

## **Additional Information**



## MAY 2003 CLEAR LAKE QUESTIONNAIRE SUMMARY

The Waseca Lakes Association is currently studying efforts to improve the water quality of Clear Lake. An on-going study by Bolten and Menk, Inc, contracted by the Waseca Lakes Association, will produce a lake management plan with emphasis on storm water management. This survey is intended to poll Waseca area residents on their concerns and use preferences so that a lake management plan will reflect your views and concerns.

### Results from 508 surveys representing percentage of first choice selections for each answer. Answers ranked in order of response from most to least frequent.

#### 1. Rank 1-3, the activities you enjoy most about Clear Lake:

<u>32%</u>	Aesthetics, viewing lake and wildlife
<u>21%</u>	Fishing
<u>10%</u>	Boating, canoeing, etc
<u>5%</u>	Swimming and Water Sports
<u>1%</u>	Hiking

#### 2. What is the frequency of your activities described in # 2:

<u>34%</u>	11 or fewer times per year
<u>24%</u>	12 to 24 times per year
<u>16%</u>	52 or more times per year
<u>14%</u>	25 to 51 times per year.
<u>6%</u>	Never

#### 3. Rate last season's water quality of the Lake?

<u>42%</u>	Fair
<u>41%</u>	Poor
<u>8%</u>	Good
<u>4%</u>	Excellent

#### 4. Rank 1-3, your top water quality indicators:

<u>33%</u>	Clarity
<u>21%</u>	Odor
<u>16%</u>	Weeds or Plants
<u>11%</u>	Swimming Conditions
<u>9%</u>	Fishing Conditions

#### 5. Since you have lived in the area, has the Lake:

<u>39%</u>	Degraded greatly
<u>24%</u>	Degraded slightly
<u>17</u>	Remained the same
<u>4%</u>	Improved slightly
<u>1%</u>	Improved greatly

#### 6. Rank 1-3, your most important issues regarding the Lake:

<u>44%</u>	Water Quality
<u>16%</u>	Incoming Water Quality
<u>16%</u>	Algae
<u>14%</u>	Nuisance Plant Removal
<u>8%</u>	Fishing
<u>7%</u>	Shoreline Management
<u>2%</u>	Lake Water Level

#### 7. Rank 1-3, your top *realistic* goals to accomplish for the Lake:

<u>39%</u>	Improve water clarity.
<u>25%</u>	Eliminate weeds that create a nuisance
<u>15%</u>	Reduce the intensity of algae blooms.
<u>12%</u>	Eliminate algae blooms for the summers
<u>9%</u>	Increased game fishing opportunities
<u>5%</u>	Eliminate all submerged weeds.
<u>1%</u>	Lake cannot be improved.

#### 8. Rank 1-3, the top methods to improve the quality of the Lake:

<u>26%</u>	Restrict the use of Phosphorus fertilizer.
<u>21%</u>	Treat incoming water
<u>12%</u>	Wetland restoration adjacent to lake.
<u>9%</u>	Wetland restoration upstream from the lake.
<u>9%</u>	Create vegetative shoreline buffers
<u>8%</u>	Fish stocking.
<u>4%</u>	Educational materials.

#### 9. Rank 1-3, people or agencies that you believe are responsible for improving the Lake:

	<b>Agency / Individual</b>
<u>33%</u>	City of Waseca
<u>23%</u>	Waseca County
<u>16%</u>	Waseca Lakes Assoc. (WLA)
<u>12%</u>	General public
<u>10%</u>	State Government
<u>9%</u>	Neighboring residents
<u>5%</u>	Federal Government



**December 30, 2002**

**Waseca Lakes Association annual report on lake water monitoring.**

**Background:** Phosphorus concentration in our lakes is the biggest threat to lake water quality as it contributes to algae growth and poor water clarity. Almost one half of the lots and streets in Waseca funnel the runoff water through the storm water sewer system into our lakes. The primary source of phosphorus in surface runoff is decaying plant matter, leaves, lawn clippings, soil, and lawn fertilizers.

**Water Monitoring Program:** 2002 marked the second year where WLA volunteers sampled key lake water sites on a two week schedule for phosphorus analysis. While Waseca Lake Association volunteers donate their time taking the samples and running them to the lab for analysis, the city of Waseca has covered the sample analysis costs of approximately \$2000 per year.

**Sampling Sites:** Sampling sites were selected with the help of experts from the Minnesota Pollution Control Agency and Minnesota DNR who have a long history of tracking water quality concerns on our area lakes. On both Clear and Loon Lakes, key inlets were the main targets for sampling.

**Results on phosphorus concentration:** Results from 2001 and 2002 showed that water entering our lakes (inlets) have a significantly higher phosphorus concentration than water leaving our lakes (outlets). This difference means that phosphorus levels are building up in sediments and is being made available for algae growth.

