

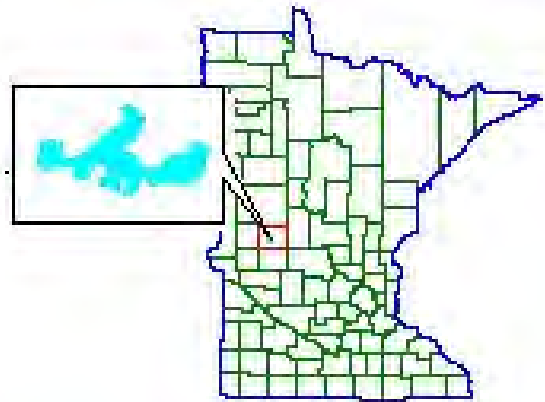
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I. EXECUTIVE SUMMARY

Lobster Lake is located near the headwaters of the Long Prairie River Watershed. It receives water from the Lakes Andrew and Mary sub-watershed, through Mill Lake and its sub-watershed. Another inlet receives water from the Crooked and Round Lakes drainage area within the Lobster Lake sub-watershed. Within the sub-watershed of Lobster Lake is the area that drains directly into the lake. This area is the “lakeshed” and is where the land use has direct impact. This area is shown in **Figure Nine** on page thirteen. Deciduous forest and grassland make up over 60 percent of the land lying within the lakeshed of this lake. Over nine percent of the lakeshed is made up of water, and twenty five percent is cultivated. The gently rolling hills surrounding this lake consist of heavy clay soils, interspersed with patches of gravel and sand.

Lobster Lake is one of over 350 lakes in Douglas County. It is unique in that it has numerous small bays, which is the reason for the large number of shoreline miles per acre of lake. It is designated “Recreational Development” by the Department of Natural Resources for this reason. This provides some protection from development pressures.



The purpose of this management plan is to document the information available regarding Lobster Lake in one place, assess that information, and set priorities for accomplishing improvement projects within the lakeshed boundaries of Lobster Lake.

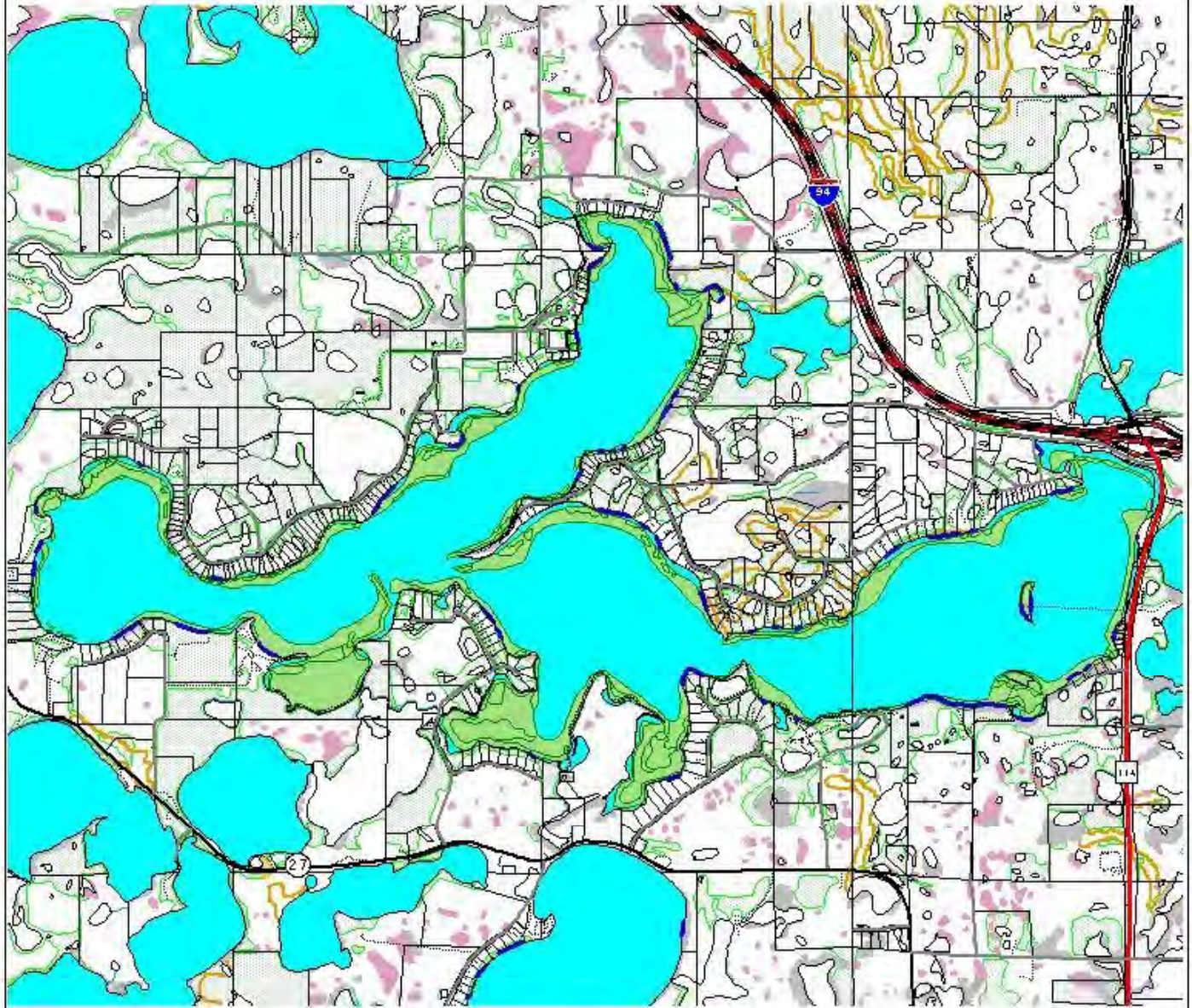
To meet these purposes, the Lobster Lake Association has participated in the Healthy Lakes and Rivers Partnership program through the Central Lakes Initiative Foundation. Members of the board of directors undertook leadership training, a “visioning session” was provided to members of the community to help prioritize issues, and this management plan was completed. Funding for the projects outlined in this plan will be provided by a “start-up grant” from the Initiative Foundation. The challenge of the association is to match this grant with local dollars and / or other grants.

Through the visioning session, the following priorities were presented, in order of importance: Water Quality, Fisheries Management, and Land Use and Zoning. From this session, strategies were established to manage the problems presented. Chapter Four contains a listing of the actions the Lobster Lake Association intends to accomplish within the next five to ten years. Education of the residents within the lakeshed and users of the lake is central to all of the listed priority issues.

The challenge in implementing this plan is to acquire funding to accomplish the activities. Lobster Lake Association will be working closely with Douglas County Land and Resource Management and Douglas Soil and Water Conservation District to investigate funding sources and regulatory changes required to protect our valuable resources.

This plan is meant to be a guide for future lake directors. It can be amended at any time to provide for opportunities and issues unforeseen.

LOBSTER LAKE - DOUGLAS COUNTY, MINNESOTA



Lobster Lake - Sensitive Areas Resource Map

Roads

CITY
CO RD
CSAH
I-94
ROAD
STATE ROAD
Driveways



Property Parcels



Bluff



Wooded Area



Steep Slope - Sensitive Soils



Coarse-textured - Sensitive Soils



Shallow Water Table - Sensitive Soils

Lakes & Wetlands



Wetland



DNR Protected Wetland



DNR Protected Lake



Restorable Wetland



Spawning Area



Aquatic Vegetation



Stream or Water Course



1000 0 1000 FEET

Information provided by the Douglas County Soil Survey,
DNR Protected Waters Inventory,
U.S.F. Wildlife Service Restorable Wetland Inventory,
Douglas Soil & Water Conservation District
Shoreline Environmental Assessment, and
Douglas County Land & Resource Management.

Douglas County
Land & Resource Management
325 Eighth Avenue West
Alexandria, Minnesota 56302

April 20, 2004



Thorough effort has been made to produce an accurate map.
This map is a representation only of records available at the time of printing.

II. LOBSTER LAKE

Introduction

In March 2004 the Lobster Lake Association was invited to participate in the Initiative Foundation's Healthy Lakes and Rivers Partnership program along with five other Lake Associations in Todd and Douglas County. Under the coordination of Kitty Tepley (Todd County Soil & Water Conservation District) and Emily Wolf (Douglas County Water Manager), representatives of each group attended two days of training on strategic planning, communication, and nonprofit group leadership.

Representatives of many state and local agencies, as well as nonprofit organizations also attended the training sessions in order to offer their assistance to each group in developing a strategic Lake Management Plan. The Lobster Lake Association was represented at the Healthy Lakes & Rivers training sessions by: Jim Barrett, Bonnie and Hardy Huettl, Myron Lofquist, Bev Paulin, Merrill Pedersen and John Stone. Following the training sessions, Lobster Lake Association held an inclusive community planning/ visioning session designed to identify key community concerns, assets, opportunities, and priorities. This planning session for Lobster Lake was held on May 1, 2004, and was facilitated by Marilyn Bayerl of Bayerl Water Resources. Details of the public input received at this session are provided within this plan.

