	0
Fish kills	7.5%	5
Other	4.5%	3
answered question		67
skipped question		12

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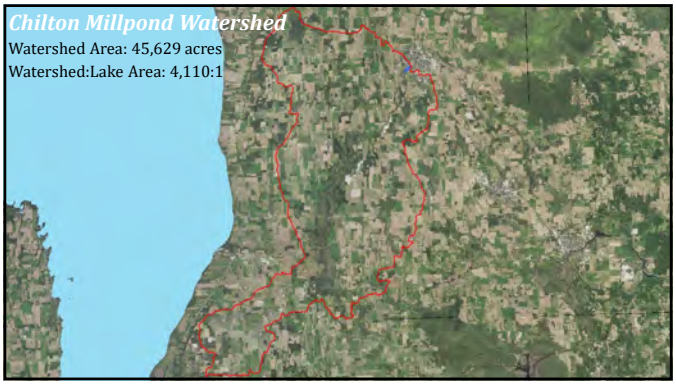

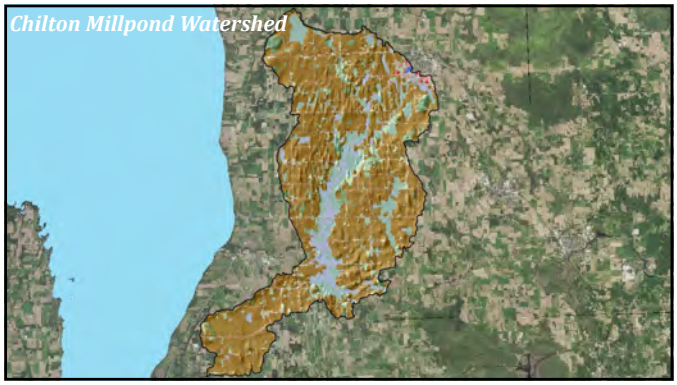

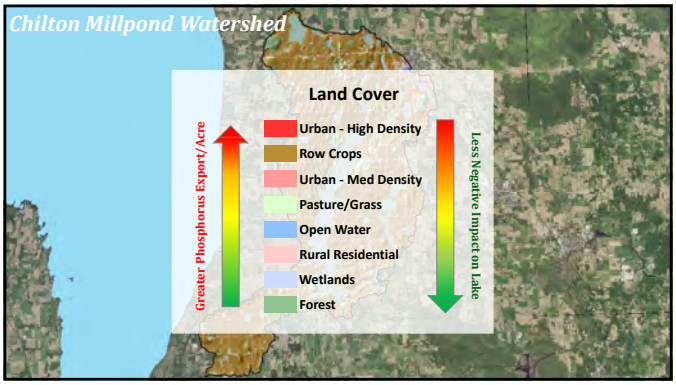

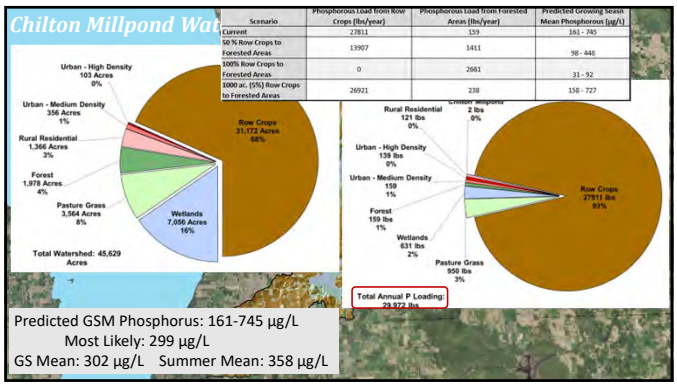

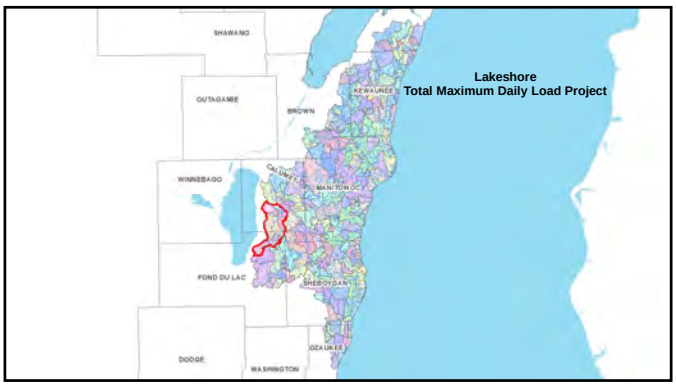

Aquatic Plant Surveys

- Assess both native and non-native populations
- Three surveys completed in 2022
  - Early-Season AIS Survey **No AIS Located**
  - Whole-Lake Point-Intercept Survey
  - Emergent/Floating-Leaf Community Mapping Survey

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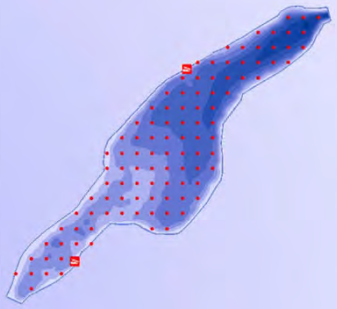
Point-Intercept Survey

Chilton Millpond
20-meter Resolution
105 Total Points



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Aquatic Plant Species List

14 Native Species Total
11 Native Species on Rake
0 Non-Native Species

Growth Form	Scientific Name	Common Name	WI State Status	Coefficient of Conservatism	2022 (Chilton)
Emergent	*Iris versicolor*	Northern blue flag	Native	5	I
	Sagittaria latifolia	Common arrowhead	Native	3	X
	Sparganium eurycarpum	Common bur-reed	Native	5	I
FL	*Nymphaea odorata*	White water lily	Native	6	X
Submergent	*Ceratophyllum demersum*	Coontail	Native	3	X
	Elodea canadensis	Common waterweed	Native	3	X
	Elodea nuttallii	Slender waterweed	Native	7	X
	Nitella spp	Stoneworts	Native	7	X
	Potamogeton epihydrus	Ribbon-leaf pondweed	Native	8	X
	Potamogeton foliosus	Leafy pondweed	Native	6	X
	Potamogeton pusillus	Small pondweed	Native	7	X
	Potamogeton zosteriformis	Flat-stem pondweed	Native	6	X
S/E	*Sagittaria cuneata*	Arum-leaved arrowhead	Native	7	I
FF	*Lemna minor*	Lesser duckweed	Native	5	X

FL = Floating Leaf; FL/E = Floating Leaf and Emergent; S/E = Submergent and Emergent; FF = Free Floating
X = Located on rake during point-intercept survey; I = Incidental Species

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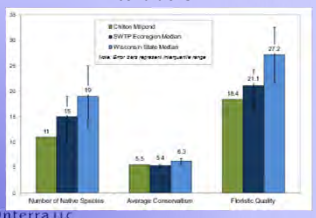
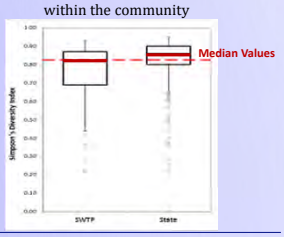
Vegetation Analysis Matrices

Floristic Quality Analysis
Evaluates the closeness of an area's flora to undisturbed conditions.



Species Diversity
Utilizes species richness and also takes into account evenness or the variation in abundance of the individual species within the community



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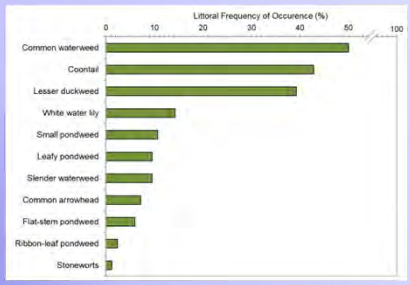
Vegetation Analysis Matrices

Littoral Frequency of Occurrence



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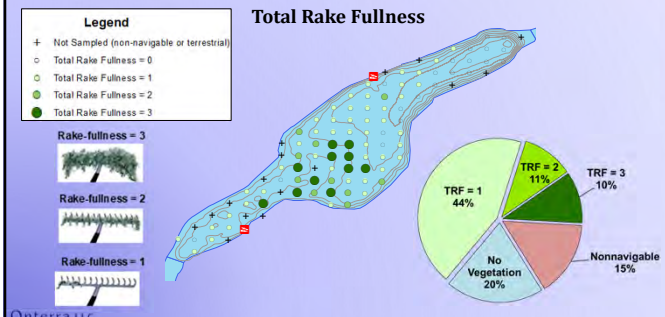
Vegetation Analysis Matrices

Total Rake Fullness



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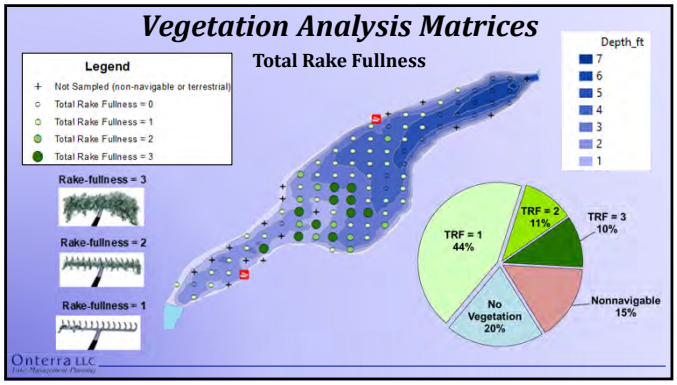

Overarching Conclusions

Chilton Millpond's water quality is as expected for a small lake with a very large watershed, of which, two-thirds of its acreage is agriculture.

