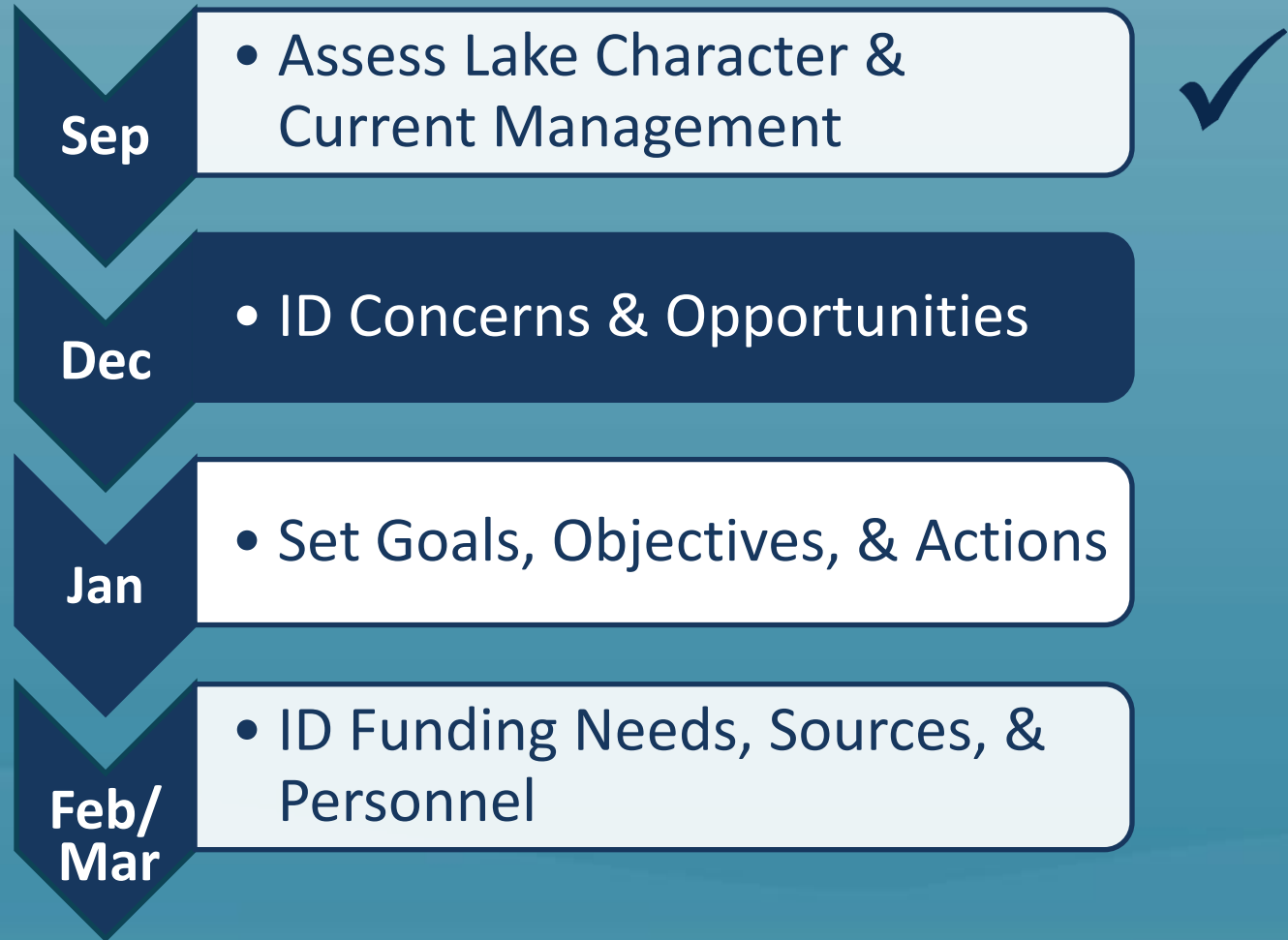


Ham Lake Comprehensive Plan Issues & Concerns

Justine Dauphinais
Water Quality Coordinator
January 11th, 2017



Planning Process Update

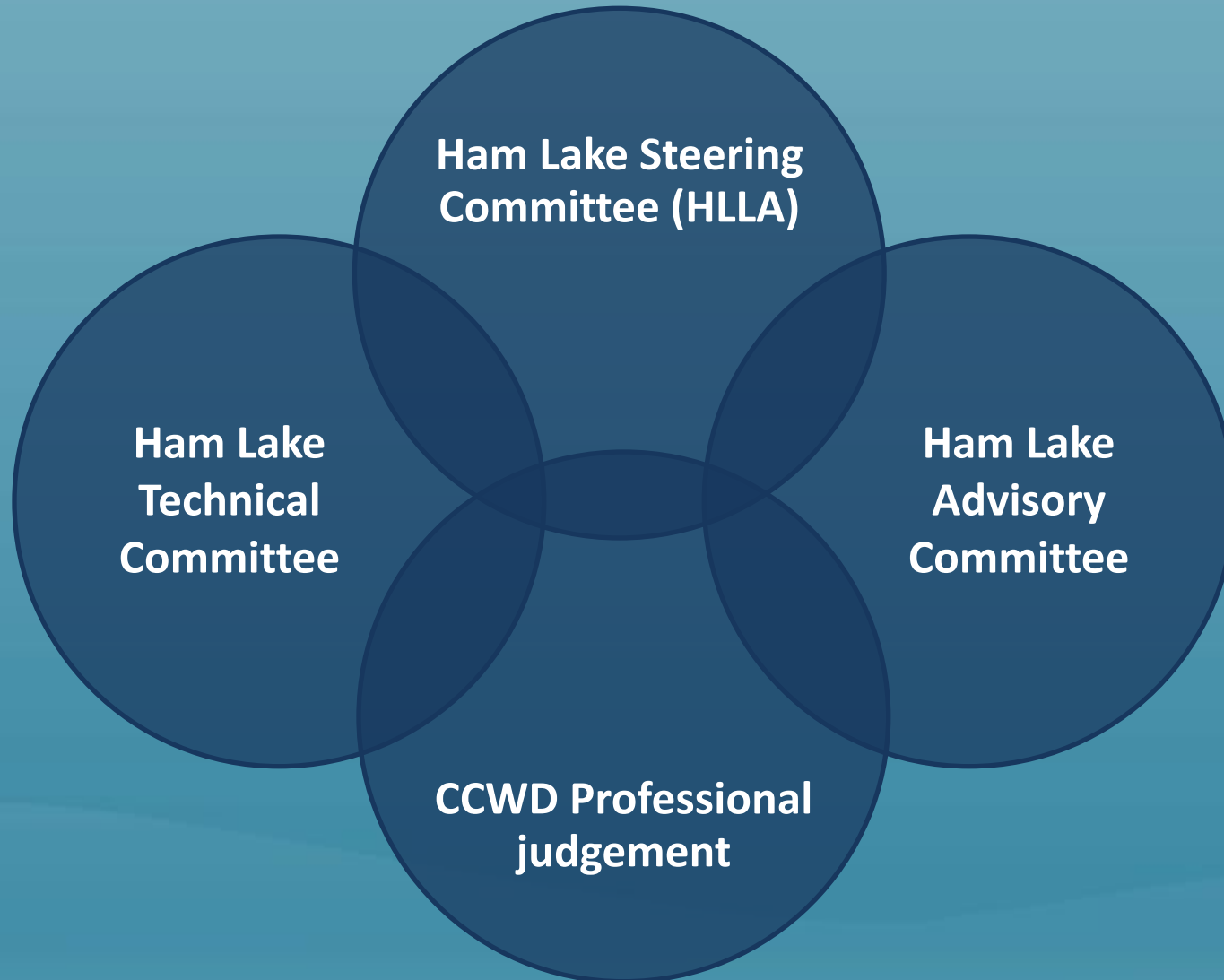


Tonight's Goals

- 1) Review issues, concerns, & management options for Ham Lake
- 2) Seek input/feedback



Concerns Identification Method



Concerns Identification Method

Potential Concerns

- 1) Aquatic Vegetation
 - 2) Fisheries
 - 3) Invasive Species
 - 4) Water Quality
 - 5) Recreation
 - 6) Wildlife
- 

Identified Concerns

Aquatic Vegetation

- Lack of planned assessments
- Nuisance growth (e.g. cattails)

Aquatic Invasive Species

- Eurasian/hybrid milfoil
- Curlyleaf pondweed
- Potential new invaders

Water Quality

- Blue-green algae
- Faulty septic systems

Recreation

- Surface water use conflicts

Concerns Identified

Aquatic Vegetation

- Lack of planned assessments
- Nuisance growth

Recreation

Surface water
use conflicts

Aquatic Invasive Species

- Eurasian/hybrid milfoil
- Curlyleaf pondweed
- Potential new invaders

Water Quality

- Blue-green algae
- Faulty septic systems

Concern #1: Aquatic Vegetation

Lack of Planned Assessments

What is it?

Aquatic plant surveys to provide information on lake health and guide management

Where? Lakewide



Concern #1: Aquatic Vegetation

Lack of Planned Assessments

Why is it important?

- 1) Provides repeatable measures of plant community make-up & distribution
- 2) Used to assess management options & results

Are the lily pads expanding...?

Did the milfoil treatment negatively impact native species...?

Concern #1: Aquatic Vegetation

Lack of Planned Assessments

Status in Ham Lake?