This document is intended to create a record of historic and existing conditions and influences on Lobster Lake, and to identify the goals of the Lobster Lake community. Ultimately it is meant to also help prioritize goals, and guide citizen action and engagement in the priority action areas. Clearly, state agencies and local units of government also have a vital role and responsibility in managing our surface waters and other natural resources, but above all else this Lake Management Plan is intended to be an assessment of what we as citizens can influence, what our desired outcomes are, and how we will participate in shaping our own destiny.

This Lake Management Plan is also intended to be a "living document;" as new or better information becomes available, as we accomplish our goals or discover that alternative strategies are needed it is our intent to update this plan so that it continues to serve as a useful guide to future leaders.

In discussing lake management issues, it is impossible to avoid all scientific or technical terms. We have tried to express our goals, measures of success, and other themes as simply and clearly as possible, but have included a glossary of common limnological terms at the end of the plan to assist the reader. Limnology is the state of lake conditions and behavior.

Finally, we would like to thank the funders of the Healthy Lakes & Rivers Partnership program for Todd and Douglas Counties, including The McKnight Foundation, the Minnesota Environment and Natural Resources Trust Fund as recommended by the Legislative Commission on Minnesota Resources (LCMR), Laura Jane Musser Trust, Tastefully Simple, Inc., Minnesota Board of Water and Soil Resources, Todd County Soil & Water Conservation District, Douglas County Soil & Water Conservation District, the Lake Hubert Association in Crow Wing County, Linda Kaufmann, and Don Hickman & Sandra Kaplan.

History of Lobster Lake Association

Lobster Lake history dates back to the early 1900s with documentation of flow alterations. In 1910 the flow from Lake Mary was diverted through Grill Lake to Mill Lake and into Lobster Lake. This altered the quantity of water flowing into the lake. There is a documented severe drought in the 1930s, creating three distinct basins. This persisted until 1941, when precipitation replenished the basins and water levels returned to normal.

The first resort opened on the lake in 1960. In 1990, this resort converted to one of the first Common Interest Communities, or CIC, in the state. The units do not meet setbacks, some of them directly on the shoreline. There are 330 property owners on Lobster Lake; one resort, 170 seasonal and 75 residential dwellings. The rest are vacant parcels.

Interstate Highway 94 was built in 1967. It crosses the lake on the east end and, during the process; a new outlet was created with variable control to Mina Lake. In 1976 the residents of Lake Mary dredged Skoglund Slough, causing water levels to rise in Lobster and the surrounding lakes.

In 1985 the residents of Lobster Lake formed an association with Walleye, Inc. to address the fishing pressures on the lake. They successfully lobbied the DNR to create a larger access on the SW end of the lake and close the access off State Highway 114. The Lobster Lake Association was officially formed in 1992 after participating in a Lake Assessment Program with the MPCA. The association has been actively working with the DNR on the fishery status since that time. Membership is around 170 of possible 330 members and annual meetings are conducted the first Saturday in May.

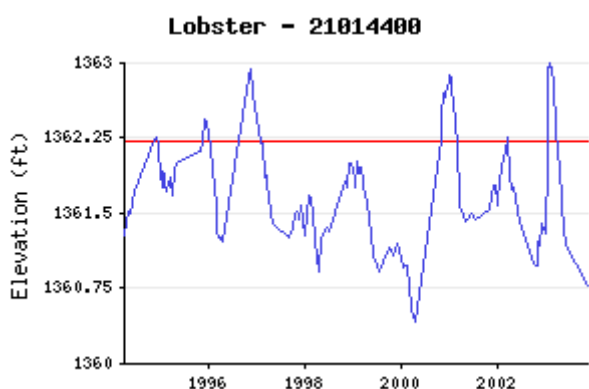
Physical Characteristics and location of Lobster Lake

Lobster Lake is located west of Alexandria, and is a moderately developed lake, receiving heavy recreational use during the summer months. The lake has a surface area of 1,308 acres of which 667 acres (51 percent) is in the littoral zone (meaning that is has a depth of 15 feet or less). The maximum depth in the lake is 65 feet.

The name “Lobster Lake” comes from the shape of the shoreline. This lake has numerous bays, with two discernable basins. The shoreline extends seventeen miles with 75.9 acres of water per mile of shoreline as shown in **Figure One** (see page 2).

In 1990, the Minnesota Pollution Control Agency (MPCA) completed a Lake Assessment Program (LAP) survey of the lake, characterizing physical, chemical and biological conditions and influences of the lake. The complete 1990 LAP study is attached as an appendix to this document.

Figure Two

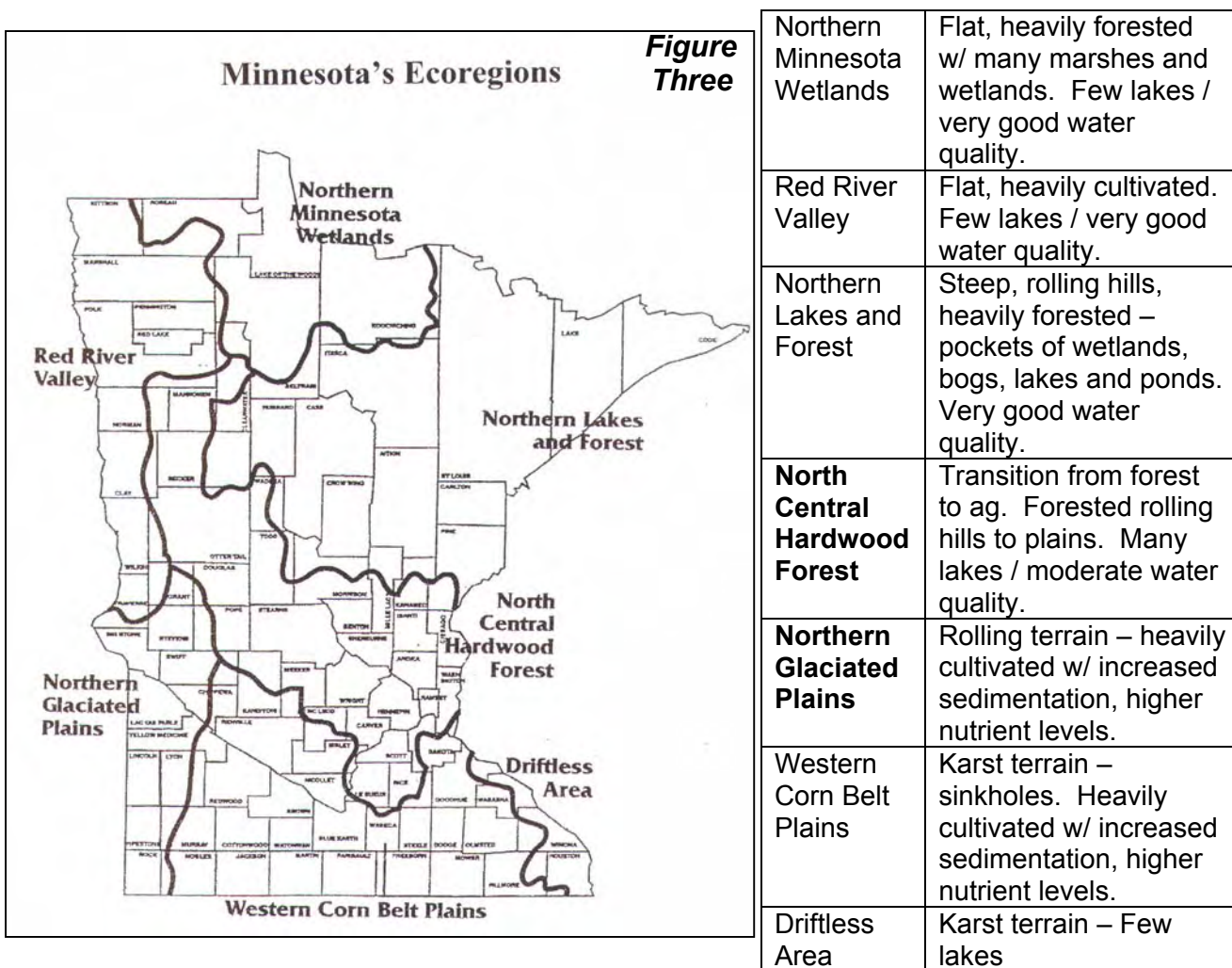


Lobster Lake levels have varied by over three feet in the past ten years. As shown in **Figure Two**, there is a noted “bounce” to the lake, creating bank erosion and loss of vegetation along the shoreline. The two inlets for Lobster Lake are located in the south, and southwest end of the middle bay, receiving water from Mill Lake and Crooked Lake. The outlet is located in the northeast corner of the east bay and empties into Lake Mina. The following narrative summarizes the characteristics and noted quality of the lake:

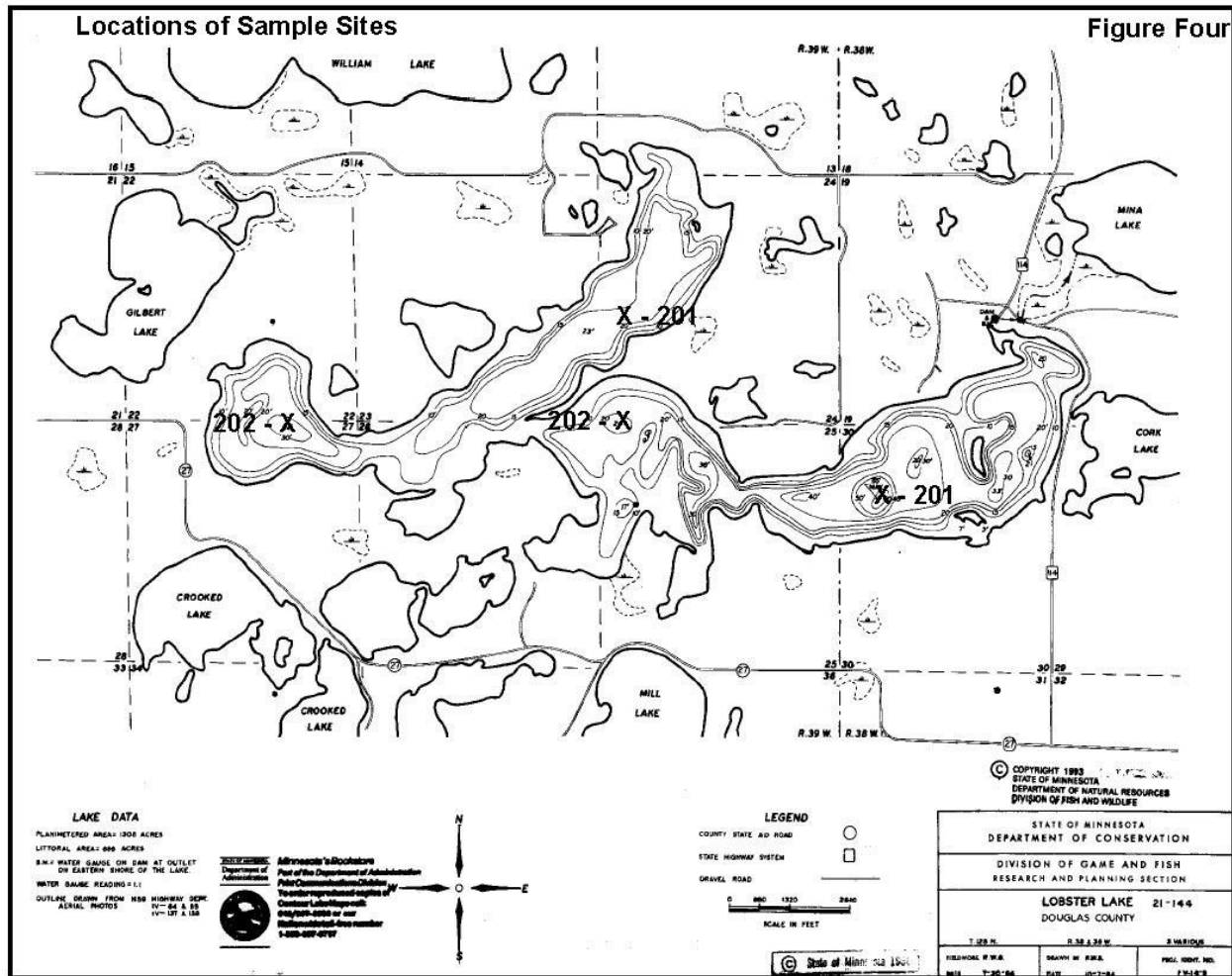
1. Water Quality

As noted earlier, in 1990 the Minnesota Pollution Control Agency (MPCA) completed a Lake Assessment Program (LAP) survey of the lake, characterizing physical, chemical and biological conditions and influences of the lake.

The LAP study noted that the lake was sampled during the summer of 1990 by the MPCA staff and citizens from the Lobster Lake Association. The report observed “water quality data collected during the study indicates that lake is eutrophic, with a mean Total Phosphors concentration of 28 µg/L, mean Chlorophyll-a of 12.9 µg/L, and a mean Secchi transparency of 6.5 feet. The values are comparable to those found in representative – minimally impacted lakes in the North Central Hardwood Forest ecoregion. Water quality tended to be better in the east basin in comparison to the west basin.” **Figure Three** contains a map depicting ecoregion boundaries and facts.