Lack of historical water quality data made watershed and water quality assessment difficult and less beneficial to the planning project.

Based upon watershed size, significant water quality enhancements are likely unrealistic.

Impact of carp on water quality and aquatic vegetation is not fully understood.

No aquatic invasive plants were located in the waterbody – this is a huge positive!

Chilton Millpond has potential for increased recreational opportunities.

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Planning Meeting II

Primary Objective: Create implementation plan framework

Steps to Achieve Objective:

1. Discuss challenges facing lake and lake group
2. Convert challenges to management goals
3. Create management actions to meet management goals
4. Determine timeframes and facilitators to carry out actions

Items Remaining to Discuss:

- Shoreland Assessment
- Fisheries

Assignment for Planning Meeting II

1. Email list of challenges facing lake and lake group (just to Tim)
2. Review stakeholder survey results
3. Send potential report section edits and questions to Tim

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Land & Water Conservation Department



Dani Santry– Land & Water Conservation Department
May 12, 2022

County watershed projects, current & future cost-share opportunities

- Total Maximum Daily Loads (TMDLs)
- Phosphorus & Sediment Reduction Strategies and Projects

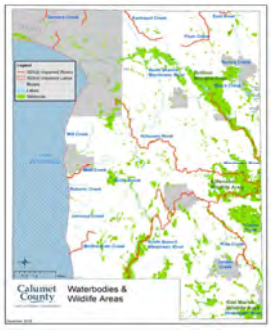
2 11/9/2021

Land & Water Resources – Basins/Watersheds

3 11/9/2021

Impaired Surface Waters of Calumet County

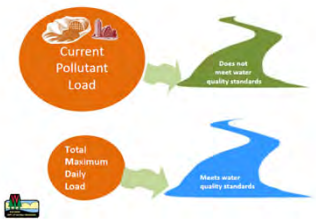
- Top 2 Pollutants for Driving Impairments
  - Total Phosphorus (TP)
  - Total suspended solids (TSS)



4 11/9/2021

Total Maximum Daily Load:

- The amount of a pollutant a waterbody can receive and still meet water quality standards



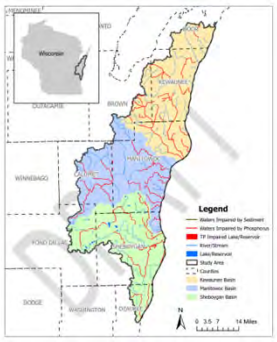
5 11/9/2021

TMDLs: Point Source & Non-Point Source Pollution

- Non-point source
  - Results from land runoff, cannot track source back to a specific source, many sources

- Point source
  - Single identifiable source, end of pipe, generally industrial or municipal discharges
  - Permit Holders (WPDES / NPDES)

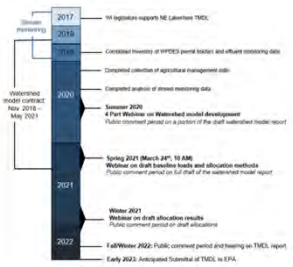
6 11/9/2021



Northeast Lakeshore TMDL

Projected Project Milestones

Updated August 2022



7 11/9/2023 Images and information taken from WDNR Lakeshore TMDL webpages (as of 5/31/2023)

A TMDL defines and assigns Load / Waste Load Allocations

Sources	Total Phosphorus Load (lbs/yr)			% Reduction	Allocated
	Baseline	Allocated	Reduction	from Baseline	(lbs/day)
Agriculture	27,660	3,861	23,799	86.0%	10.57
Urban (non-regulated)	1,316	1,316	-	-	3.60
Natural Background	359	359	-	-	0.98
LOAD ALLOCATION	**29,335**	**5,536**	**23,799**	**81.1%**	**15.15**
Urban (MS4)	76	53	23	30.0%	0.15
Construction	164	164	-	-	0.45
General Permits	168	168	-	-	0.46
WWTF-Industrial	546	341	205	37.5%	0.93
WWTF-Municipal	1,280	931	349	27.3%	2.55
WASTELOAD ALLOCATION	**2,234**	**1,657**	**577**	**25.8%**	**4.54**
TOTAL (WLA + LA)	**31,569**	**7,193**	**24,376**	**77.2%**	**19.69**

8 11/9/2023 Example Baseline and Load Allocation from the Lower Fox River TMDL. Numbers are for Plum/Kankapot Creek Subwatershed

TMDL Implementation

How do we obtain enough P and TSS reduction to see water quality improve?

Livestock Sites

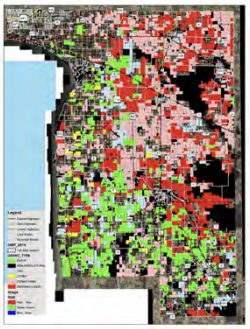
Cropland

Shorelines

9 11/9/2023 Add a footer

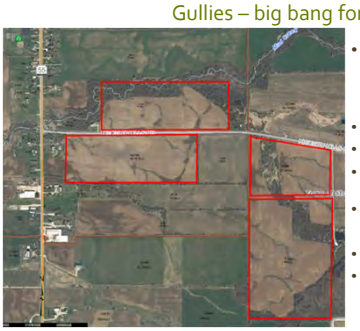
Previous Conservation efforts focused on meeting State Ag Performance Standards (NR 151)

- Livestock Site Compliance
  - Barnyard Runoff
  - Milkhouse Waste
  - Feed Leachate
- Manure Storage Capacity
  - Avoid Winter Spreading & High Risk Runoff Occurrences
- Nutrient Management Plans
  - Soil Testing
  - 76% of cropland in County
- 2002-2016 targeted funds to Groundwater Protection Area



10 11/9/2023 Add a footer

Gullies – big bang for the $$



- A 500 ft gully, 3 ft wide and 1 deep can deliver 14.5 lbs/P/yr and 28 tons/yr TSS
- 3 year project:
- 1 WASOB, 1 Stream Crossing
- 5500 linear feet of Grassed Waterways
- 1 Berm
- P-reduction: 198.2 lbs/year
- Sediment Reduction: 279.7 tons/year

11 11/9/2023 Add a footer

State Ag Performance Standards are not enough to meet TMDL reduction goals.

Sources	Total Phosphorus Load (lbs/yr)			% Reduction	Allocated
	Baseline	Allocated	Reduction	from Baseline	(lbs/day)
Agriculture	27,660	3,861	23,799	86.0%	10.57
Urban (non-regulated)	1,316	1,316	-	-	3.60
Natural Background	359	359	-	-	0.98
LOAD ALLOCATION	**29,335**	**5,536**	**23,799**	**81.1%**	**15.15**
Urban (MS4)	76	53	23	30.0%	0.15
Construction	164	164	-	-	0.45
General Permits	168	168	-	-	0.46
WWTF-Industrial	546	341	205	37.5%	0.93
WWTF-Municipal	1,280	931	349	27.3%	2.55
WASTELOAD ALLOCATION	**2,234**	**1,657**	**577**	**25.8%**	**4.54**
TOTAL (WLA + LA)	**31,569**	**7,193**	**24,376**	**77.2%**	**19.69**

12 11/9/2023 Example Baseline and Load Allocation from the Lower Fox River TMDL. Numbers are for Plum/Kankapot Creek Subwatershed

Cropland: Focus on Soil Health

13 11/9/2023 Add a footer

14 11/9/2023 Add a footer

Agricultural Runoff Treatment Systems (ARTS)

15 11/9/2023 Concept Design by Outagamie County LWCD in partnership with Heart of the Valley Sewerage District

Project Updates: Brothertown Creek GRLI Project

- 3 Enhanced Ag Retention Systems (ARTS)
- 1,900 ft of Stablized Streambank
- 296 lbs of P reduction / year
- 250 tons of sediment / year
- 42 mil gallons of water runoff captured per year
- $450,000 for design and installation

Project Partners

Funded By

Watershed Cost-Share Programs

- Plum/Kankapot
  - Cropland practices, Grass Waterways
- North Branch Manitowoc (Spring Creek)
  - Cropland Practices. Grassed Waterways. Diversions
  - Have applied for cover crops & no-till
- Brothertown Creek GRLI Grant
  - Agricultural Runoff Treatment Systems (ARTS)
  - Shoreline Restoration
- Multi-Discharge Variance (MDV)
  - Funding from point sources directed to County LWCDs to implement P reduction practices in a particular watershed
- Most Funding Sources require a 9KE plan.

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EPA 9 Key Element Plans Open Up Additional Funding Opportunities

- 10 year plans
- A subwatershed approach
- Creates a more easily implemented plan
- Identifies actual practices
- Help with cost-share eligibility

- Element A - *Causes/Sources of Pollution Identified*
- Element B - *Expected Load Reductions for Solutions Identified*
- Element C - *Nonpoint Source Management Measures Identified*
- Element D - *Technical and Financial Assistance*
- Element E - *Education and Outreach*
- Element F - *Implementation Schedule*
- Element G - *Milestones Identified*
- Element H - *Load Reduction Evaluation Criteria*
- Element I - *Monitoring*

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Where have plans been developed?

- NonPoint Source Implementation Plan for North Branch Manitowoc River Watershed & CalMan Lakes
- Nonpoint Source Implementation for the Plum and Kankapot Creek Watersheds
- Nonpoint Source Implementation for the Upper East River Watershed
- DRAFT: Nonpoint Source Implementation for the Lake Winnebago East Watershed

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Questions??

WISCONSIN Calumet County
Land and Water Conservation

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Where Can Cost-Share Come From?