DNR Fisheries

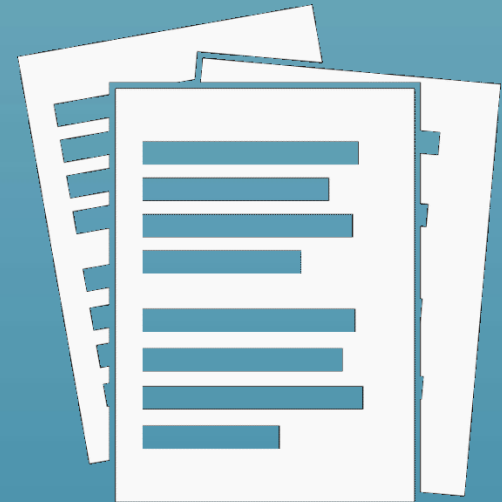
Lake Survey Reports

- 1948, 1974, 1984, 1994, 2004

DNR Invasive Species Program

Aquatic Vegetation Survey Reports & permit inspections

- 2014, 2015, 2016, 2017 (scheduled)



No guarantees going forward

Concern #1: Aquatic Vegetation

Lack of Planned Assessments

Management Needs:

Ensure the continued collection of high-quality information on the aquatic plant community to enable assessment of lake health and management outcomes

Concern #1: Aquatic Vegetation

Lack of Planned Assessments

Management Options:

Coordinate with DNR Invasive Species Program

Conduct regular point-intercept surveys



Conduct targeted surveys on managed species as needed (e.g. delineation)



Concern #2: Aquatic Vegetation Nuisance Growth

Concern #2: Aquatic Vegetation Nuisance Growth

What is it?

When vegetation growth interferes with recreation & enjoyment of the lake (e.g. limits access to open water and/or impedes activities)



Where?

Littoral zone (<15ft deep)

Concern #2: Aquatic Vegetation Nuisance Growth

Why is it important?

Diverse and abundant aquatic plants are critical components of healthy shallow lakes, **HOWEVER**, dense nuisance growth may hinder recreational activities and reduce the habitat value for fish and wildlife.



Concern #2: Aquatic Vegetation Nuisance Growth

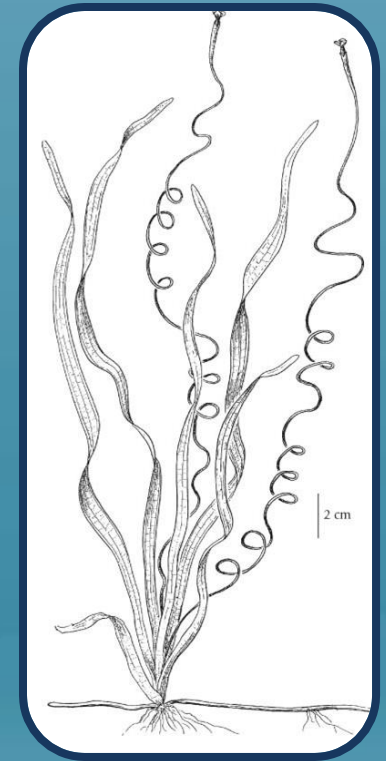
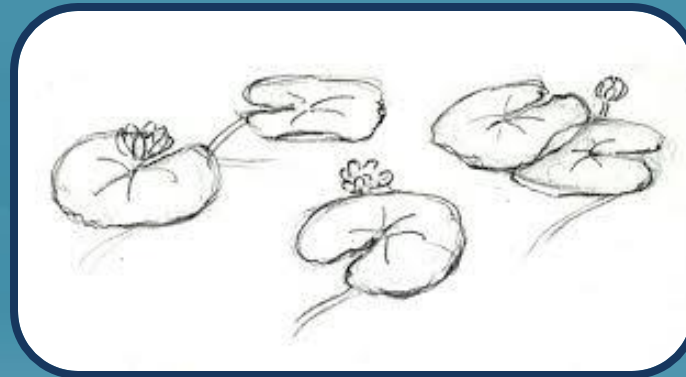
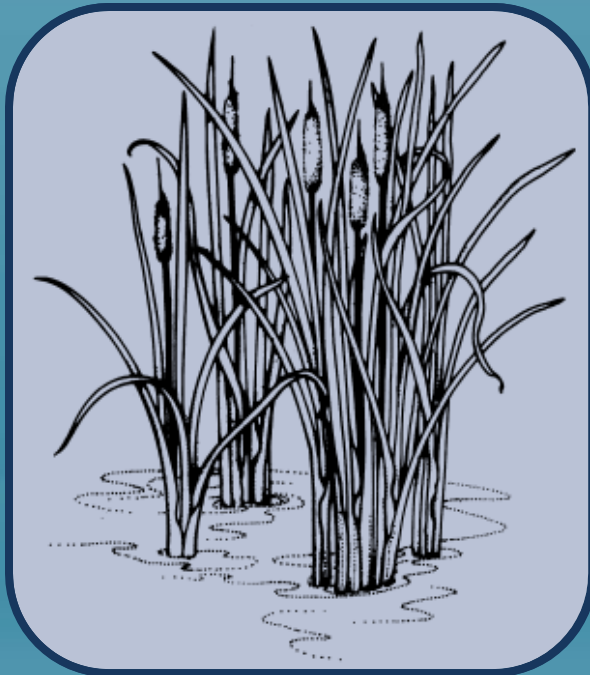
Status in Ham Lake?