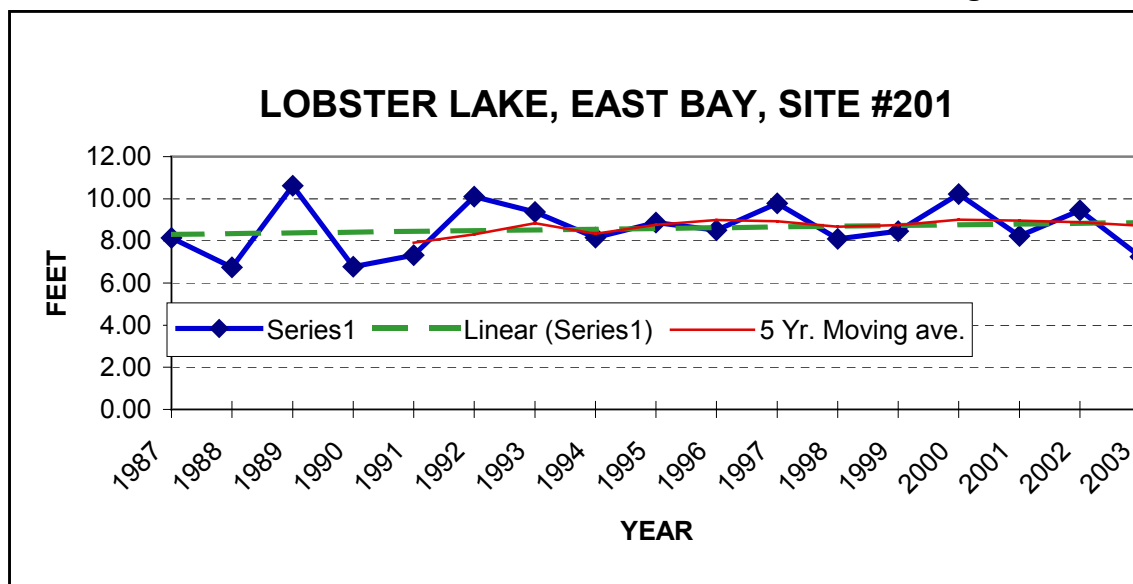


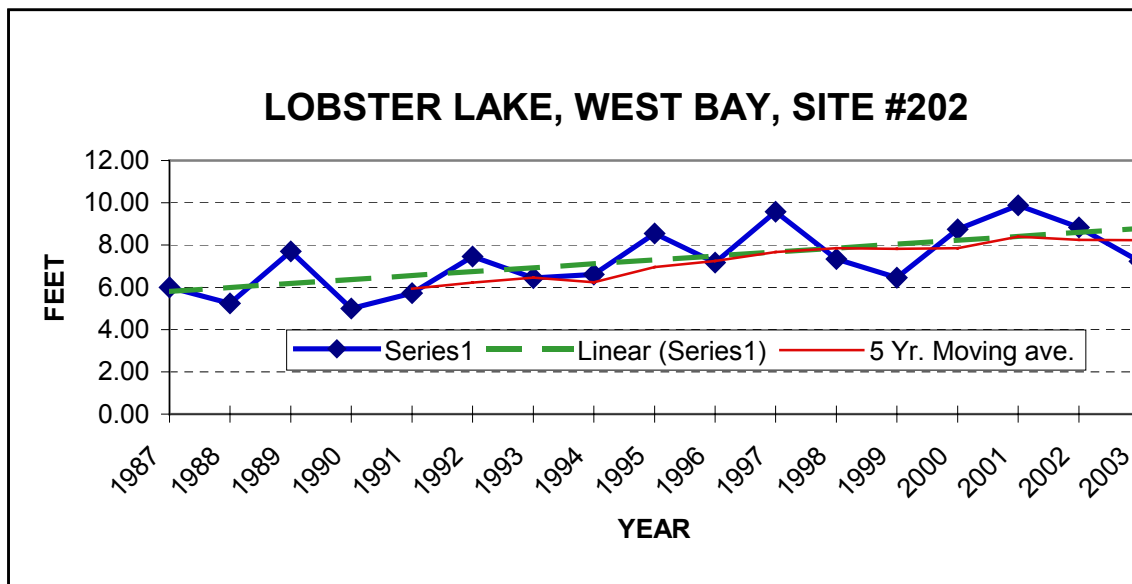
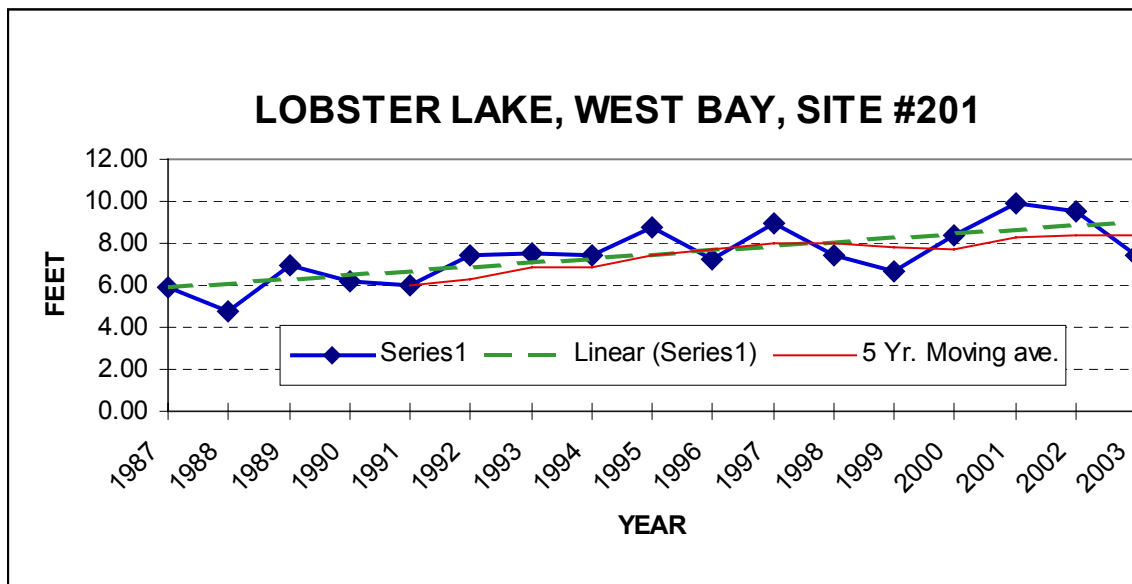
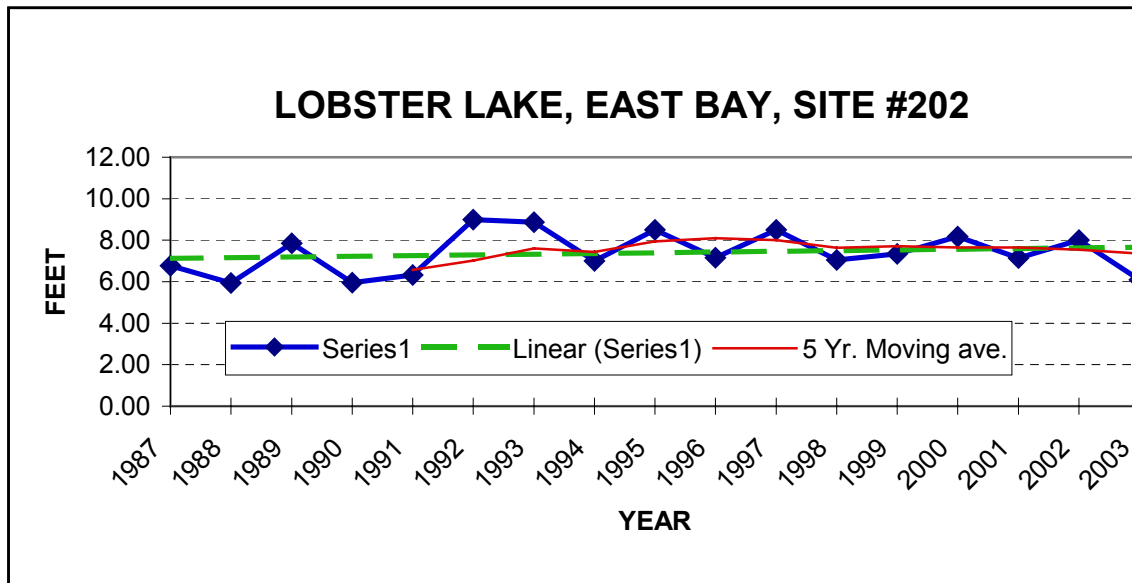
Citizen volunteers have been monitoring the Secchi Transparency in the two deepest spots of both the East and West Bay of Lobster Lake June through September since 1987. **Figure Four** is a topographic map of the lake with the sample sites marked. Annual averages are shown in **Figure Five**, but complete data can be obtained at: <http://www.dnr.state.mn.us/lakefind/index.html>. The Secchi reading is a measure of clarity of the water. A white disk is lowered into the lake and a measurement is taken at the depth right before visibility is lost.



SECCHI AVERAGES 1987 – 2003

Figure Five





In addition to the Citizen Lake Monitoring Program, Lobster Lake Association has participated in a water quality-monitoring program in 1997, 1998, 1999, 2002, 2003, and 2004. This program was made available through a cooperative effort between Douglas County Lakes Association, Local Water Management, and the MPCA. Parameters measured include Total Phosphorus, Chlorophyll-a, and Secchi. Phosphorus is a nutrient that feeds algae in lakes within this ecoregion. Phosphorus comes from many sources including rain, fertilizer, and it is carried by soil in runoff. Chlorophyll-a is the "green" in the plants in the lake. It is tested to measure the impact Phosphorus is having on the algal / plant growth in the lake. It has been said that one pound of Phosphorus can produce 500 pounds of aquatic vegetation. There is a correlation between the amount of Chlorophyll-a and Phosphorus in the water and the ability to see through the water column. The data from this sampling time has been further analyzed, as shown in **Figure Six**, to present the Trophic Status of Lobster Lake.

Individual Lake Data Summary								Figure Six	
Lake: Lobster			Lake MN ID#: 21-0144-01				Site ID#: 201		
Continuous Monitoring Program Data									
Date	Time	Sampler	TP ug/L	ChIA ug/L	Secchi Ft.	TSI Phos.	TSI ChIA	TSI Secchi Ft.	TSI Avg.
5/18/1997	1425	Jarett, Hurlbut	23	12	6	49	55	51	52
6/15/1997	1440	Jarett, Hurlbut	35	4	15	55	44	38	46
7/20/1997	1417	Jarett, Hurlbut	22	8	7.5	49	51	48	49
8/17/1997	1015	Jarett, Hurlbut	17	6	8.5	45	48	46	46
9/14/1997	1540	Jarett, Hurlbut	20	7	10	47	50	44	47
Date	Time	Sampler	TP ug/L	ChIA ug/L	Secchi Ft.	TSI Phos.	TSI ChIA	TSI Secchi Ft.	TSI Avg.
6/14/1998	1445	B.P.	22	8	10.5	49	51	43	48
7/19/1998	1530	B.P.	17	5	5	45	46	54	48
8/16/1998	1515	B.P.	22	7	6	49	50	51	50
9/20/1998	1600	B.P.	10	7	8	37	50	47	45
Date	Time	Sampler	TP ug/L	ChIA ug/L	Secchi Ft.	TSI Phos.	TSI ChIA	TSI Secchi Ft.	TSI Avg.
5/16/1999	1630	Pete Onstad	30	16	11.5	53	58	42	51
6/20/1999	1410	Pete Onstad	25	9	9.5	51	52	45	49
7/18/1999	1432	Pete Onstad	38	6	6.5	57	48	50	52
8/15/1999	1308	Pete Onstad	10	8	8	37	51	47	45
9/19/1999	1550	Pete Onstad	33	11	8.5	55	54	46	52
Date	Time	Sampler	TP ug/L	ChIA ug/L	Secchi Ft.	TSI Phos.	TSI ChIA	TSI Secchi Ft.	TSI Avg.
5/20/2002	10:50	Pete Onstad	30	16	7.5	53	58	48	53
6/16/2002	16:10	Pete Onstad	35	1	12	55	31	41	42
7/14/2002	15:25	Pete Onstad	12	1	10.5	40	31	43	38
8/18/2002	14:15	Pete Onstad	25	8	7.5	51	51	48	50
9/15/2002	13:05	Pete Onstad	22	12	9	49	55	45	50
Date	Time	Sampler	TP ug/L	ChIA ug/L	Secchi Ft.	TSI Phos.	TSI ChIA	TSI Secchi Ft.	TSI Avg.
6/21/2004	1030	Pete Onstad	33	4	10.5	55	44	43	47
7/18/2004	1020	Pete Onstad	27	4	9	52	44	45	47
8/15/2004	1140	Pete Onstad	19	5	10.5	47	46	43	45