- WI DNR
  - Targeted Runoff Management
  - Large Scale or Small Scale
- US EPA
  - Great Lakes Restoration Initiative
- USDA/NRCS
  - EQIP, CSP, etc.
- Fund for Lake Michigan
- DATCP Producer Led Watershed Protection Grants
- DATCP Soil & Water Management Grants
  - Bond (Structural)
  - SEG (Nutrient Management Related)
  - Innovative Practice Grants Program
- Point Dischargers
  - MDV: Multi-Discharge Variance
  - Water Quality Trading

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Current Cost-Share Programs (Countywide)

- NRCS Programs / Special Sign Ups
- DATCP Cost-Share Funding
  - Bond – typically $43,000 annually, can only be used for structural practices
  - SEG – typically $60,000 annually, used for "soft" practices
    - Nutrient Management Related (NMPs)
    - New flexibility in program – can use for other practices
    - Cover crops, no-till
- DATCP Innovative Practice Grant – Harvestable Buffers

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Meeting Outline

- Planning Project Overview/Meeting Objective
- Review Summary of Project Results
- Study Results
  - Shoreland Condition
  - Fishery
- "Big Picture"
- Challenges Discussion
- Development of Goals and Actions
- Next Steps

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Planning Meeting II Objective

Collect and compile information about Chilton Millpond
- *Includes both environmental & sociological*
- *Historical & current information*
- *Past management actions*

Planning Meeting I/II
Report Sections

Create a realistic and implementable management plan
- *Challenges facing lake and CLD*
- *Create goals that will address challenges*
- *Develop actions that will meet goals*
- *Assign timeframes & facilitators*

Planning Meeting II
Implementation Plan

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Summary of Project Results

Water Quality
- Water quality is fair to poor with large fluctuations in trophic parameters.
- Flushing rate likely controls algae and water clarity as much or more than nutrients.
- Carp impact on water quality is unclear (pun intended).

Watershed
- Watershed is incredibly large compared to size of lake.
- Near-watershed is partially urbanized with limited habitat and buffering capacity.

Aquatic Plant Community
- Aquatic plant community is not of high quality, but still provides habitat.
- No aquatic invasive plant species were located during 2022 surveys.
- Aquatic plants are abundant and at nusiance levels in some areas.

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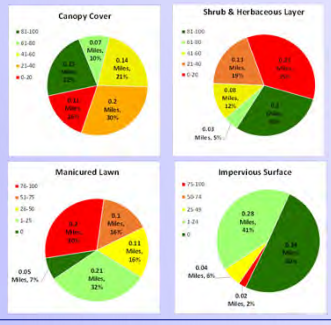
Shoreline Development

WDNR 2017 - Shorelands and Shallows Habitat Monitoring Field Protocol

https://dnrmaps.wi.gov/H5/?viewer=Lakes_AIS_Viewer



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Coarse Woody Habitat

- 4"+ diameter, at least 5' long
- Only pieces between HWL and 2' depth contour

- Branchiness ranking:
- No branches
- A few branches
- Full crown

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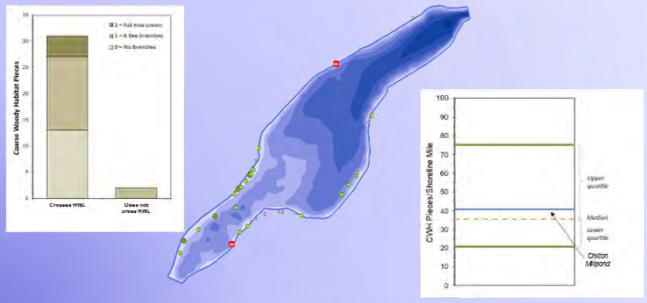
Coarse Woody Habitat



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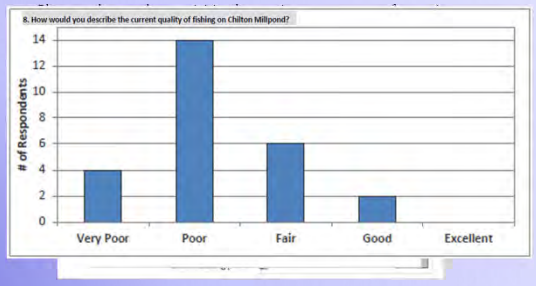
Fisheries – Stakeholder Survey



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Fisheries

Warmwater fishery – Panfish, small/largemouth bass, northern pike, and bullhead

Stocking – Northern Pike: early 70s, 80s, and 90s, Panfish: 1980s, and Largemouth Bass: late 70s, 80s, and early 90s

Carp are a commonly found during surveys, but their impact is unknown

Structural habitat (CWH) opportunities exist for increasing fish habitat

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Overarching Conclusions

Chilton Millpond's water quality is as expected for a small lake with a very large watershed, of which, two-thirds of its acreage is agriculture.

Lack of historical water quality data made watershed and water quality assessment difficult and less beneficial to the planning project.

Based upon watershed size, significant water quality enhancements are likely unrealistic.

Impact of carp on water quality and aquatic vegetation is not fully understood.

No aquatic invasive plants were located in the waterbody – this is a huge positive!

Chilton Millpond has potential for increased recreational opportunities.

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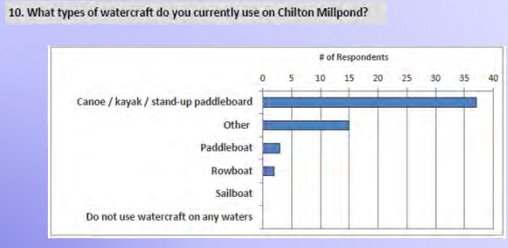
Stakeholder Survey Highlights



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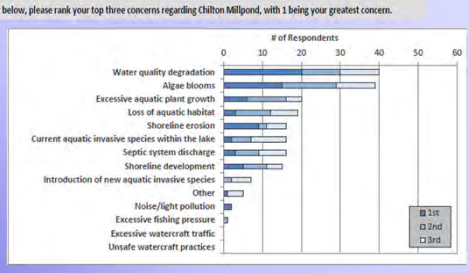
Stakeholder Survey Highlights



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Example Dredging Plan

Dredging Methods

- **Hydraulic**
  - Pumped to temporary sedimentation site
  - Pumped to geotextile tubes, then land spread
- **Mechanical**
  - Land based (through water)
  - During temporary drawdown (typically during winter frost)

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Example Dredging Plan






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Example Dredging Plan

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Example Dredging Plan

Sediment Removal
25,785 cu.yd. (16 ac-ft)
47% increase in water volume
Main basin increased to ≥ 5'
Hobart Park channel to ≈ 4'

Dredging Cost Ballpark Estimate
Hydraulic Dredging to Geotubes
$755,000
Hydraulic Dredging to Sed Basin
$648,000
Mechanical During Drawdown
$566,000

Additional Costs
Sediment testing
Engineering designs

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Example Dredging Plan

Expectations for dredging project results:

- Water quality changes, if any, will likely be unnoticeable.
- Aquatic plant biomass will likely not decrease - the depth increase will not be enough to reduce the photic zone
  - 2.5-3.0 x Secchi depth = Photic Zone *3-foot Secchi depth = 7.5 - 9 foot photic zone*
  - In fact, we have no way of determining if plants will increase, decrease, or stay the same.
- Increased volume will not be sufficient to increase the likelihood of a sustainable fishery if D.O. levels are poor now.
- Consistent testing of through-ice dissolved oxygen levels should start ASAP.
- Longevity of increased volume should be estimated prior to dredging project.

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Example Dredging Plan

Potential management following drawdown

Mechanical harvesting

- WDNR permit is required - can typically receive a 5-year permit.
- District-owned or contracted mechanical harvesting
  - Lake groups find it impracticable to contract harvesting for small lakes - cost is inflated.
  - Owning and operating a mechanical harvester presents challenges, even to a city.
  - Grants are available to purchase new harvesting equipment.


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Example Dredging Plan

Implementation plan order of actions for dredging project:

1. Complete September to June drawdown to remove as much sediment as possible from basin at essentially no cost.
2. Complete acoustic survey to reassess bathymetry during the following early spring.
3. Hire engineering firm to create dredging plan and estimates.
   - The conditions during the drawdown in Step 1 should be documented to help determine dredging techniques that could be realistically utilized for the millpond.
4. Work with WDNR (Mary Gansberg) to determine sediment sampling and analysis requirements.
   - Sampling regime depends on the area and depth of sediment removal, so tentative dredging plan is required.
5. Determine feasibility of dredging project based upon engineering estimates and results of sediment testing.
   - Are the costs of the dredging project within the means of the district?
   - Do the results of the sediment testing conclude that the sediments must be treated before land-spreading or possibly land-filled? Either would increase overall dredging costs substantially.

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Next Steps

Tim creates first draft of Implementation Plan for committee review.

Committee comments and suggestions are integrated, and if needed, sent for second review by committee.

Report sections and implementation plan are combined to create the Official First Draft of the Chilton Millpond Management Plan.

OFD is sent to WDNR for review and placed on City website for public review (21-day).

Public and WDNR comments are integrated as appropriate.

Chilton Millpond Management Plan is finalized

Implement the plan!

Onterra LLC

Tim Hoyman

From: chiltonwi@listserv.govoffice.com
Sent: Friday, November 10, 2023 9:45 AM
To: Tim Hoyman
Subject: Chilton Millpond Comprehensive Management Plan

Chilton citizens as asked to review the Chilton Millpond Comprehensive Management Plan. This plan was been reviewed by several government officials. This completed "draft version" is NOW AVAILABLE for city residents review. All residents are invited to submit written comments to the City Administrator David DeTroye via email ddetroye@chiltonwi.gov. Comments are being accepted until December 1, 2023.