Concerns expressed over:

Expanding Cattails

Dense Water Lilies

Wild Celery



Concern #2: Aquatic Vegetation Nuisance Growth

Management Needs:

- 1) Ensure a balance between maintaining a healthy aquatic plant community and recreational uses
- 2) Determine if and where nuisance plant control is warranted
 - Survey lake users to assess impact to recreation
 - Conduct analyses to quantify past & present extent of species (e.g. historical photos for cattail growth)

Concern #2: Aquatic Vegetation Nuisance Growth

Management Options:

Follow DNR Aquatic Plant Management Regulations
<http://www.dnr.state.mn.us/apm>

Short-term:

Mechanical Removal

Chemical Control

Long-term:

Reduce nutrients

Concern #2: Aquatic Vegetation Nuisance Growth

Management Options:

Follow DNR Aquatic Plant Management Regulations
<http://www.dnr.state.mn.us/apm>

Nearshore (<150' lakeward):

A 15 ft wide channel to open water
PLUS an area up to 2500 ft²
(<50' long or half of shoreline)

Offshore/Lakewide:

Control in >15% littoral
area (24 ac) requires a
Lake Vegetation
Management Plan +
variance

Aquatic Invasive Species Concerns

Aquatic Vegetation

- Lack of planned assessments
- Nuisance growth

Recreation

Surface water
use conflicts

Aquatic Invasive Species

- Eurasian/hybrid milfoil
- Curlyleaf pondweed
- Potential new invaders

Water Quality

- Blue-green algae
- Faulty septic systems

Concern #3: Aquatic Invasive Species

What is it?

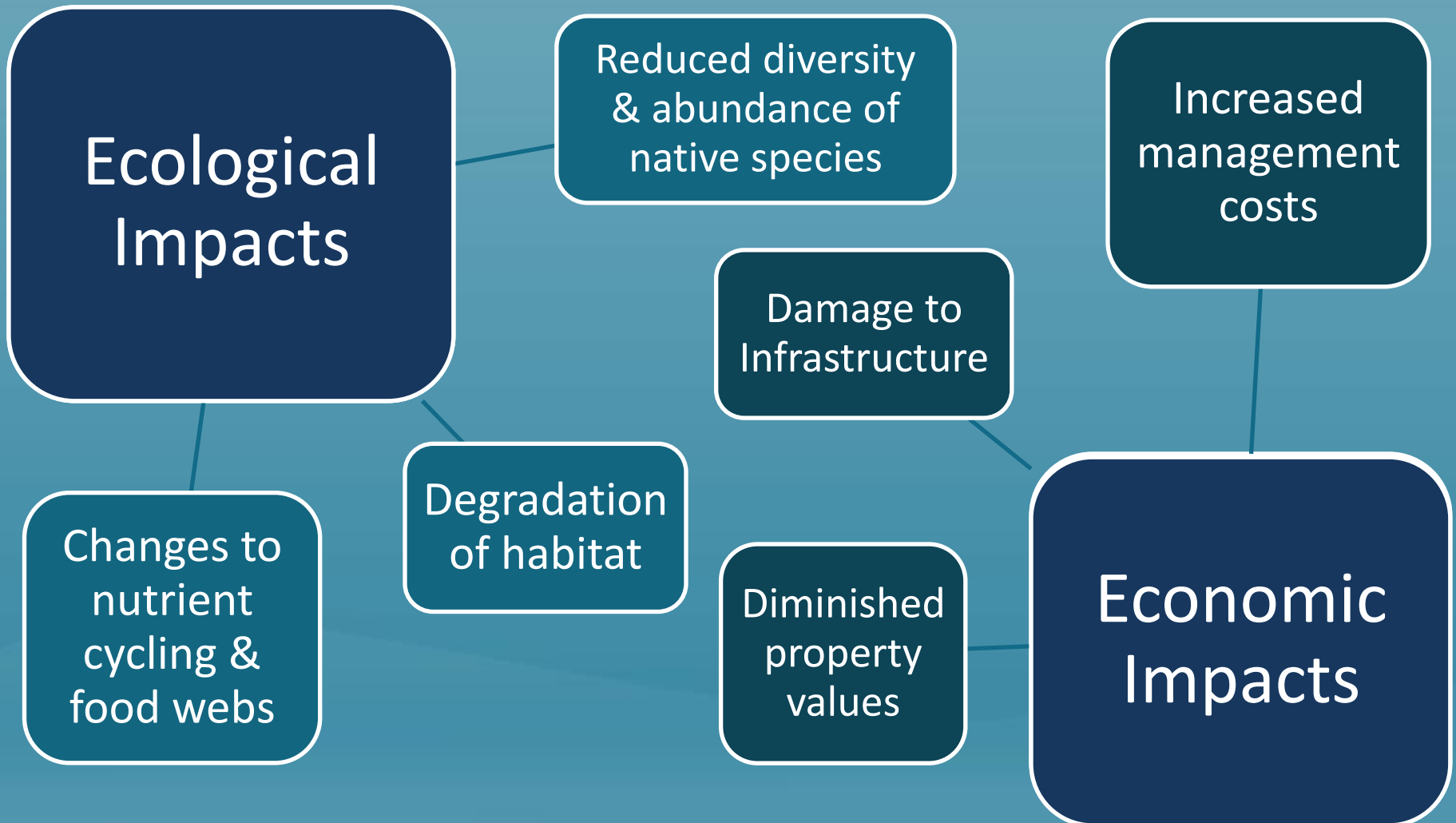
Non-native species that cause harm & spread quickly from their point of introduction