The average phosphorus concentration in Clear Lake is 0.11 ppm, whereas 0.10 ppm is considered the threshold for southern Minnesota lakes. The average concentration entering Clear lake through the Gator Lake (Barney's) inlet is 0.35 ppm, or 3.5X the maximum threshold. The Gator Lake inlet also represents the largest flow of water volume into Clear Lake and is therefore the most concern.

**What can I do as a Waseca resident?**

1. Keep your grass clippings off the streets, sidewalks and driveways. These clippings end up in the storm sewer water system and are a direct contribution to high phosphorus levels in storm water.

As a reminder to residents that our street storm grates may drain directly to our lakes, the city of Waseca has purchased plaques stating "Drains to Lake". Waseca Lakes Association members will install these plaques over street storm grates this spring.

2. Use a non-phosphorus fertilizer on your lawn. Phosphorus is naturally high in most our soils and is not necessary to add to your lawn. The Waseca city council passed an ordinance last fall prohibiting phosphorus containing fertilizers on established lawns in order to help protect our lakes.

**What are the major concerns facing the city and county?**

As development has continued, more storm water runoff is being generated from impervious surface areas (rooftops, driveways, streets, parking lots), but almost all runoff from Waseca south of Highway 14 continues to be directed into Clear lake through (Gaitor Lake Inlet) the culvert near Barney's drive inn.

What is likely needed is to hold back the direct surge of water entering Clear Lake utilizing water holding areas and wetlands which will allow for some natural filtering of nutrients by plants and some evaporation. This would lead to better quality water and less total volume entering our lakes.

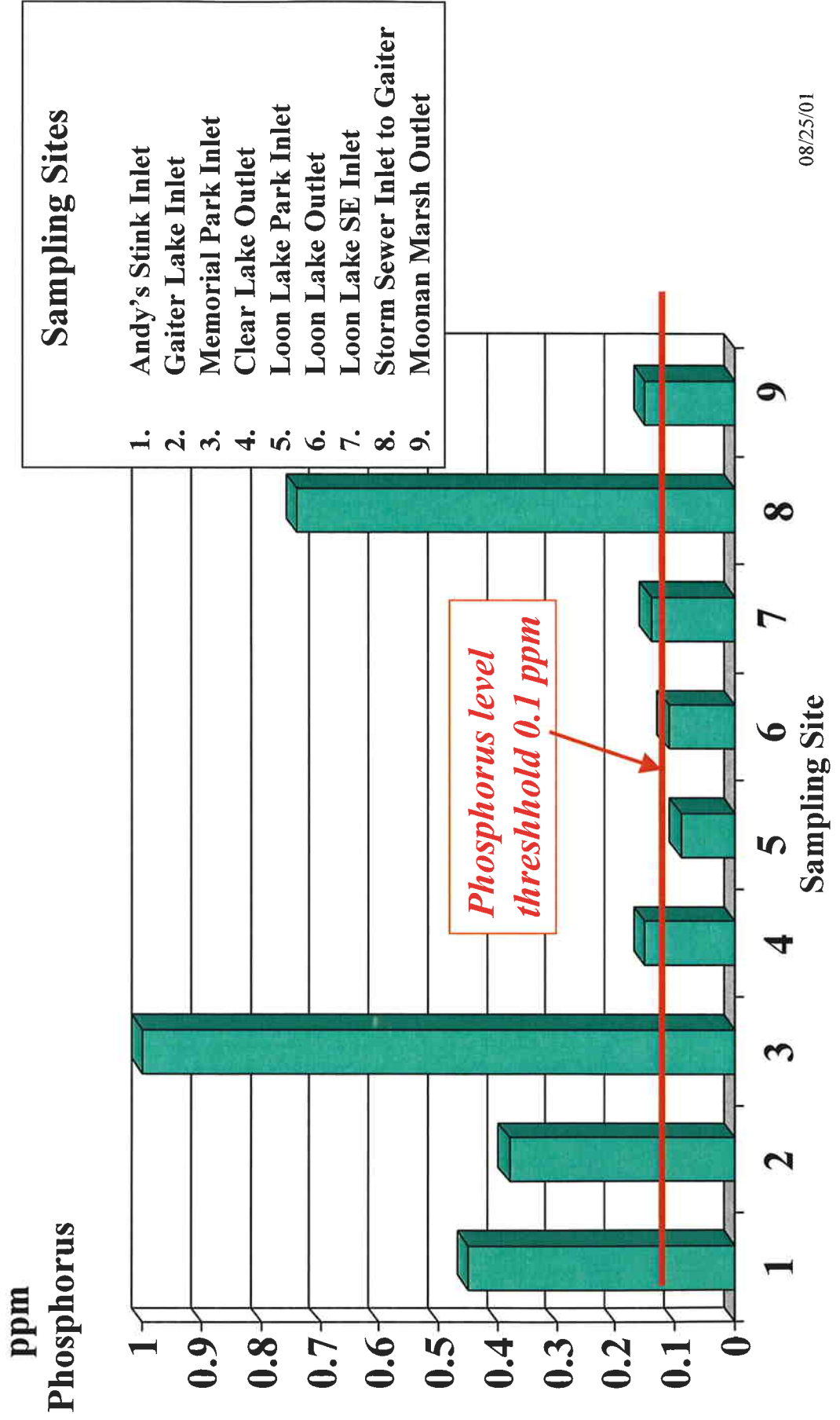
An evaluation of storm water alternatives is being studied through a Blandin Development grant to the Waseca Lakes Association.