Sincerely

David DeTroye

City Administrator

RESOLUTION NO. 1920

RESOLUTION APPROVING THE COMPREHENSIVE LAKE MANAGEMENT PLAN FOR THE CHILTON MILLPOND

WHEREAS, the Chilton Millpond Lake Management plan is deemed outdated; and

WHEREAS, said plan is to be updated regularly in order for the district to remain eligible for surface-water grant funding and other programs administered by the Wisconsin Department of Natural Resources; and

WHEREAS, the Chilton Lake District desires to proactively plan for the growth and demand for watershed usage and recreational resources within the district; and

WHEREAS, the Lake Chilton Sub-Committee has the responsibility of updating the Comprehensive Lake Management Plan for the district; and

WHEREAS, the Lake Chilton Sub-Committee held several meetings to discuss the Comprehensive Lake Management Plan, and solicited input from the public regarding improvements to the city's watershed: and

WHEREAS, the revised plan was created using current and historical data from the watershed and establishes a system that will preserve natural resources and enhance outdoor recreational activities for present and future residents of the district; and

WHEREAS, the plan findings and recommendations are set forth in the Chilton Lake District Comprehensive Lake Management Plan and will remain living with continuous updating; and

WHEREAS, the plan has been recommended for adoption by Calumet County and the Wisconsin Department of Natural Resources.

NOW, THEREFORE, BE IT HEREBY RESOLVED that the Common Council of the City of Chilton adopts the Comprehensive Lake Management Plan for the Chilton Lake District.

Resolution No. 1920 introduced, and its adoption moved by Alderman Schmitzer, seconded by Alderman Schoenborn.

Roll Call Vote Indicated:

Council member Robbie Seipel	aye
Council member Peggy Loose	absent
Council member Ron Gruett	aye
Council member Rick Jaeckels	aye

Council member Kathleen Schmitzer aye
Council member Joe Schoenborn aye

Upon a call of votes thereon, the result was as follows:

5 Votes Cast
5 Votes Aye
0 Votes Nay

The mayor declared Resolution No. 1919 adopted and approved this 19th day of December 2023.

Thomas J. Reinl, Mayor

ATTEST:
David DeTroye,
City Administrator/Clerk/Treasurer

B

APPENDIX B

Stakeholder Survey Response Charts and Comments

Chilton Millpond - Anonymous Stakeholder Survey

Surveys Distributed:
Surveys Returned: *79*
Response Rate:

Chilton Millpond Property

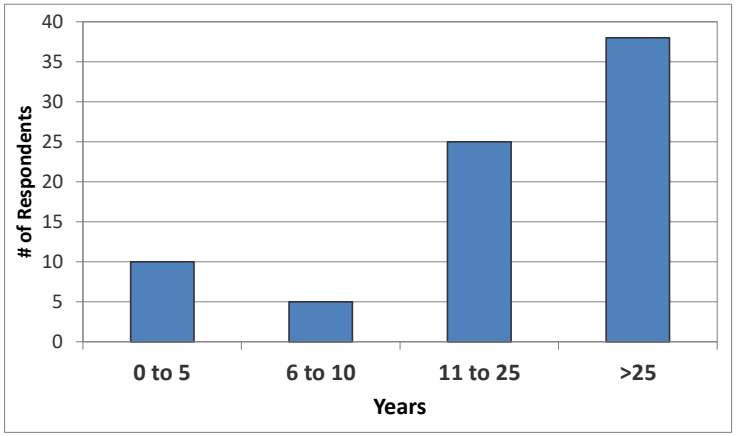
1. Does your property in the City of Chilton border Chilton Millpond? If you own more than one property, please refer to the property you have owned the longest.

Answer Options	Response Percent	Response Count
Yes	18.2%	14
No	81.8%	63
answered question		**77**
skipped question		**2**

2. How many years have you resided in Chilton?

Answer Options	Response Count
	78
answered question	**78**
skipped question	**1**

Category (# of years)	Responses	% Response
0 to 5	**10**	**13%**
6 to 10	**5**	**6%**
11 to 25	**25**	**32%**
>25	**38**	**49%**



3. Do you feel Chilton Millpond as being a positive attribute of the community?

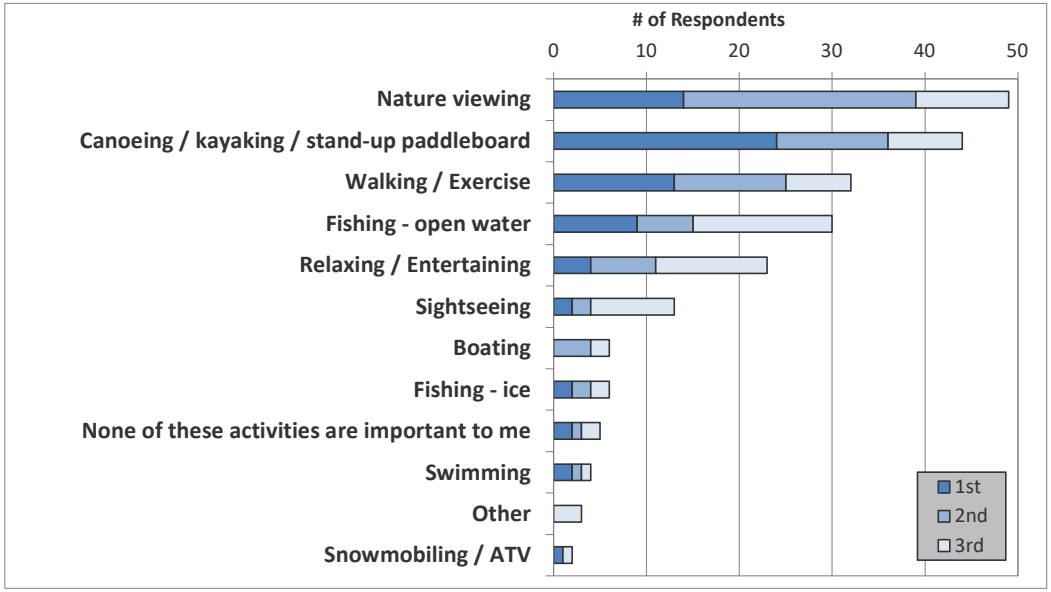
Answer Options	Response Percent	Response Count
Yes	75.3%	55
No	11.0%	8
Unsure	13.7%	10
answered question		**73**
skipped question		**6**

Recreational Activity on Chilton Millpond

4. Please rank up to three activities that are important amenities of Chilton Millpond. Please enter the letters below in order of importance with the 1st being most important.

Answer Options	1st	2nd	3rd	Rating Average	Response Count
Nature viewing	14	25	10	1.92	49
Canoeing / kayaking / stand-up paddleboard	24	12	8	1.64	44
Walking / Exercise	13	12	7	1.81	32
Fishing - open water	9	6	15	2.2	30
Relaxing / Entertaining	4	7	12	2.35	23
Sightseeing	2	2	9	2.54	13
Boating	0	4	2	2.33	6
Fishing - ice	2	2	2	2	6
None of these activities are important to me	2	1	2	2	5
Swimming	2	1	1	1.75	4
Other	0	0	3	3	3
Snowmobiling / ATV	1	0	1	2	2
			answered question		**73**
			skipped question		**6**

4	"Other" responses
1	Ice Skating
2	Skating
3	Ice skating
4	Ice skating
5	I personally don't visit it but see others enjoy it.



5. Do you frog hunt on Chilton Millpond?

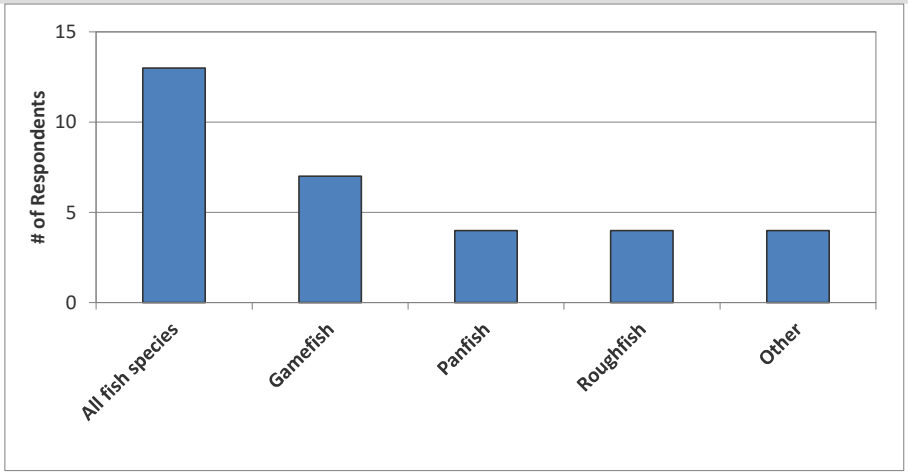
Answer Options	Response	Response
Yes	2.7%	2
No	97.3%	72
answered question		**74**
skipped question		**5**

6. Have you personally fished on Chilton Millpond in the past three years?

Answer Options	Response Percent	Response Count
Yes	35.1%	26
No	64.9%	48
answered question		74
skipped question		5

