Ham Lake
Comprehensive Plan
Issues & Concerns

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Water Quality Coordinator
January 11th, 2017
Planning Process Update

- **Sep**: Assess Lake Character & Current Management
- **Dec**: ID Concerns & Opportunities
- **Jan**: Set Goals, Objectives, & Actions
- **Feb/Mar**: ID Funding Needs, Sources, & Personnel
Tonight’s Goals

1) Review issues, concerns, & management options for Ham Lake

2) Seek input/feedback
Concerns Identification Method

Ham Lake Steering Committee (HLLA)

Ham Lake Technical Committee

Ham Lake Advisory Committee

CCWD Professional judgement
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

Aquatic Invasive Species
- Eurasian/hybrid milfoil
- Curlyleaf pondweed
- Potential new invaders

Recreation
- Surface water use conflicts

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

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

Conduct regular point-intercept surveys
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

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Recreation
- Surface water use conflicts

Water Quality
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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?

Ecological Impacts
- Changes to nutrient cycling & food webs
- Degradation of habitat
- Reduced diversity & abundance of native species

Economic Impacts
- Increased management costs
- Damage to infrastructure
- Diminished property values
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?

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

**Control**
- Mechanical/Chemical/Biological
- DNR IAPM Program
- DNR Pilot ZM Rapid Response

**Prevention**
- Watercraft inspections
- Decontamination
- Education
- Regulations/Enforcement

**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

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- 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
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• Nuisance growth

Aquatic Invasive Species
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Recreation
Surface water use conflicts

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...?

Possible Incompatible uses

Pristine Setting vs Economic Development

Excitement vs Serenity

Insiders vs Outsiders

Possible Public Access Issues
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

- SLOW NO WAKE
- 75 hp Maximum Limit
Summary

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Next Steps

- **Sep**
  - Assess Lake Character & Current Management

- **Dec**
  - ID Concerns & Opportunities

- **Jan**
  - Set Goals, Objectives, & Actions

- **Feb/Mar**
  - ID Funding Needs, Sources, & Personnel
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