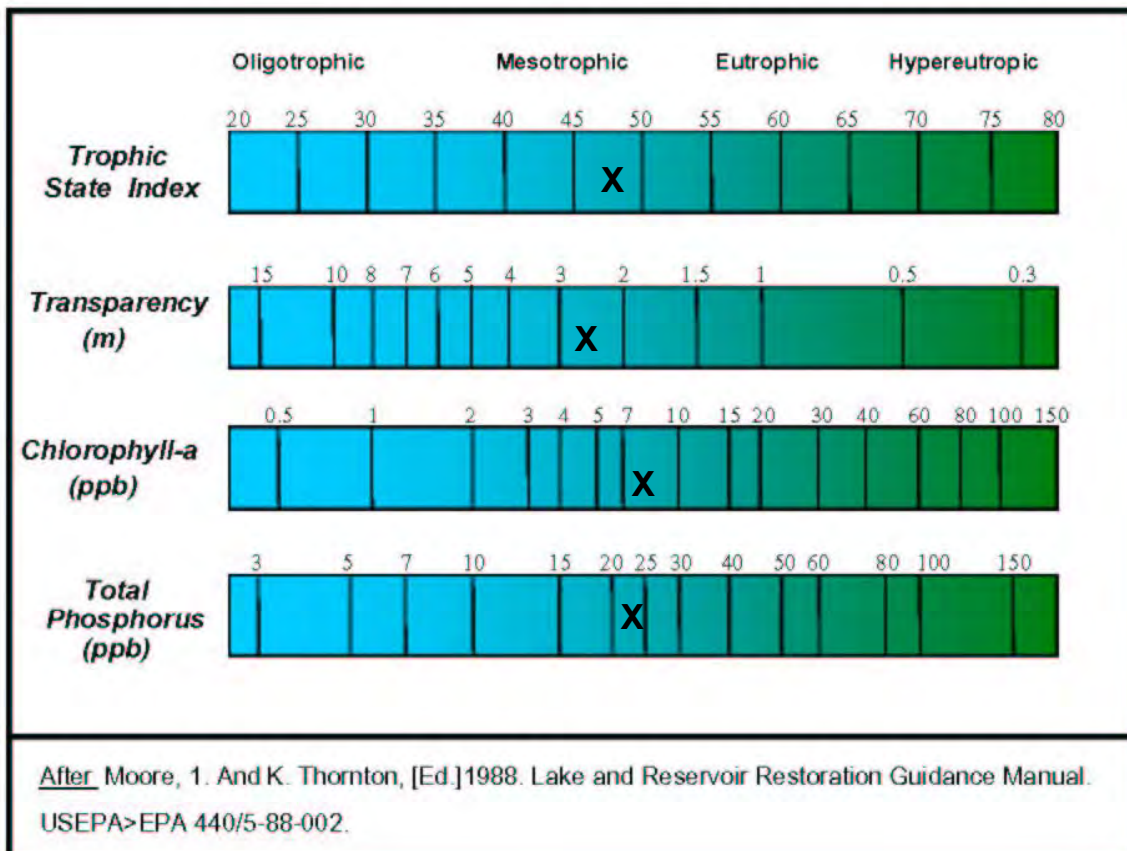
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The Trophic Status of Lobster Lake is based on “Carlson’s Trophic State Index” or TSI as shown in **Figure Seven**. This index uses information about Total Phosphorus, Chlorophyll-a, and Secchi to determine the quality of the lake. It is important to note a correlation between the sampled parameters: **“Increased phosphorus = increased chlorophyll = decreased Secchi disk depth”**. TSI averages are between 46 and 50, indicating the lakes are on the high end of Mesotrophic. This graph can be used to check all three parameters for TSI. It is a useful tool for goal setting.

Figure Seven

Carlson’s Trophic State Index

TSI < 30	Classic Oligotrophy: Clear water, oxygen throughout the year in the hypolimnion, salmonid fisheries in deep lakes.
TSI 30 - 40	Deeper lakes still exhibit classical oligotrophy, but some shallower lakes will become anoxic in the hypolimnion during the summer.
TSI 40 - 50	Water moderately clear, but increasing probability of anoxia in hypolimnion during summer.
TSI 50 - 60	Lower boundary of classical eutrophy: Decreased transparency, anoxic hypolimnia during the summer, macrophyte problems evident, warm-water fisheries only.
TSI 60 - 70	Dominance of blue-green algae, algal scums probable, extensive macrophyte problems.
TSI 70 - 80	Heavy algal blooms possible throughout the summer, dense macrophyte beds, but extent limited by light penetration. Often would be classified as hypereutrophic.
TSI > 80	Algal scums, summer fish kills, few macrophytes, dominance of rough fish.



2. Fisheries:

The status of the Fishery (as of 07/23/2001) according to the MN Dept. of Natural Resources fisheries division is summarized as followed:

Lobster Lake supports an abundant and diverse aquatic plant community. These aquatic plants provide critical fish habitat and compete with nuisance algae for the available nutrients in the lake.

Northern pike catch rates averaged 11.3 fish per gillnet. A catch rate of 7.7 fish per gillnet was recorded in 1996. Mean weight of these fish was just less than 2.0 pounds. One-third of the sampled fish exceeded 21 inches with the largest fish measuring under 33 inches.

Bluegill catch rates averaged 8.7 fish per trapnet. The 1996 catch rates averaged 28.8 fish per trapnet. Size structure is not favorable. Only 23 percent of the sampled fish exceeded six inches and no fish measured more than eight inches. These fish continue to grow slowly.

Walleye catches averaged 2.0 fish per gillnet as compared to 3.2 and 4.6 fish per gillnet in the 1996 and 1989 surveys, respectively. The normal range of mean catch rates from lakes with similar physical and chemical characteristics is 3.1 to 8.5 fish per gillnet. Mean weight of sampled fish was 2.2 pounds. Over 83% of the sampled fish exceeded 15 inches in length and 33% exceeded 20 inches. The mean length of the sampled fish was 18.4 inches with the largest fish measuring over 24 inches.

Largemouth bass remain abundant with a spring electro-fishing survey resulting in a catch of 62.4 fish per hour. The mean length of the sampled fish was 10.8 inches. Over 40% of the fish exceeded 12 inches with 8% exceeding 15 inches in length.

Black crappie are not sampled effectively during the summer. However, gillnet catches averaged 5.6 fish per net, which is relatively high. The mean weight of these fish was 0.4 pounds. The mean length of the sampled fish was 8.4 inches with the largest measuring just under 11 inches.

A spring ice-out muskellunge survey was conducted in 2001. This survey resulted in the capture of 53 fish for a catch rate of 0.77 fish per trapnet. Over 41% of the sampled fish exceeded 40 inches in length with the largest fish measuring 51.5 inches. According to the Lake Management Plan created in 2001 by Dean Beck, Area Fisheries Supervisor, Lobster Lake is a designated muskellunge lake. This plan, in its entirety can be found in the Appendix. Muskellunge have been stocked in the lake since 1968. Actual numbers and sizes are documented in the management plan.

Lobster Lake is permanently closed to darkhouse spearing to help sustain a higher density population of medium-sized and larger fish and to help bring muskie fishing to the desired management objective. There has been an increase in local interest in muskie fishing and the DNR is managing for this species in Lobster Lake.

This plan also points out the ratio between yellow and black bullhead as an indicator of water quality. The higher the ratio of yellow to black, the cleaner the lake, according to the DNR. In 1979 the ratio was 15.3:1, showing a clean lake. The ratio in 1995 was only .6:1, considerably less. This is a sign of decreasing water quality. It is felt that land use within the watershed contributes significantly to this eutrophication.

For Douglas County the Area Fisheries Supervisor is: Dean Beck, 23070 N. Lakeshore Drive, Glenwood, MN 56334, Phone: (320) 634-4573, Email: dean.beck@dnr.state.mn.us

3. Aquatic Vegetation

Areas of aquatic vegetation have been mapped by the DNR and are shown on the basemap, or **Figure One**. Due to the shallowness of the bay areas, there is abundant aquatic vegetation located around the shoreline of Lobster Lake. This vegetation acts not only as a buffer for incoming nutrients, it also provides habitat for waterfowl, fish, and small aquatic mammals such as muskrats. Macroinvertebrates such as mayflies have a safe place to hatch, providing food for fish, thus providing a “food chain” that exists in a healthy ecosystem. This vegetation includes cattails, hardstem bulrush, arrowhead, and a variety of sedges. This “good” vegetation is crucial to a healthy lake system.

During a survey conducted by the DNR in the summer of 2004, a single strand of Eurasian Milfoil was identified. This invasive species of milfoil chokes out a healthy community of submersed vegetation. A healthy lake provides a variety of species, such as Coontail Northern Milfoil, Bladder Wort and other native species to the area. When one type of plant, such as Eurasian Milfoil takes over, the vegetation becomes very dense and makes navigating a boat through the infested areas nearly impossible. This eventually spreads throughout the entire lake. It is not known if the single strand is from an existing plant in the lake or from a careless boater, however, a single strand can propagate into a plant. Lobster Lake Association intends to work closely with the DNR Division of Fish and Wildlife, based in Glenwood, to monitor the lake for this plant.

Buffers along the shoreline including upland vegetation are rapidly deteriorating. The upland buffer is as important as the aquatic for habitat, and more important for filtering out nutrients before they enter the lake. It also solidifies the shoreline, decreasing the likelihood of erosion. This is nature’s way of stabilizing the banks surrounding the lake.

Lobster Lake has two “show sites” for native vegetation restoration. These projects are funded by the homeowner and Douglas County Local Water Management funds. Plantings of Red Osier Dogwood and Hardstem Bulrush were attempted at the Merrill and Marlene Pedersen Residence, located at 1634 Golden Drive SW. Limited success was attained with the bulrush plantings due to wave action. The second project is located at the Dale and Bonnie Timm residence, 12413 Reuben’s Landing, and signage is visible from the lake. This project included 1566 square feet of native grasses and forbs with aquatics. More projects like this need to be encouraged. Funding is available from both Local Water Management and the DNR. Education is key in discouraging new homeowners from removing the existing vegetation, which is truly native.

4. Wildlife

The most important wildlife habitat begins at the shoreline. The more natural the shoreline, with trees, shrubs and herbaceous vegetation, the more likely that wildlife will be there. Just as important is the shallow water zone close to shore. Cattail, bulrush, and sedges along the shoreline provide both feeding and nesting areas for wildlife. Loons, black terns and red-necked grebes are important Minnesota birds that are particularly affected by destruction of this vegetation. Underwater vegetation is also important to wildlife for many portions of their life cycle, including breeding and rearing of their young.