7. What species of fish do you try to catch on Chilton Millpond?

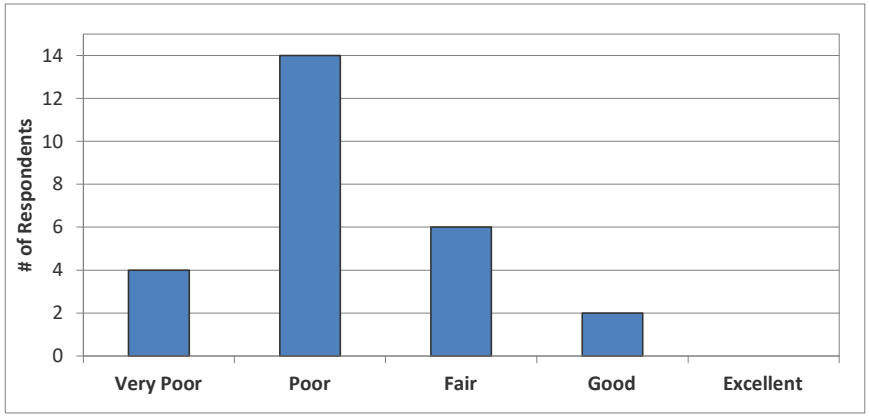
Answer Options	Response Percent	Response Count
All fish species	50.0%	13
Gamefish	26.9%	7
Panfish	15.4%	4
Roughfish	15.4%	4
Other	15.4%	4



7	"Other" responses
1	northern + carp
2	Northern Pike
3	Anything
4	Northern pike

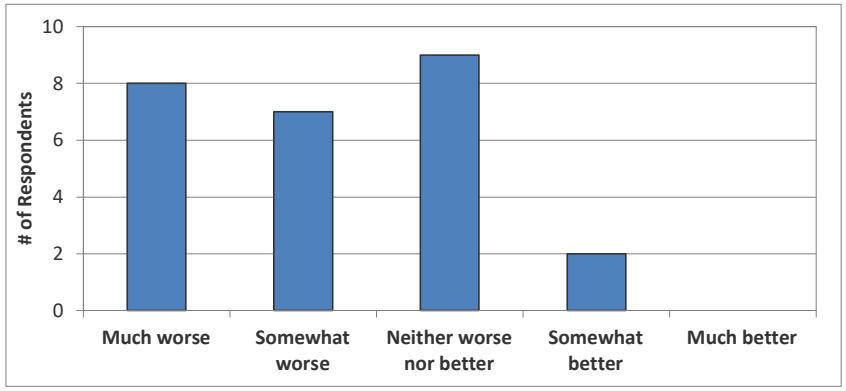
8. How would you describe the current quality of fishing on Chilton Millpond?

Answer Options	Very Poor	Poor	Fair	Good	Excellent	Response Count
	4	14	6	2	0	26
					answered question	**26**
					skipped question	**53**



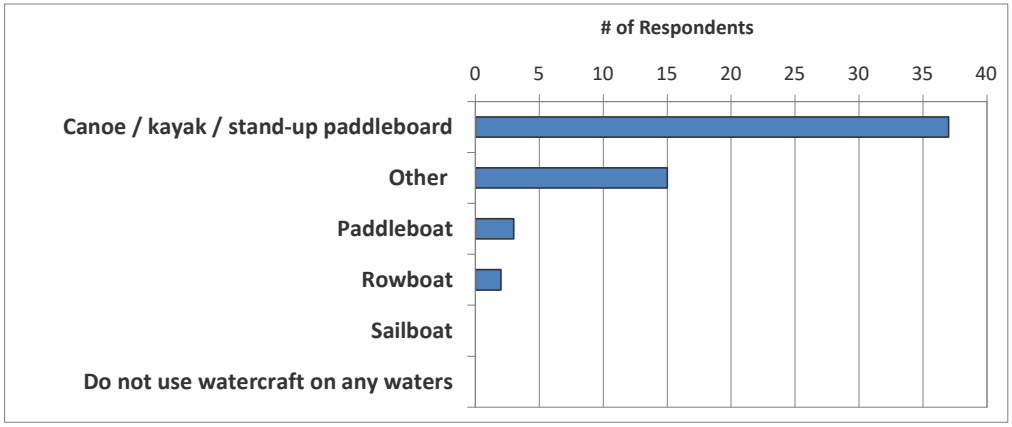
9. How has the quality of fishing changed on Chilton Millpond since you have started fishing the lake?

Answer Options	Much worse	Somewhat worse	Neither worse nor better	Somewhat better	Much better	Response Count
	8	7	9	2	0	26
					answered question	**26**
					skipped question	**53**



10. What types of watercraft do you currently use on Chilton Millpond?

Answer Options	Response Percent	Response Count
Canoe / kayak / stand-up paddleboard	67.3%	37
Other	27.3%	15
Paddleboat	5.5%	3
Rowboat	3.6%	2
Sailboat	0.0%	0
Do not use watercraft on any waters	0.0%	0
answered question		55
skipped question		24



10	"Other" responses
1	none
2	None lately
3	None - listed important for others
4	Shore
5	None
6	None at this time. Previous kayak
7	My family members kayak
8	None
9	none - do not fish
10	None
11	N/A
12	inflatable pontoon boat
13	None
14	I don't own any watercraft
15	None

11. Do you use your watercraft on waters other than Chilton Millpond?

Answer Options	Response Percent	Response Count
Yes	54.4%	37
No	45.6%	31
answered question		68
skipped question		11

12. What is your typical cleaning routine after using your watercraft on waters other than Chilton Millpond?

Answer Options	Response Percent	Response Count
Remove aquatic hitch-hikers (ex. - plant material, clams, mussels)	43.2%	16
Rinse boat	48.7%	18
Power wash boat	13.5%	5
Apply bleach	10.8%	4
Air dry boat for 5 or more days	27.0%	10
Do not clean boat	8.1%	3
Other	8.1%	3
answered question		37
skipped question		42

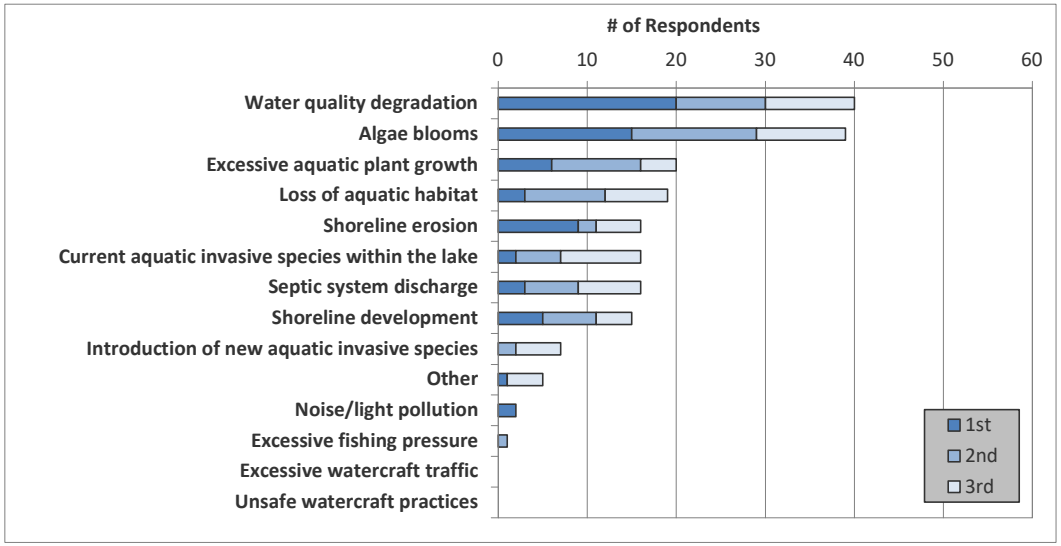
12	"Other" responses
1	No boat
2	I rest my canoe in the Sun. When I fish I almost always fish from the shore, though.
3	It's in a slip in Pipe

Chilton Millpond Current and Historic Condition, Health and Management

13. From the list below, please rank your top three concerns regarding Chilton Millpond, with 1 being your greatest concern.

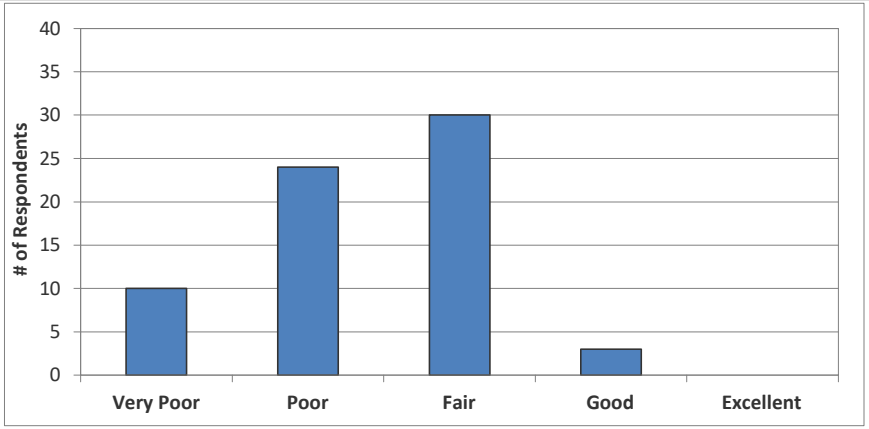
Answer Options	1st	2nd	3rd	Response Count
Water quality degradation	20	10	10	40
Algae blooms	15	14	10	39
Excessive aquatic plant growth	6	10	4	20
Loss of aquatic habitat	3	9	7	19
Shoreline erosion	9	2	5	16
Current aquatic invasive species within the lake	2	5	9	16
Septic system discharge	3	6	7	16
Shoreline development	5	6	4	15
Introduction of new aquatic invasive species	0	2	5	7
Other	1	0	4	5
Noise/light pollution	2	0	0	2
Excessive fishing pressure	0	1	0	1
Excessive watercraft traffic	0	0	0	0
Unsafe watercraft practices	0	0	0	0
			answered question	**66**
			skipped question	**13**