# Waseca Lakes Association

## 2001 Water Monitoring Program

### Yearly Average Phosphorus Results



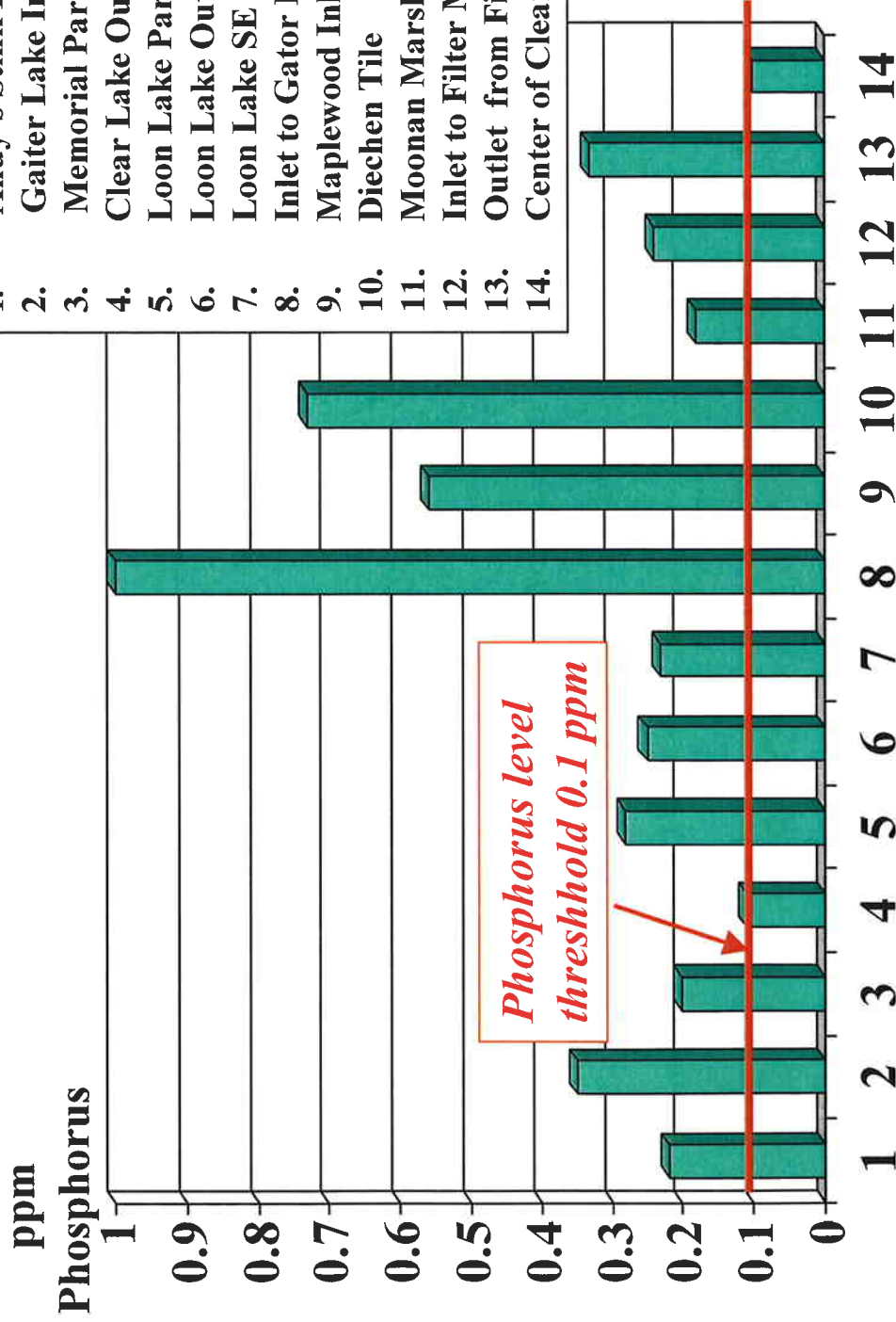


# Waseca Lakes Association 2002 Water Monitoring Program

## Yearly Average

## Sampling Sites

1. Andy's Stink Inlet
2. Gaiter Lake Inlet
3. Memorial Park Inlet
4. Clear Lake Outlet
5. Loon Lake Park Inlet
6. Loon Lake Outlet
7. Loon Lake SE Inlet
8. Inlet to Gator Lake
9. Maplewood Inlet
10. Diechen Tile
11. Moonan Marsh Outlet
12. Inlet to Filter Marsh
13. Outlet from Filter Marsh
14. Center of Clear Lake



Phosphorus level  
threshold 0.1 ppm