Douglas County’s Biological Survey is in process at this time. There are no known species of special interest or concern in the Lobster Lake watershed. Loon nesting has been successful, with six pairs of loons observed in 2004. A bald eagle has been seen in the Cherry Point area, indicating a likely nest within the watershed. Various species of

geese, duck, egrets, blue herons, gulls, pelicans and cormorants are common on the lake. Mammals noted include mink, beaver, and muskrat where habitat makes it possible.

The primary agency charged with the management of Minnesota's wildlife is the Department of Natural Resources, Division of Fish and Wildlife, Wildlife Section. For Lobster Lake, the Area Wildlife Manager is Kevin Kotts, 23070 North Lakeshore Drive, Glenwood, MN 56334, Phone: (320) 634-4573, Email: kevin.kotts@dnr.state.mn.us.

Within the 2001 MDNR fisheries survey, the biologist noted, "Lobster Lake can be a good choice for late season duck hunters. The abundance of cattail cover and good historical use by late season birds can make for an exciting combination."

5. Invasive Species

The only lake in Douglas County infested with Eurasian Milfoil is Oscar Lake, located approximately four miles southwest of Lobster Lake. According to the DNR, Fisheries and Wildlife Division, eradication efforts of milfoil in this lake have been abandoned, due to the poor response to prior efforts, the prolific nature of the plant and the widespread infestation within the lake. This poses a threat to area lakes, and this association must plan to prevent the introduction into Lobster Lake.

Curly Leaf Pondweed is becoming an increasing threat to the Douglas County Lakes. Smith Lake has widespread patches of this plant. There are no known lakes located close to Lobster Lake with this problem.

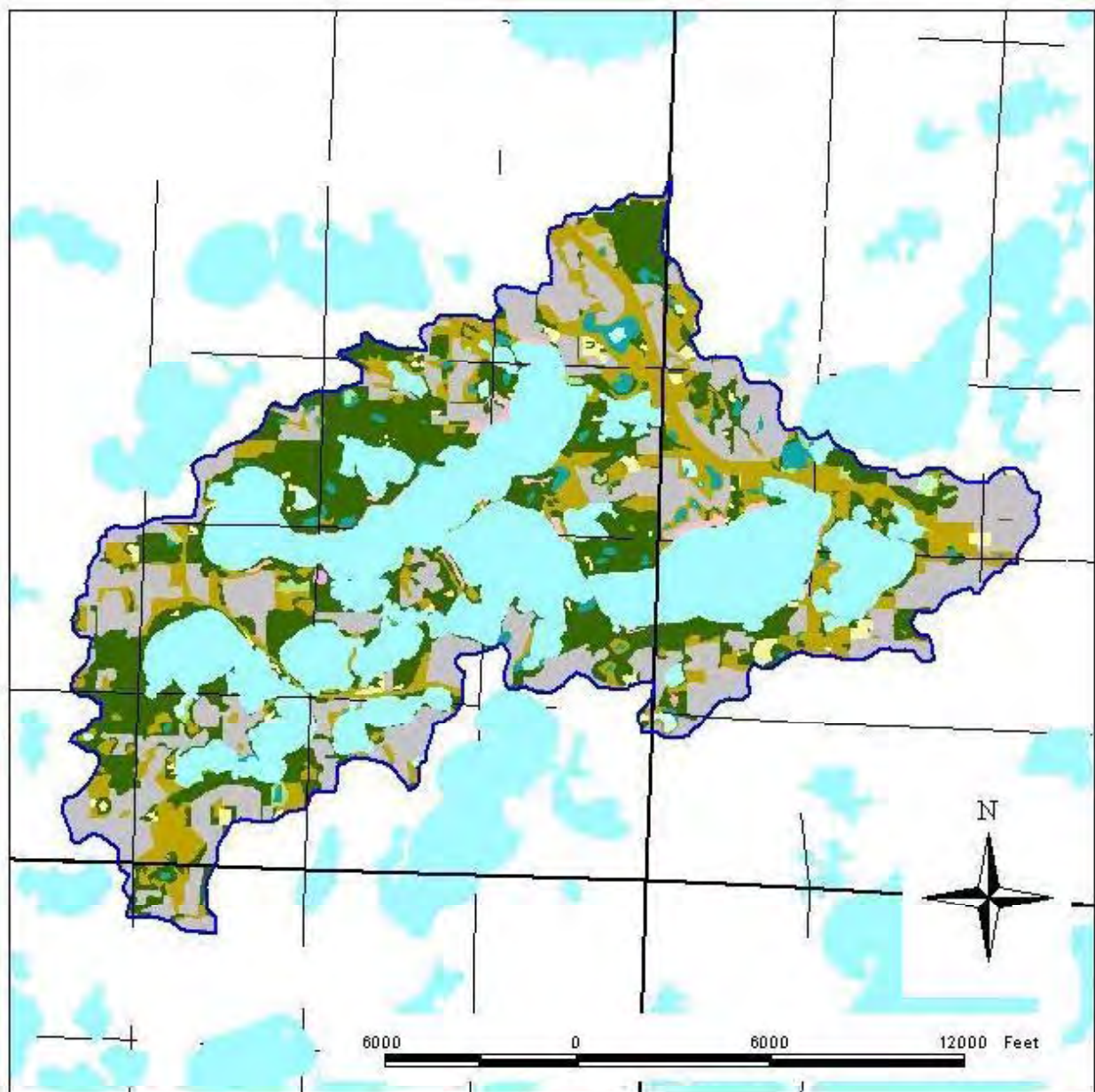
6. Land Use and zoning

The water quality of a lake or river is ultimately a reflection of the land uses within its watershed. The watershed of Lobster Lake covers about 31,360 acres and includes Lakes Mary and Andrews. The lakeshed includes all the surrounding land that drains into Lobster Lake. Land use in the lakeshed of Lobster Lake is shown in **Figures Eight and Nine**. Deciduous forest, grassland and cultivated land dominate the land use in the area. Residential development occurs mainly around the lake, within the shoreland boundary. Development of the land around Lobster Lake is rapidly occurring. The predominantly heavy clay soils, with some sand and gravel areas, make mound systems the major ISTS around the shoreline. LaGrand and Moe townships are in the process of exploring the feasibility of extending sanitary sewer to the perimeter of the lake.

Figure Eight

Land Use	Acres	% of Total
Farmsteads / Rural Residential	116	0.6
Rural Residential Development Complexes	67	0.3
Other Rural Developments	4	0.0
Cultivated Land	5,370	26.4
Grassland (up to 1/3 shrub, tree)	6,242	30.6
Grassland (1/3 to 2/3 deciduous tree or shrub)	56	0.3
Deciduous Forest	6,208	30.5
Water	1,918	9.4
Wetlands	372	1.8
Gravel Pits	10	0.0
Exposed Soil	7	0.0
TOTAL	20,370	100

While LaGrand and Moe townships do not have Comprehensive Plans, opportunities were presented for input on the County Comprehensive Plan, created and adopted in 1998. The plan is available on the Douglas County website at the following address: http://www.co.douglas.mn.us/comp_plan_land_use_guide.htm.



Land Use Legend

- Farmsteads / Rural Residential
- Rural Residential Development Complex
- Other Rural Developments
- Cultivated Land
- Grassland (up to 1/3 shrub, tree)
- Grassland (1/3 - 1/2 deciduous tree/shrub)
- Deciduous Forest
- Water
- Wetlands
- Gravel Pits
- Exposed Soil
- Watershed Boundary

Lobster Lake
Lakeshed

Land Use

(based on 1987 data)

Figure Nine

While there are 372 acres of wetland within the watershed, there exists another 178.5 acres of wetland destroyed in the past that could be restored, according to the Restorable Wetlands Inventory conducted by US Fish and Wildlife Services. Within the first 100 feet around the lake, there are nearly 7 acres of wetland that have been destroyed and a total of 22.5 within the first 500 feet surrounding the lake. The location of wetlands, both existing and restorable, within the watershed are shown in **Figure One**. This presents an opportunity to restore wetlands where feasible, thus restoring basins for holding back water and sediments from the lake.

While the specific impacts to a lake from various land uses vary as a function of local soils, topography, vegetation, precipitation, and other factors, it is ultimately the land uses which citizens have the most control over through prudent zoning. Local controls can include:

- establishment of appropriate setbacks and vegetative buffers;
- requirement of adequate stormwater retention and treatment;
- limitation of the density of buildings and other impervious surfaces;
- restrictions on the development of sensitive lands like wetlands, those with steep slopes, or areas which cannot support on-site wastewater treatment;
- prohibition or establishment of conditions on higher risk activities like commercial fuel storage, extraction of gravel or other minerals, and storage or disposal of hazardous materials, and;
- retention of ice berms.

Many zoning regulations are based upon the Shoreland Management Act and/or the Minnesota Department of Natural Resources (DNR) classification of a given lake. The DNR has classified all lakes within Minnesota as General Development (GD), Recreational Development (RD), or Natural Environmental (NE) lakes, and assigned a unique identification number to the lake for ease of reference. Counties in turn have used these classifications as a tool to establish minimum lot area (width and setbacks) that is intended to protect and preserve the character reflected in the classification.