13	"Other" responses
1	farm chemical run off
2	Farm field run off has caused 2 incident of fish die off since we lived here a heavy rain 4" or more
3	Storm sewer and farm runoff,silt buildup.
4	There's a lot of harmful agricultural runoff, as well as residential runoff from lawn fertilizers. We already have a lot of harmful runoff from salt and other things from the roads.
5	Mosquito breeding ground
6	Can't eat fish from this pond.
7	i don't have any concerns



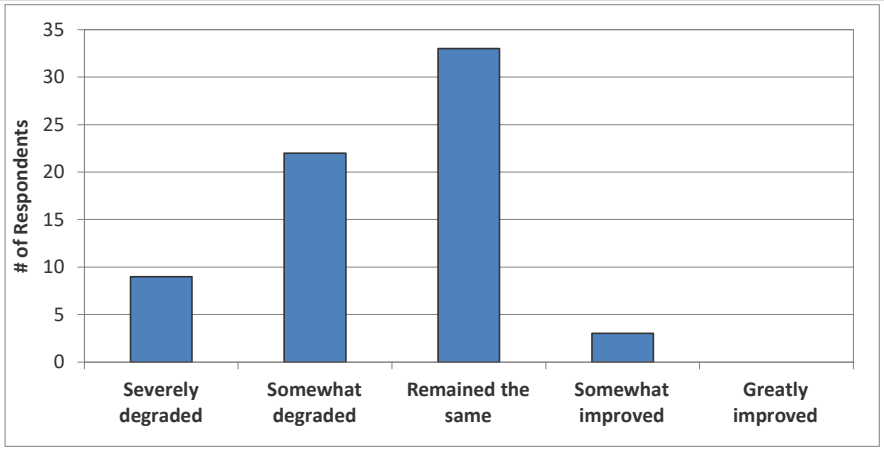
14. How would you describe the overall current water quality of Chilton Millpond?

Answer Options	Very Poor	Poor	Fair	Good	Excellent	Response Count
	10	24	30	3	0	67
					answered question	**67**
					skipped question	**12**



15. How has the overall water quality changed in Chilton Millpond since you first visited the lake?

Answer Options	Severely degraded	Somewhat degraded	Remained the same	Somewhat improved	Greatly improved	Response Count
	9	22	33	3	0	67
					answered question	**67**
					skipped question	**12**



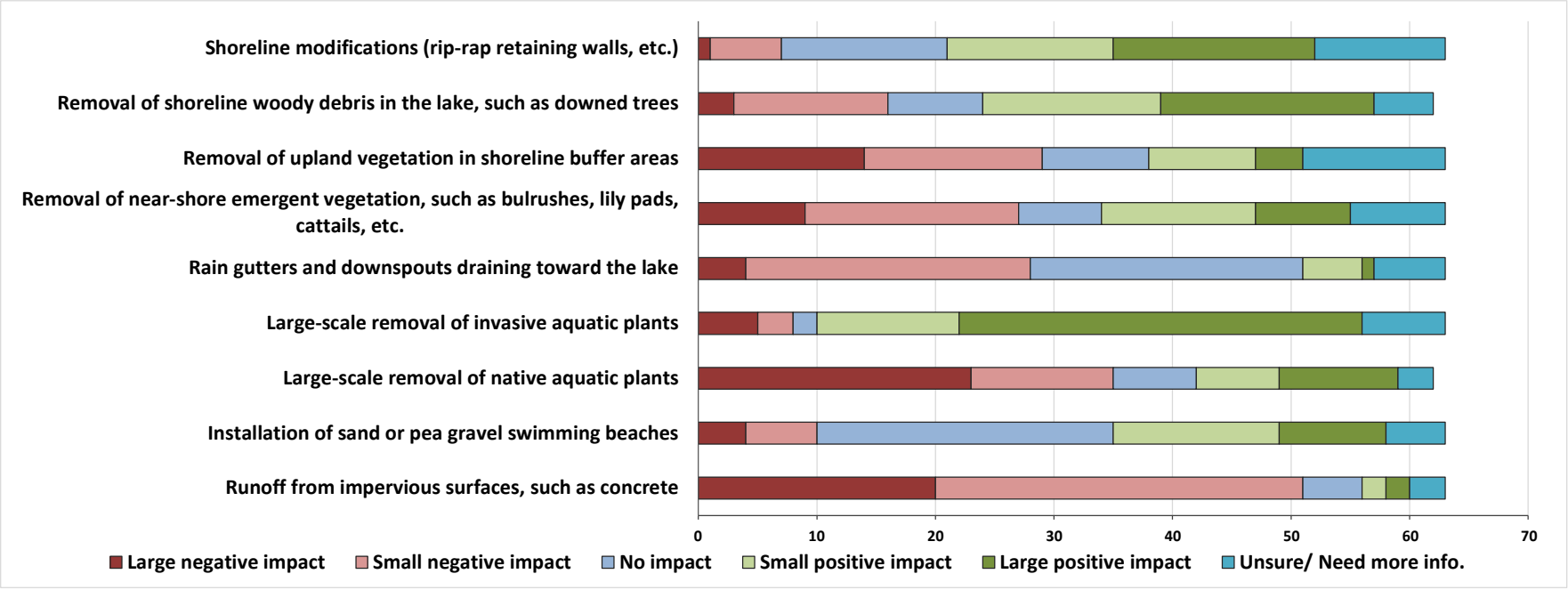
16. Which of the following would you say is the single most important aspect when considering water quality?

Answer Options	Response Percent	Response Count
Water clarity (clearness of water)	20.9%	14
Water color	6.0%	4
Aquatic plant growth (not including algae blooms)	19.4%	13
Algae blooms	29.9%	20
Smell/odors	11.9%	8
Water level	0.0%	0
Fish kills	7.5%	5
Other	4.5%	3
answered question		**67**
skipped question		**12**

Number	"Other" responses
1	Water clarity and water level
2	The chemical composition of the water will dictate things like having a conducive environment for algae blooms. For example, excessive nitrogen and phosphorus in the water is problematic.
3	Not sure

17. Using the following scale, what impact, if any, do you believe each of the following practices have on the water quality of Chilton Millpond?

Answer Options	Large negative impact	Small negative impact	No impact	Small positive impact	Large positive impact	Unsure/ Need more info.	Response Count
Runoff from impervious surfaces, such as concrete	20	31	5	2	2	3	63
Installation of sand or pea gravel swimming beaches	4	6	25	14	9	5	63
Large-scale removal of native aquatic plants	23	12	7	7	10	3	62
Large-scale removal of invasive aquatic plants	5	3	2	12	34	7	63
Rain gutters and downspouts draining toward the lake	4	24	23	5	1	6	63
Removal of near-shore emergent vegetation, such as bulrushes, lily pads, cattails, etc.	9	18	7	13	8	8	63
Removal of upland vegetation in shoreline buffer areas	14	15	9	9	4	12	63
Removal of shoreline woody debris in the lake, such as downed trees	3	13	8	15	18	5	62
Shoreline modifications (rip-rap retaining walls, etc.)	1	6	14	14	17	11	63
						answered question	63
						skipped question	16



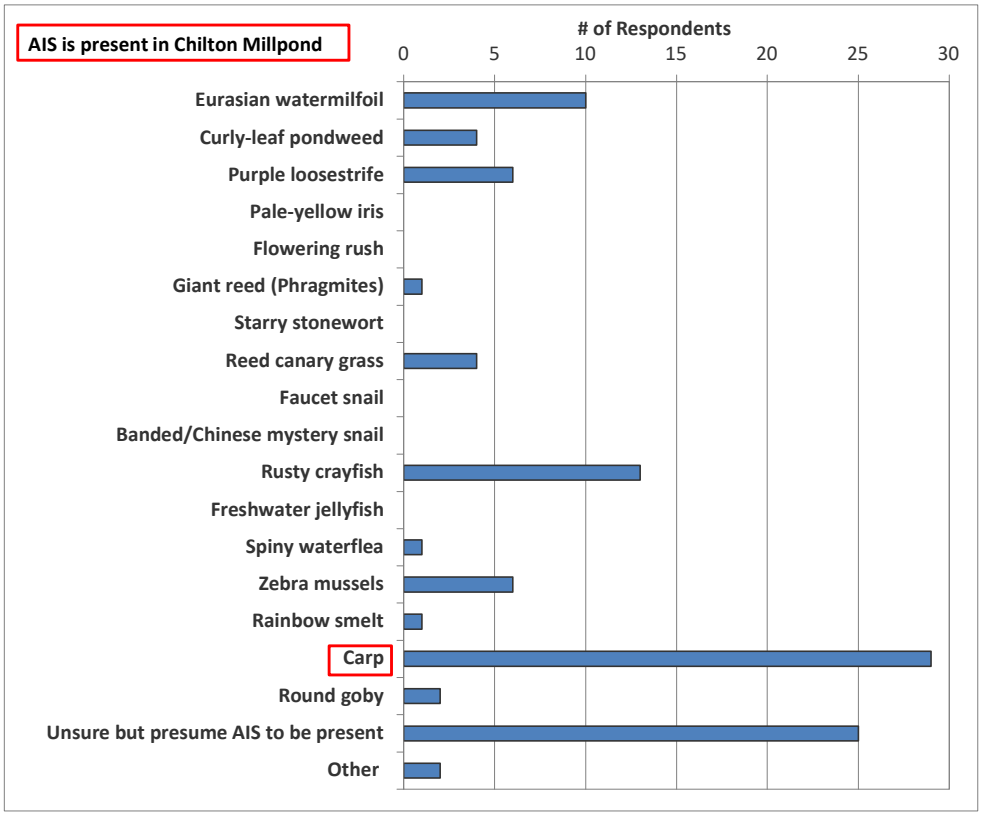
18. Before reading the statement above, had you ever heard of aquatic invasive species?		
Answer Options	**Response Percent**	**Response Count**
Yes	98.4%	61
No	1.6%	1
answered question		**62**
skipped question		**17**