Where? Lakewide threat

Concern #3: Aquatic Invasive Species

Why is it important?



Concern #3: Aquatic Invasive Species

Status in Ham Lake

2 Established invasive plants:



Eurasian/hybrid Milfoil
~20 acres in 2015



Curlyleaf Pondweed
~16 acres in 2016

Concern #3: Aquatic Invasive Species

Potential new invaders?

Species of High Risk of Introduction to CCWD Waters

Species	Threat Status	Trend in MN	Life Form	Nearest County	Waterbody
Zebra Mussel	Severe	Established	Invertebrate	Anoka	Miss. River
Flowering Rush	Moderate	Established	Plant	Anoka	Amelia, Bass
Brittle Naiad	Severe	Invading	Plant	Hennepin	Round, Staring
Starry Stonewort	Not listed	Invading	Macroalgae	Wright	West Sylvia

Management Needs:

- 1) Minimize harm caused by established invasive populations
- 2) Ensure control of AIS does not threaten native communities
- 3) Identify & mitigate high risk vectors of new AIS
- 4) Enhance early detection monitoring efforts
- 5) Establish rapid response plans



Concern #3: Aquatic Invasive Species

Management Options

Prevention

Watercraft inspections ✓

Decontamination

Education ✓

Regulations/Enforcement ✓

Control

Mechanical/Chemical/Biological ✓

DNR IAPM Program ✓

DNR Pilot ZM Rapid Response

Monitoring

Early Detection is critical!

Citizen AIS ID training ✓

Zebra Mussel Samplers ✓

Visual surveys ✓

Zebra Mussel Sampling Plates

Seeking volunteers for
8-10 residences evenly
distributed around the lake



Water Quality Concerns

Aquatic Vegetation

- Lack of planned assessments
- Nuisance growth

Recreation

Surface water
use conflicts

Aquatic Invasive Species

- Eurasian/hybrid milfoil
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- Potential new invaders

Water Quality

- Blue-green algae
- Faulty septic systems

Concern #4: Water Quality

Blue-Green Algae

What is it?

Types of bacteria found throughout the world that photosynthesize like algae

Where?

Documented blooms
in NE Bay
Lakewide threat



Concern #4: Water Quality

Blue-Green Algae

Why is it important?

Can produce toxins that pose threats to human and animal health

Symptoms:

Stomach pains, vomiting, diarrhea, & skin rashes

Long-term exposure:

Nerve & liver damage

Pets & wildlife have died after exposure

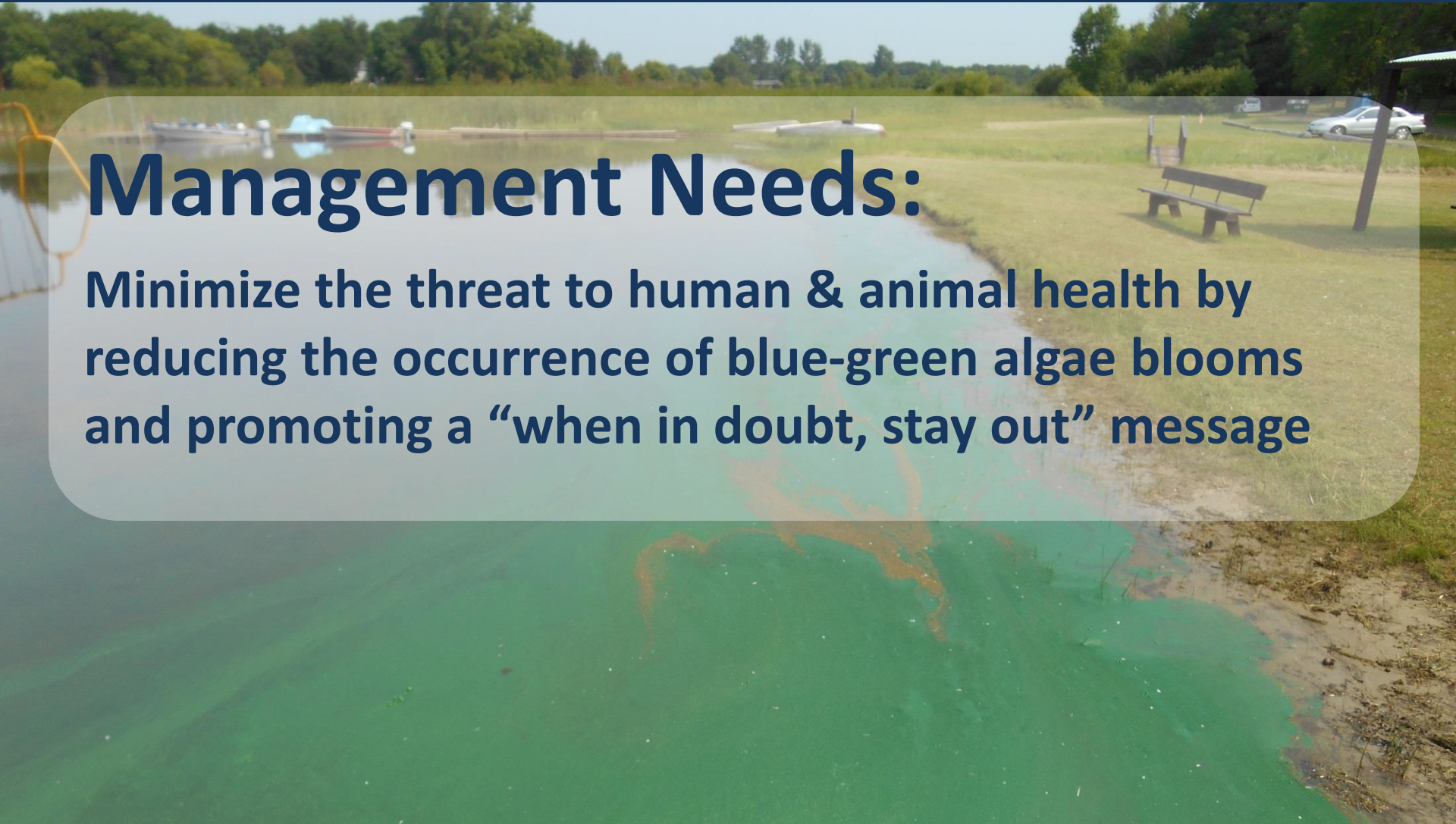


Concern #4: Water Quality

Blue-Green Algae

Management Needs:

Minimize the threat to human & animal health by reducing the occurrence of blue-green algae blooms and promoting a “when in doubt, stay out” message



Concern #4: Water Quality

Blue-Green Algae

Management Options:

Short-term

~~Chemical Control~~

Artificial water circulation

Post warning signs

Long-term

Reduce nutrients

BMPs

Caution: once a bloom has formed, chemical treatments can cause the algae cells to break open & release toxins

Concern #5: Water Quality

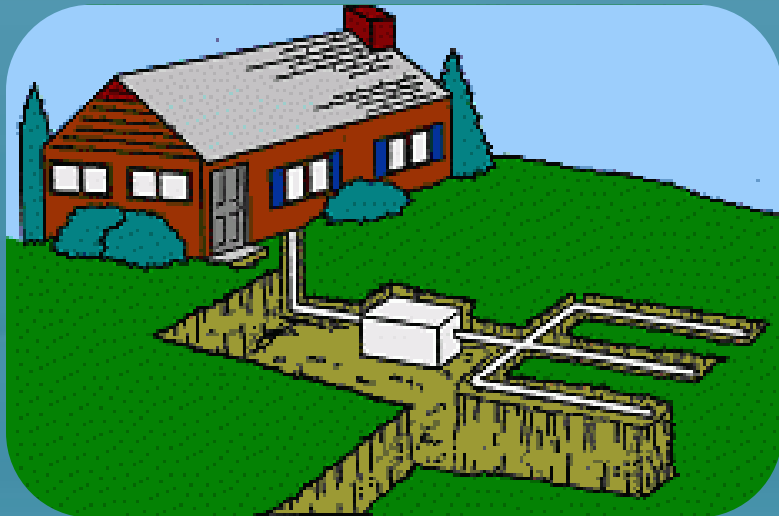
Faulty Septic Systems

Concern #5: Water Quality

Faulty Septic Systems

What is it?

Septic systems can leak untreated sewage into surface & ground waters if not properly designed or maintained



Where?

Households with septic,
Lakewide threat

Concern #5: Water Quality

Faulty Septic Systems

Why is it important?