Lobster Lake (DNR Lake ID#21-0144) is a Recreational Development Lake. The Douglas County zoning regulations provide the following explanation of the Recreational Development classification:

Recreational Development lakes are generally medium-sized lakes of varying depths and shapes with a variety of landform, soil, and ground water situations on the lands around them. They often are characterized by moderate levels of recreational use and existing development. Development consists mainly of seasonal and year-round residences and recreationally-oriented commercial uses. Many of these lakes have capacities for accommodating additional development and use.

The Douglas County zoning standards associated with a Recreational Development Lake are as follows:

Setbacks. Structures must be set back 100 feet from the ordinary high water level of the lake. This is the minimum distance between a building/structure and the lake. Septic systems have a 75-foot setback. Stairways, landings, and other items

permitted by shoreland alteration permits are the only things allowed in this area (See the Ordinance for the specific construction requirements.)

Bluffs. If a bluff exists on the property, the setback is 30 feet from the bluff (this determination may be difficult, please contact Land and Resource Management Department with questions.) The Bluff Impact Zone is the bluff itself and the area within 30 feet of the bluff. Buildings, accessory structures, patios, and walkout basements are not allowed in the bluff impact zone.

Shore Impact Zone is defined as half of the distance from the setback to the lake. This area is the most sensitive area of lake property and requires the most protection. A permit is required for most work done within the shore impact zone, such as vegetation alterations, retaining walls, sand beaches, and the removal of ice ridges. Please call Land and Resource with any questions. Buildings and accessory structures are not allowed in this area.

Impervious Surface Coverage: Twenty-five percent is the maximum amount of land that may be covered by surfaces that repel water. (This includes buildings, sidewalks, decks, landscaping, driveways (gravel or otherwise), etc.)

Alterations of vegetation and topography will be regulated to prevent erosion into public waters, fix nutrients, preserve shoreland aesthetics, preserve historic values, prevent bank slumping, and protect fish and wildlife habitat.

- Erosion control methods must be used as needed to prevent erosion into public waters.
- Use of a fertilizer containing phosphorus is not allowed within 50 feet of the ordinary high water level of the lake.
- Burning is not allowed within 100 feet of the lake. A campfire that is three feet or less in diameter is allowed, only if it is enclosed allowing ash removal.
- A shoreland alteration permit is needed to move any earth within the shore or bluff impact zone if the Department of Land and Resource Management determines that there is a potential for erosion. Over ten cubic yards of fill in the impact zones requires a conditional use permit, which requires public hearings and County Board approval. More than fifty cubic yards of fill anywhere else also requires a conditional use permit.
- Walkout basements require department approval prior to construction.

Douglas County has a web-site, which offers helpful contact information regarding planning and zoning matters: <http://www.co.douglas.mn.us/>. On any shoreland the permissible density and setbacks for virtually all new use are determined by the lake or river classification standards established by the Department of Natural Resources.

7. Managing water surface use conflicts

The goal of lake management is to ensure that the lake can continue to provide the benefits that attract homeowners and users. However, conflicts among uses arise almost invariably. Successful resolution of conflicts lies in the ability of the users to work collaboratively to arrive at acceptable compromises.

The primary agency responsible for managing surface water use conflicts is the Minnesota Department of Natural Resources, Bureau of Information and Education. The Boat and Water Safety Section within the Bureau oversees surface water use and is in charge of administering the Water Surface Use Management (WSUM) program. The goal of this program is to enhance the recreation use, safety and enjoyment of the water surfaces in Minnesota and to preserve these water resources in a way that reflects the state's concern for the protection of its natural resources.

Within this context, any governmental unit may formulate, amend or delete controls for water surface use by adopting an ordinance. Submit the ordinance for approval by the MDNR Boat and Water Safety Coordinator by calling 1 (800) 766-6000 or (651) 296-3336. To gain approval the ordinance must:

- Where practical and feasible accommodate all compatible recreational uses;
- Minimize adverse impacts on natural resources
- Minimize conflicts between users in a way that provides for maximum use, safety and enjoyment, and
- Conform to the standards set in WSUM Rules.

From a practical standpoint, any community considering this action should also consult with their local law enforcement agency (that will largely enforce the local ordinance) to ensure that any restrictions can be effectively enforced.

An alternative or complementary approach is to encourage education and a "community standard" of acceptable behavior. Annual distribution of state standards for hours of operation, setbacks from shorelands, loon nests, swimming areas, and other hazards or sensitive areas helps create "peer pressure" to minimize the types of behavior that tend to lead to the most conflicts.

The Douglas County Sheriff's department enforces surface water use Ordinances adopted by the County Board of Commissioners. Area lakes with "no-wake" ordinances include Winona, Agnes, and the Pristine Bay area of Darling. Surface water use conflicts concerns include safety, as a priority. A no-wake speed through "the narrows" is crucial for safety as well as prevention of shoreline destruction from wave action. Future concerns include the cumulative impact of larger boats and the damage to the shoreline / aquatic habitat. Jet skis continue to provide a nuisance through noise and wave action when shoreline setbacks are ignored.

8. Public water access

Research has shown that Minnesotans rely heavily upon public access sites to access lakes and rivers. A 1988 boater survey conducted by the University of Minnesota showed that three-fourths of the state's boat owners launch a boat at a public water access site at least once a year. In addition, over 80 percent of boat owners report using public water access sites for recreation activities other than boating.

The primary agency responsible for public water accesses in Minnesota is the Minnesota Department of Natural Resources, Trails and Waterways Unit. They are responsible for the acquisition, development and management of public water access

sites. The DNR either manages them as individual units or enters into cooperative agreements with county, state, and federal agencies, as well as local units of government such as townships and municipalities. The DNR's efforts to establish and manage public water access sites are guided by Minnesota Statutes and established written DNR policy. The goal of the public water access program is free and adequate public access to all of Minnesota's lake and river resources consistent with recreational demand and resource capabilities to provide recreation opportunities.

According to the 2001 Minnesota Department of Natural Resources Fisheries Survey, there is one public access on Lobster Lake, located on the west end of the lake. This DNR landing features a concrete apron. Lobster Lake Association intends to use this access to provide educational materials to boaters on busy weekends, and to provide signage for prevention of invasive species introduction.

III. PUBLIC FEEDBACK AND PERCEPTION

Process: The Lobster Lake Association Lake Management planning process of addressing priorities has included the following actions:

- **March 6 and 20, 2004:** A group of board members from the Lobster Lake Association attended leadership training hosted by the Initiative Foundation. Attendees included: Jim Barrett, Bonnie and Hardy Huettl, Myron Lofquist, Bev Paulin, Merle Pedersen, and John Stone.
- **April 2004:** A newsletter and flier announcing a Planning/Visioning Session and the need for public participation was produced and mailed out.
- **May 1, 2004:** A Planning/Visioning Session was held at the LaGrand Township Town Hall. A facilitation process was used at these meetings to determine priorities and desired outcomes. Representation from lakeshore residents, Brandon Township board, John Mingus and Jerry Johnson, Douglas County Commissioners; the Garfield Fire Department; and Emily Wolf, Local Water Manager were present.
- **June 25, 2004:** Meeting of Lobster Lake board members; Jerry Wendlandt, DNR Fisheries; Emily Wolf, Local Water Manager; and Marilyn Bayerl, Consultant to discuss potential Eurasian Water Milfoil introduction to Lobster Lake.

Outcomes:

Planning/Visioning Session:

Through a facilitated process, the following list of priorities and feedback were determined during the Lobster Lake Association Planning/Visioning Session held May 1, 2004:

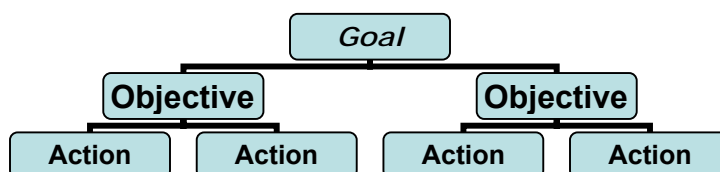
1. **Water Quality** – Water Quality was overwhelmingly the highest priority of the participants. Comments included:
 - Need for “Sewer” around lake for future improvement of water quality.
 - Runoff into the lake during development.
 - Too much clearing of land, especially along the shore.
 - Too much use of fertilizer near shoreline.
 - Increase in “green” water.
2. **Fisheries Management Plan** – Fisheries Management was the second strongest concern. Voiced concerns included:
 - Too many muskies.
 - Not enough muskies.
 - Manage for quality fishery.
3. **Land Use and Zoning** – Comments regarding Land Use as follows:
 - Keep wetlands for controlling water runoff into the lake.
 - Problems with building without checking rules first.
 - Problems with developers ignoring rules.
 - Need to educate new landowners.

IV. ISSUES, GOALS AND STRATEGIES

The Lobster Lake Association hosted a planning/visioning session on May 1, 2004 as part of the Healthy Lakes and Rivers Partnership to find out citizen concerns. This meeting was attended by fifty people and resulted in the development of the following priority issues:

***Water Quality
Fisheries Management
Land Use and Zoning***

The development of the **goals** within this chapter defines broad directions that Lobster Lake Association residents who participated in the public forum of the planning process wish to pursue to protect their resources. **Objectives** are the outcomes used for measuring success. **Action** items describe specific measures that the Association will implement, with assistance from appropriate local, state and federal agencies, to achieve the goals and objectives. Goals may have one or more objectives.