19. Do you believe aquatic invasive species are present within Chilton Millpond?		
Answer Options	**Response Percent**	**Response Count**
Yes	88.1%	52
I think so but am not certain	0.0%	0
No	11.9%	7
answered question		**59**
skipped question		**20**

20. Which aquatic invasive species do you believe are present in or immediately around Chilton Millpond?

Answer Options	Response Percent	Response Count
Eurasian watermilfoil	20.0%	10
Curly-leaf pondweed	8.0%	4
Purple loosestrife	12.0%	6
Pale-yellow iris	0.0%	0
Flowering rush	0.0%	0
Giant reed (Phragmites)	2.0%	1
Starry stonewort	0.0%	0
Reed canary grass	8.0%	4
Faucet snail	0.0%	0
Banded/Chinese mystery snail	0.0%	0
Rusty crayfish	26.0%	13
Freshwater jellyfish	0.0%	0
Spiny waterflea	2.0%	1
Zebra mussels	12.0%	6
Rainbow smelt	2.0%	1
Carp	58.0%	29
Round goby	4.0%	2
Unsure but presume AIS to be present	50.0%	25
Other	4.0%	2
answered question		**50**
skipped question		**29**

Number	"Other" responses
1	I'm sure there are some but unknown to me
2	Duckweed



Chilton Millpond Lake District (CMLD)

21. Before receiving this mailing, have you ever heard of the Chilton Millpond Lake District?

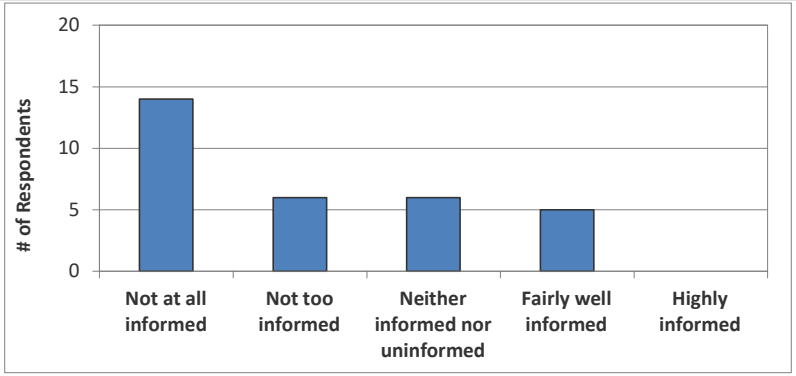
Answer Options	Response Percent	Response Count
Yes	66.7%	40
No	33.3%	20
answered question		**60**
skipped question		**19**

22. What is your membership status with the Chilton Millpond Lake District?

Answer Options	Response Percent	Response Count
Current member	30.8%	12
Former member	0.0%	0
Never been a member	69.2%	27
answered question		**39**
skipped question		**40**

23. How informed has (or had) the Chilton Millpond Lake Districtct kept you regarding issues with Chilton Millpond and its management?

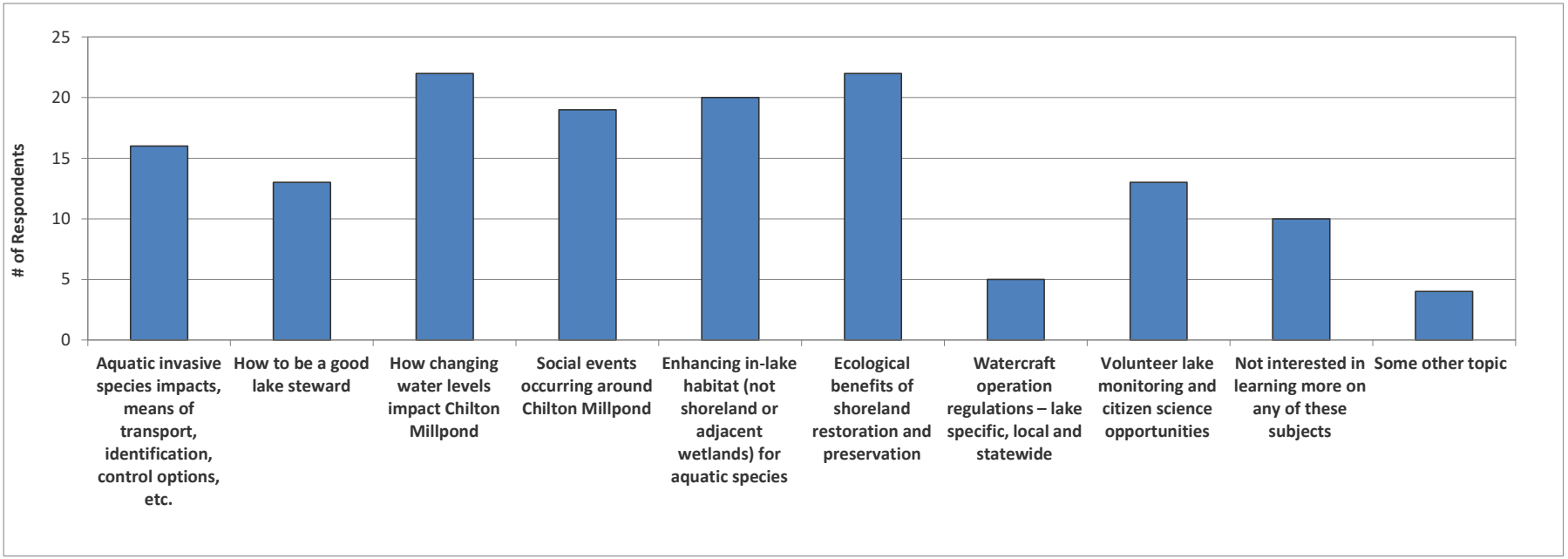
Answer Options	Not at all informed	Not too informed	Neither informed nor uninformed	Fairly well informed	Highly informed	Response Count
	14	6	6	5	0	31
					answered question	**31**
					skipped question	**48**



24. Stakeholder education is an important component of every lake management planning effort. Which of these subjects would you like to learn more about?

Answer Options	Response Percent	Response Count
Aquatic invasive species impacts, means of transport, identification, control options, etc.	29.1%	16
How to be a good lake steward	23.6%	13
How changing water levels impact Chilton Millpond	40.0%	22
Social events occurring around Chilton Millpond	34.6%	19
Enhancing in-lake habitat (not shoreland or adjacent wetlands) for aquatic species	36.4%	20
Ecological benefits of shoreland restoration and preservation	40.0%	22
Watercraft operation regulations – lake specific, local and statewide	9.1%	5
Volunteer lake monitoring and citizen science opportunities	23.6%	13
Not interested in learning more on any of these subjects	18.2%	10
Some other topic	7.3%	4
	answered question	**55**
	skipped question	**24**

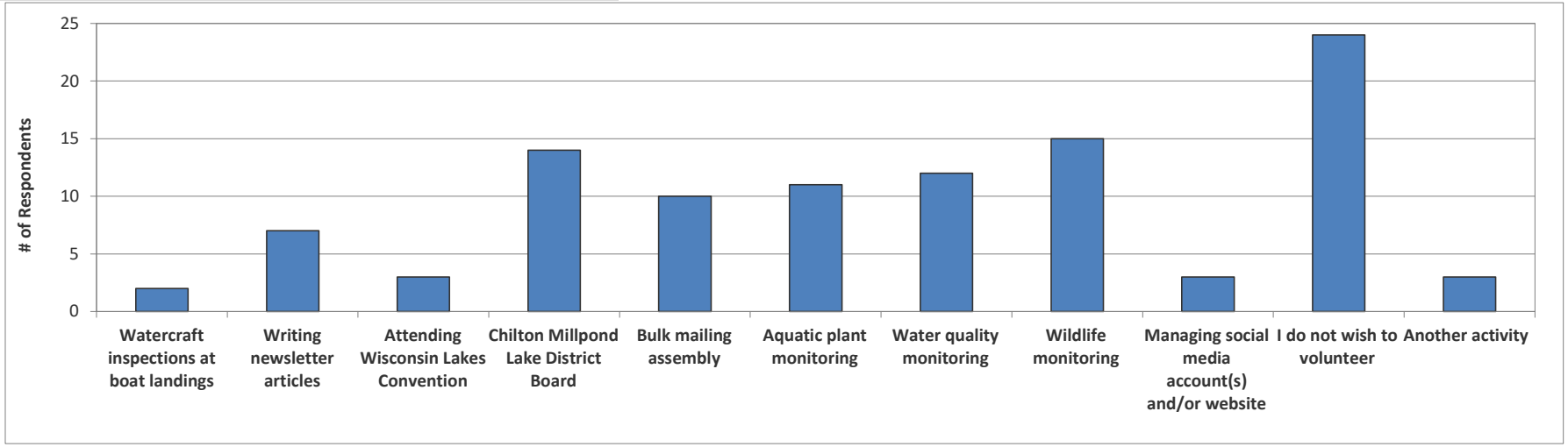
24	"Some other topic" responses
1	how do I become a member of the lake district?
2	DNR fish stocking possibilities
3	Fishing regulations. I think we need to place signage around the river system in specific locations to inform people. I also believe that the entire system in town should have a unique catch-and-release only policy.
4	I get my info from the subcommittee meetings



25. Please note that because this survey is anonymous, your answer to this question will not be regarded as a commitment to participate, but instead will be used to gauge potential participation of stakeholders in the Chilton Millpond Lake District. The effective management of Chilton Millpond will require the cooperative efforts of numerous volunteers. Please select the activities you would be willing to participate in if the Chilton Millpond Management District requires additional assistance.