Can be a source of nutrients, bacteria, pathogens, & other chemicals to nearby waters

Excess nutrients promote ↑ plant and algae growth

Bacteria & pathogens can pose health threats

Concern #5: Water Quality

Faulty Septic Systems

Management Needs:

Identify and mitigate any pollution caused by failing septic systems



Concern #5: Water Quality

Faulty Septic Systems

Management Options:

Inventory septic systems

Perform regular inspections & maintenance

Bring failing systems into compliance



Recreation Concerns

Aquatic Vegetation

- Lack of planned assessments
- Nuisance growth

Recreation

Surface water
use conflicts

Aquatic Invasive Species

- Eurasian/hybrid milfoil
- Curlyleaf Pondweed
- Potential new invaders

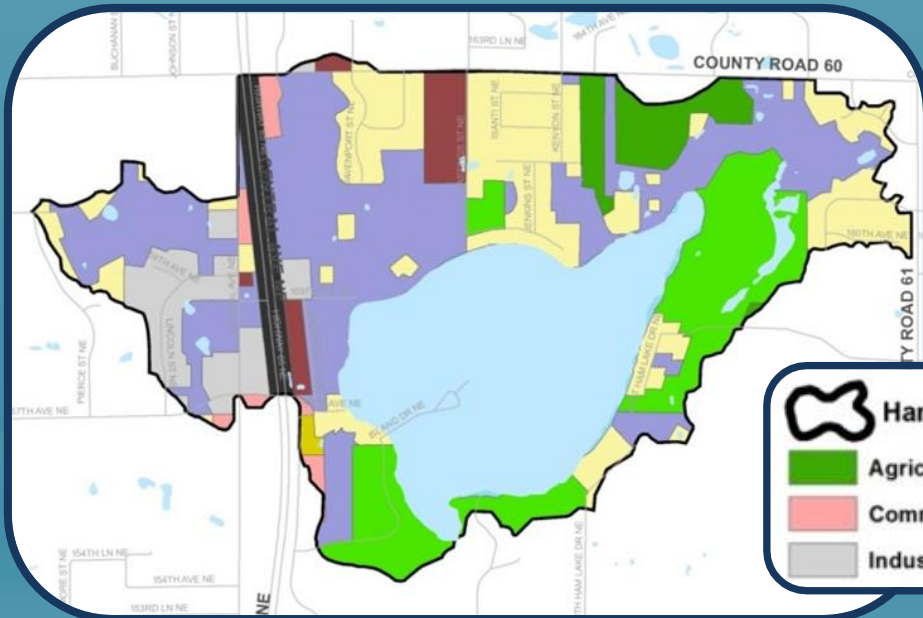
Water Quality

- Blue-green algae
- Pollution from septic systems

Concern #6: Recreation Surface Water Use Conflicts

What is it?

Possible congestion & conflicts as demands on a limited resource increase, especially with increasing development



Where? Lakewide



Concern #6: Recreation

Surface Water Use Conflicts

Why is it important?