The goals, objectives and action items listed provide the guidance for day-to-day operations of the Association. This document will provide assistance in annual budgeting and in grant writing decisions.

PRIORITY ISSUE: WATER QUALITY

Water Quality Goal:

❖ ***Water Quality Trends will show improvement over the next ten years.***

Water Quality Objectives:

Objective A: Prevent introduction / spread of Eurasian Water Milfoil and other nuisance species into Lobster Lake.

Action

1. Search teams will be established around the lake. Training in identification of Eurasian Milfoil and other invasive species will be conducted. Inspections will be made simultaneously in spring and fall each year to detect plants as Eurasian Milfoil has longer growing season.

Timeline: Training – spring of 2005; Inspection: Semi-annually

Agency (Who): Jerry Wendlandt, DNR Fisheries to train volunteers

Cost: Volunteer time
Kits for volunteers: \$400

2. "Burma Shave" type signage along in-road to public access to be placed on private land with invasive species message.
Timeline: Summer of 2005
Agency (Who): Lobster Lake Water Quality Committee; Bruce Winterfeldt, DNR Trails and Waterways
Cost: Volunteer time
Signs, posts and other supplies: \$600
3. Hand out educational handouts at access two busy weekends each season.
Timeline: 2005 - 2006
Agency (Who): Lobster Lake Water Quality Committee; Jerry Wendlandt, DNR Fisheries
Cost: Volunteer time
Printing of brochures / cost of litterbag handouts: \$500

Objective B: Secchi clarity will improve to 9 feet during the months of July and August.

Action

1. Appoint liaison to Douglas County Land and Resource Management to ensure regulations regarding fertilizer, runoff and ISTS will be enforced.
Timeline: On-going
Agency (Who): Volunteer Lake Association Member; Emily Wolf, Local Water Manager
Cost: Volunteer time
2. Determine detailed monitoring plan, including inlet and outlet monitoring and in-lake program for Cl-A, T.Phos, and Secchi to monitor trends in water quality.
Timeline: Spring of 2006, 2007, 2008
Agency (Who): Lobster Lake Water Quality Committee; Julie Aadland, DNR Area Hydrologist; Emily Wolf, Local Water Manager, Tim James, MPCA
Cost: Volunteer time
Lab costs: \$200 - \$300 per year per site
3. Review past testing within lake to determine trends. Educate property owners regarding the results.
Timeline: Summer 2004
Agency (Who): Lobster Lake Water Quality Committee; Marilyn Bayerl, Aquatic Biologist
Cost: Volunteer time
Consultant cost: \$180 (*This is included in the plan writing fee*)

Objective C: Ten percent of un-vegetated shoreline will be returned to its native state.

1. Conduct a survey of shoreline status. Photos will be taken of existing shoreline status to be utilized for determination of existing vegetation, future reference on developments, assessment of existing erosion problems and to determine need for increased education of residents.
Timeline: Summer 2005 - 2008
Agency (Who): Water Quality Committee; Jim Dahl, Douglas County GIS Department; Emily Wolf, County Water Manager; Extension Services.
Cost: Volunteer time, cost of gas, film, mapping (\$300 minimum)

2. Educate lakeshore residents in the benefits of lakescaping. Invite Alan Zeithammer (local lakescaper) to speak at 2005 annual meeting. Present workshop through the Douglas County Water Manager or Minnesota Extension Services. Make interactive CD and "Lakescaping for Wildlife and Water Quality" available to members on loan from the association. Supply brochure from local lakescaping company in the lake association newsletter.
Timeline: Summer 2005
Agency (Who): Water Quality Committee; Emily Wolf, County Water Manager, Extension Services.
Cost: Volunteer time and mailing costs, \$30 for interactive CD

3. Provide information and incentive about the DNR Shoreland Habitat restoration grants to residents along Lobster Lake shoreline. Encourage both in-lake and upland plantings of native vegetation to decrease erosion into the lake and improve both water quality and habitat. Reward participants at annual meeting and in newsletter.
Timeline: Spring 2005 and On-going
Agency (Who): Water Quality Committee; Emily Wolf, County Water Manager; Dean Beck, DNR Fisheries.
Cost: Lakeshore residents in program will need to provide match in the form of in-kind and/or cash. Lobster Lake Association will provide prize to sites at a cost of \$200 per year.

4. Work with Douglas County Soil and Water Conservation District to provide cost-share incentives for buffers within the lakeshed on inlets and, where applicable, on agricultural land.
Timeline: Spring 2005 and On-going
Agency (Who): Water Quality Committee; Jerry Haggemiller, Douglas SWCD, landowners
Cost: Lake Association or residents in program will need to provide match in the form of in-kind and/or cash.

PRIORITY ISSUE: FISHERIES MANAGEMENT

Fisheries Management Goal:

- ❖ ***Improve Fishery in Lobster Lake to include more desirable species of fish and more/larger Walleye.***

Fisheries Management Objectives:

Objective A: 20% improvement in gill and trap net survey results by 2010

Action

1. Meet with DNR Fisheries to determine trend results of surveys and potential areas for fisheries habitat improvement.
Timeline: Winter 2004 - 2005
Agency (Who): Fisheries Management Plan Task Force and DNR Fisheries staff from Glenwood office.
Cost: Volunteer time
2. Explore feasibility of implementing slot limits. Purchase and hand out measuring tapes in ½ PVC pipes to Association Members.
Timeline: 2005
Agency (Who): Fisheries Management Plan Task Force and DNR Fisheries staff from Glenwood office.
Cost: Volunteer time
Measuring tapes and PVC: \$300
3. Educate lakeshore residents regarding fishery improvements via articles in the Lobster Lake Association Newsletter. Meet with Alexandria Echo Press Newspaper regarding printing of articles in local paper.
Timeline: Spring of 2005
Agency (Who): Lobster Lake Fisheries Management Plan Task Force
Cost: Volunteer time
4. Establish fisheries habitat improvement site (man made spawning habitat) per recommendation from DNR. Place signage for education purposes.
Timeline: Summer 2005
Agency (Who): Fisheries Management Plan Task Force and DNR Fisheries staff from Glenwood office.
Cost: Volunteer time
Site establishment: Up to \$500
5. Cost-share with the DNR for lake stocking fees bi-annually.
Timeline: Fall 2005, 2007, 2009, 2011, 2013
Agency (Who): Fisheries Management Plan Task Force and DNR Fisheries staff from Glenwood office.
Cost: Volunteer time
Cost-share: \$2,500 - \$3000 bi-annually

PRIORITY ISSUE: LAND USE AND ZONING

Land Use and Zoning Goal:

- ❖ ***Improve water clarity of Lobster Lake through education, restrictions on development, central sewer system, and more visible vegetation along the shoreline.***

Land Use and Zoning Objectives:

Objective A: Future development within the second and third tier from the lake will involve stormwater management and will not increase nutrient load to the lake.

Action

1. Encourage Douglas County Planning Commission and County Commissioners to deny Controlled Access Lots for 2nd tier development.

Timeline: 2004 - 2005

Agency (Who): Land and Resource Management, Committee Members

Cost: Volunteer time

2. Appoint volunteer resident or committee to learn county and state stormwater rules and comment on stormwater runoff systems for proposed 2nd and 3rd tier development.

Timeline: 2004 and On-going

Agency (Who): Land and Resource Management, MPCA, Volunteer Resident

Cost: Volunteer time and cost of training

Objective B: 100% of ISTS will be brought into compliance by 2010.

Action

1. Continue to participate in the process exploring options for community sewage treatment system.

Timeline: On-going

Agency (Who): Sanitary District representative

Cost: Volunteer time

2. Request a survey of ISTS around Lobster Lake shoreline (if community system becomes unfeasible) to determine compliance. Upgrade failing systems.

Timeline: 2005 (depending on Action B-1)

Agency (Who): Land and Resource Management

Cost: Intern for Douglas County / County Staff time

Objective C: A 50% decrease in variances will be accomplished by 2006.

Action

1. Establish a committee to review and comment on all Conditional Use Permits and Variances in the Lobster Lake lakeshed.

Timeline: On-going

Agency (Who): Land and Resource Management, committee members (John Stone)

Cost: Volunteer time

2. Encourage Douglas County Board of Adjustment to deny non-hardship variance applications.

Timeline: On-going

Agency (Who): committee members

Cost: Volunteer time

Objective D: Wetland will be restored in key areas within the Lobster Lake Lakeshed.

Action

1. Work with Douglas County SWCD to determine areas to be restored and approach landowners with available cost-share programs.

Timeline: On-going

Agency (Who): Douglas County SWCD, committee members (John Stone)

Cost: Volunteer time

Land Use and Zoning Goal:

- ❖ **Provide safety provision for rural homes on Lobster Lake by installing dry hydrants in the shoreland area.**

Land Use and Zoning Objective:

Objective E: At least one dry hydrant will be located on Lobster Lake shoreline to provide fire protection to rural residents.

Action

1. Appoint committee member to work with Garfield Fire Department, Moe Township and LaGrand Township in site location of dry hydrants. Contribute to cost of land acquisition and construction.

Timeline: 2004 - 2005

Agency (Who): Garfield Fire Department, Committee Members

Cost: Volunteer time - \$2,500