Answer Options	Response Percent	Response Count
Watercraft inspections at boat landings	3.6%	2
Writing newsletter articles	12.7%	7
Attending Wisconsin Lakes Convention	5.5%	3
Chilton Millpond Lake District Board	25.5%	14
Bulk mailing assembly	18.2%	10
Aquatic plant monitoring	20.0%	11
Water quality monitoring	21.8%	12
Wildlife monitoring	27.3%	15
Managing social media account(s) and/or website	5.5%	3
I do not wish to volunteer	43.6%	24
Another activity	5.5%	3
answered question		**55**
skipped question		**24**

Number	"Another activity" responses
1	All depends upon how much time is needed and when
2	Nature activity volunteer (eg. on site classes, events, education)
3	Fish stocking volunteer



26. Please feel free to provide written comments concerning Chilton Millpond, its current and/or historic condition and its management.

Answer Options	Response Count
	16
answered question	**16**
skipped question	**63**

Number	Response Text
1	We are not mill pond land owners but do live on the river. We've seen many changes, mostly negative to the river water quality and/or impact management. We have observed direct surface street overflow that is purposely introduced into the river. We have observed several unsafe & unsupervised activities (by children) that would be difficult/impossible to prevent. Briefly, additional public education, via social media or on site classes or nature tours would directly impact and improve the awareness of the mill pond/river issues.
2	I live on the north side of Hwy151 and I have some photos of the area from over 100 years ago showing the shoreline being free of trees and bushes. Its nice to be able to see the river and millpond. Thanks for doing the survey, good luck with the project.
3	I have called the DNR on numerous occasions asking if they have any plans to restock the millpond with fish. Their answer was no. Because the algae blooms will just kill all the stocked fish. When I moved here 21 yrs ago, I caught 12 northerns an hour one day after work standing on the shore. One of those northerns was 36". I released all those fish. The pond is now the dead sea. Only bullheads are left swimming in the water. Even the carp have disappeared. It seems to me, algae blooms are the NUMBER 1 problem. Storm sewer runoff, farm runoff, people racking leaves into the lake etc. 20 yrs ago the lake was deep with a hard bottom. Now it is silted in and shallow. Which the weeds like, of course. Fixing shorelines would do very little to improve water quality. It may look nice, but won't fix the problems. Thank you for the opportunity to voice my opinion.
4	Anyone who lives in Chilton knows the water in the Millpond and Manitowoc river is polluted and hazardous. Probably needs to be dredged if there's any hope of saving it.
5	I was born and raised in Chilton. I left for college but moved back when I was 28. I spent many years as a kid catching frogs, crayfish, turtles, bluegills, pumpkinseed, sunfish, bullheads, and later on northern Pike when I was in high school and college. I'm 38 now. The last dozen times or so I've fished the river system from Cofeen's bridge all the way through Hayton I've only caught a few northern Pike. I used to catch (and release) them frequently in years past, including some big ones. I frequently take walks along the riverwalk near the library. I carefully observe the shoreline, always looking for signs of live. I can't remember the last time I saw a frog or painted turtle. I e seen a few canoeing upstream past the fairgrounds, but that's it. It's not like it used to be when I was growing up. I care about the river a lot. I'm a bug fisherman and conservationist, but I do my fishing up in northern WI. Occasionally I'll go catch a few northern Pike below the Hayton dam. I'm very excited about efforts to improve our system. It needs help.

6	We are very concerned about the unkept, derelict properties on the southwest corner of State and West Main Streets. Also the stagnant water being mosquito breeding grounds. Please make sure any rehabilitation projects don't disrupt the Great White Egret roosting area (east side of Millpond).
7	The water is filthy. Landowners have not been able to fix their property shorelines without threat of being fined by the DNR. Yet our sure lines are corroding and falling into the river and taking our properties with them.
8	*I've not seen the water levels this low in 50 years (except when it was drained to fight the marsh fire) plus the silt that comes from upstream is further causing too much plant life to grow. I'm not a scientist, just a keen observer to our lake and river. I think it is time for a dredge. Kayakers from upriver have to stop at the fairgrounds boat ramp in the summer since you can't get thru the weeds to get to Leahy park. *I was happy to observe river otter activity today. There appears to be a lot of crayfish in their diet judging by their scat. *The northern pike fishing was amazing in recent years up until the algae bloom last summer. It's coming back a little but the fish kill really was unfortunate. *There is a very bright light at the VFW food stand near the band shell that causes so much light pollution on the water all night for 6 months a year. That has to be bad for insects, frogs, etc.
9	I am concerned about farmer runoff up stream that affects the quality of the water. Like manure and chemicals. What is being done to control this runoff up stream?
10	We purchased our home because of its location on the Chilton Millpond. We have seen the quality of the water deteriorate as evidenced by clarity and dense plant matter. We would love to be able to use the water more.
11	Too much farm chemical runoff contributing to invasive species growth, dirty water and reduction in fish populations. Also, the city sprays weed and grass killer along the rivers edge in the parks. Some of this ends up in the river and I believe contributes to the poor water quality.
12	I think I answered the question that I'm not part of the Chilton Millpond District. Near the end, the District was explained and I think I'm part of it now. I live within the boundaries of the City of Chilton. Before this survey, I never heard of this District and would encourage more publicity...perhaps on socia media as we no longer have a city newspaper.
13	Since there is no invasive species currently in the water shed, and by draining the Lake District pond and dredging it, this would undoubtedly introduce evasive species ! Personal I feel that erosion is a top concern of mine, muskrats ect are thriving and in 35 years of living here, I've lost 8 feet of shoreline and furthermore the DNR should be more proactive then reactive when concerns are brought to their attention !
14	I have observed very little usage of the Chilton Millpond of any sort. If Chilton is going to continue calling it a separate "district" it needs to be made user friendly.
15	The mill pond looks like crap during the summer months with all the aquatic weed and Lilly pad growth. For people from out of town going to band concerts and driving through town it is horrible looking first impression seeing this clogged up mess
16	The pond is a great asset to Chilton, especially to shoreline properties and Hobart Park. Hope that by clearing the invasive plant life the pond will get more use and be a more pleasant setting for the Fair. By that weekend, the pond is little more than a lawn of weeds behind an otherwise well kept park.

C

APPENDIX C

Comment Response Document for the Official First Draft

Comments to Chilton Millpond Comprehensive Management Plan (11-15-2023)

WDNR Official Comments: Mary Gansberg, Water Resources Management Specialist

Comment Key:
Responses in blue by Tim Hoyman, Onterra

Thank you for the opportunity to review and provide input. Overall, this is an extremely well written and well thought-out report and plan. I am happy the City and CLD have completed this step.

I am including Fisheries Biologist, Angelo Cozzola in this email for fisheries program review also.

I have a few comments/questions for your consideration.

1. I appreciate the detailed mechanical harvesting Map 10 and description of the harvesting operation provided under Management Goal #1. This level of detail will be needed if the City plans to apply for a harvesting permit in the future.

   Thank you.

2. Page 25, discusses the Northeast Lakeshore TMDL and says "The WDNR created the draft TMDL report … and is currently reviewing comments received prior to the March 3, 2023 deadline". Just letting you know that the US EPA approved the report in November 2023 so it is being finalized as of this writing.

   TMDL references throughout the document were corrected to reflect the EPA's study approval.

3. I fully support all the action steps in the plan to seek WDNR surface water grants for possible funding of education, planning and aquatic invasive species rapid response activities. I also support seeking funding for the recreational boating facilities grant to purchase harvesting equipment if needed. Could you also suggest Healthy Lakes and River grant funding under Management Goal #1?

   A reference to Wisconsin Healthy Lakes and Rivers Grants has been added to the second action in Management Goal 1 for restorations.

4. Was an updated contour map completed as part of this project? How was the volume of sediment for possible removal estimated?

   An acoustic survey was completed in spring 2022 before plant growth began to produce the contours used in the Chilton Millpond maps used in the report. The data, in polygon shapfile format, will be supplied to the WDNR, county, and city. An explanation of the sediment calculation method was added to the fourth action of Management Goal 1.

5. I think it could be worth mentioning (page 4) that the Chilton Lake District not only completed the 2002 Chilton Millpond Comprehensive Lake management plan Wisconsin Lakes but had also completed a plan in 1998 Wisconsin Lakes

   The 1998 plan reference was added to the document.

Tim Hoyman

From: Gansberg, Mary K - DNR <Mary.Gansberg@wisconsin.gov>
Sent: Friday, December 8, 2023 2:38 PM
To: Tim Hoyman
Cc: David DeTroye; Chris Marx; Mayor Thomas Reinl
Subject: RE: Official Second Draft of Chilton Millpond Comprehensive Management Plan

Thank you for addressing all my comments and for the opportunity to review one last time. Your report and management plan looks good to me. Nice job with all this!

Take care,
Mary

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

Mary Gansberg
Phone: (920) 717-8386
Mary.Gansberg@wisconsin.gov

From: Tim Hoyman
Sent: Friday, December 8, 2023 1:28 PM
To: Gansberg, Mary K - DNR <Mary.Gansberg@wisconsin.gov>
Cc: David DeTroye ; Chris Marx ; Mayor Thomas Reinl
Subject: Official Second Draft of Chilton Millpond Comprehensive Management Plan

Good afternoon Mary,

Attached, please find the Official Second Draft of the Chilton Millpond Comprehensive Management Plan. This version includes the integration of all of your comments as discussed in the attached comment response document. Please let me know if the changes are acceptable. This version is also being voted on for acceptance by the district on December 19th.

Thank you,

Tim

Tim Hoyman
Lead Aquatic Ecologist
Onterra, LLC