Conflicts can detract from enjoyment of the lake

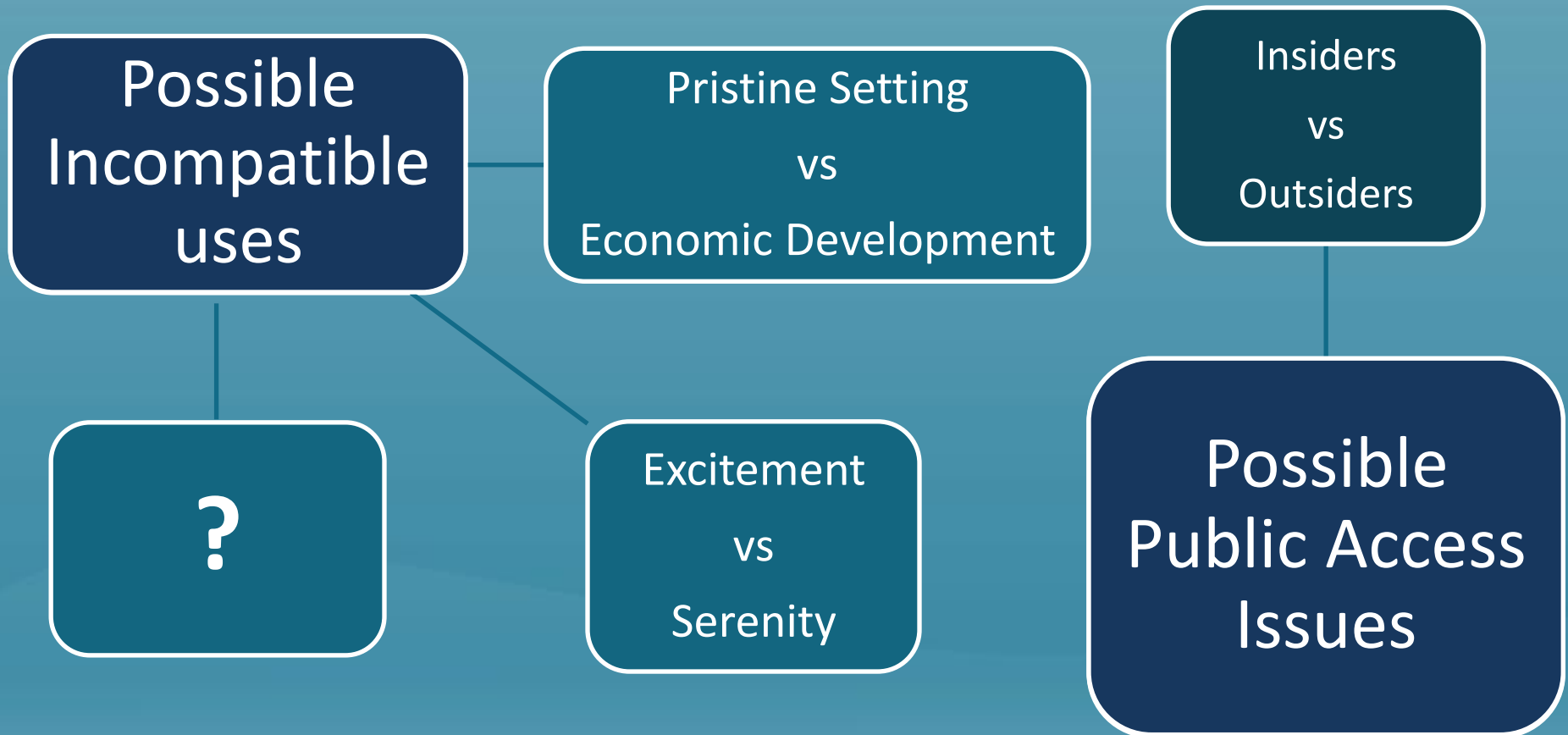
Can compromise ecological integrity of the lake

Can compromise human safety

Concern #6: Recreation

Surface Water Use Conflicts

Status in Ham Lake...?



Concern #6: Recreation

Surface Water Use Conflicts



Management Needs:

Increase awareness of current & potential future conflicts and ensure open lines of communications

Concern #6: Recreation

Surface Water Use Conflicts

Management Options:

- 1) Communication & Cooperation
 - Conduct a survey that engages ALL LAKE USERS
- 2) Establishing use restrictions if applicable



Summary

Potential Concerns

- 1) Aquatic Vegetation
 - 2) Fisheries
 - 3) Invasive Species
 - 4) Water Quality
 - 5) Recreation
 - 6) Wildlife
- 

Identified Concerns

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Water Quality

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- Faulty septic systems

Recreation

- Surface water use conflicts

Next Steps

Sep

- Assess Lake Character & Current Management

Dec

- ID Concerns & Opportunities

Jan

- Set Goals, Objectives, & Actions

Feb/
Mar

- ID Funding Needs, Sources, & Personnel

A photograph of a sunset over a field of tall grasses. The sun is low on the horizon, creating a bright orange and yellow glow. The grasses are silhouetted against the sky. In the foreground, there is a body of water reflecting the sunset. The overall scene is peaceful and natural.

**Questions?
Comments?**

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Summary of HLLA feedback

There was general agreement that the issues/concerns presented were relevant to Ham Lake. No issues were dismissed, but a few additional potential issues were brought up:

- Increasing muck & detritus
- Possible overfishing & stunting of the bass and panfish populations
- Condition of the outlet channel (clogged with cattails?)
- Blue-green algae blooms are more widespread than the NE Bay; they have also been observed on the East and North shorelines

Summary of HLLA feedback

Nuisance vegetation concerns were emphasized especially cattails, lily pads, and thick growth in the NE bay (possibly coontail).

There was interest expressed in:

- Quantifying cattail expansion over time, especially after the drought of 1988
- Possibly developing a DNR Lake Vegetation Management Plan in case of need for variance to control more than 15% of the littoral zone
- Looking into the feasibility of plant harvesting
- Ensuring that control of native plants does not hinder ability to continue control of invasive plants (i.e. 15% littoral zone rule for herbicide treatments)

Summary of HLLA feedback

AIS and public access concerns were also emphasized.

There were comments regarding how the newer public access in the city park has increased the use of the lake by non-lakeshore residents. Charging a fee for launching was suggested although it was indicated that charging fees to launch at a public access would require changes to legislation.

There was interest expressed in:

- Studies on the economic impacts of AIS on property values
- Conducting a lake users survey to better characterize & quantify lake use

Summary of HLLA feedback

- 6 people volunteered to monitor zebra mussel sampling plates at their properties (see map)
- CCWD will monitor a 7th plate at the public access
- *Need 1 or 2 more volunteers from the western half of the lake/ island*

