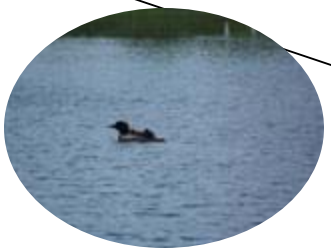
Lobster Lake Association

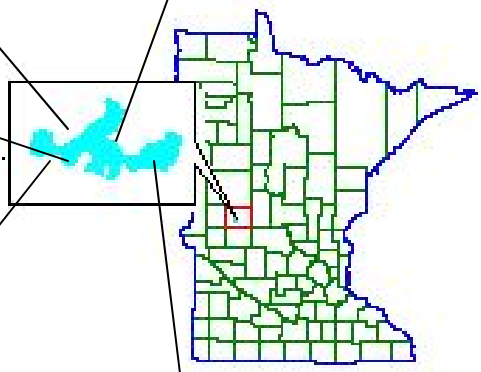
www.lobsterlake.org

Cherry Point

Westridge

Tall Timbers





Reuben's Landing

Lobster Island

Air Photos: (c) 2005-2007 Rob Graber

Lake Management Plan addendum

2012 - 2018

I. Executive Summary

The Lobster Lake Association (LLA) approved a Lake Management Plan at their 2005 annual meeting after a year of gathering comments and information from the property owners within the drainage area. This Plan, which can be found on the Lobster Lake website at: http://www.lobsterlake.org/lakemgmt.htm, is a compilation of the history, maps, studies and data for the Lobster Lake drainage area. Through the plan writing process, the LLA identified three priority issues (Water Quality, Fisheries Management, and Land Use and Zoning). Action strategies for the next five years were developed as a guide to the Association's activities. This ensured that the activities of the LLA board were driven by the membership and the property owners in the drainage area. Some of the accomplishments include the development of the LLA website in 2006. This has been an important addition to the Association in keeping the membership informed of activities and accomplishments. Other projects identified in the Plan and completed since 2005 include building loon nesting platforms, working with private enterprise and local club chapters to stock walleye, signage at the access to inform boaters about Aquatic Invasive Species (AIS), watercraft inspections in 2009, completion of a shoreline survey and assessment of vegetation, lakescaping, and many other awareness campaigns focused on water quality and the sustainable use of Lobster Lake. Grants from the Initiative Foundation totaling $7,400 were supplied for the writing and implementation of this Plan.

Lobster Lake received "Star Lake" designation in 2010. Minnesota State Legislature established a star lakes and rivers program in 2008. This initiative is designed to foster broader citizen participation through financial incentives, educational efforts and public-private partnerships. The designation came with a check for $2,500 for LLA use.

Through funding from the West Central Initiative Foundation, LLA received a $3,000 grant to update their plan in 2010. The Lobster Lake Association board solicited feedback from the membership and residents living on the lake through a mailed/online survey and a visioning session incorporated as part of their 2011 annual meeting. They received 35 survey responses and attendance at their annual meeting was 77 people. Priority issues identified were:

1. Water Quality
2. Aquatic Invasive Species
3. Land Use and Zoning
4. Fisheries Management

Through discussion and research, the LLA developed strategies to guide board management for the next five years. This addendum to the original plan includes updates of the data along with the new management strategies and goals. Information on Lobster Lake can be found on the LLA website at: ***http://www.lobsterlake.org/index.html***.

II. Updates and Accomplishments

Lake Levels:

Lake levels have been variable as shown in ***Figure One***. According to the Minnesota Department of Natural Resources (DNR), the "Ordinary High Water Level (OHWL)" in a lake is defined as "an elevation delineating the highest water level that has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly the point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial". The OHWL for Lobster Lake is 1,362.2 feet above sea level. Fluctuating lake levels can cause shoreland erosion into the lake. This is detrimental to the lake quality and the property owner alike – the property owner loses their land and the lake has to assimilate the sediment loaded with nutrients that can cause problems with clarity.

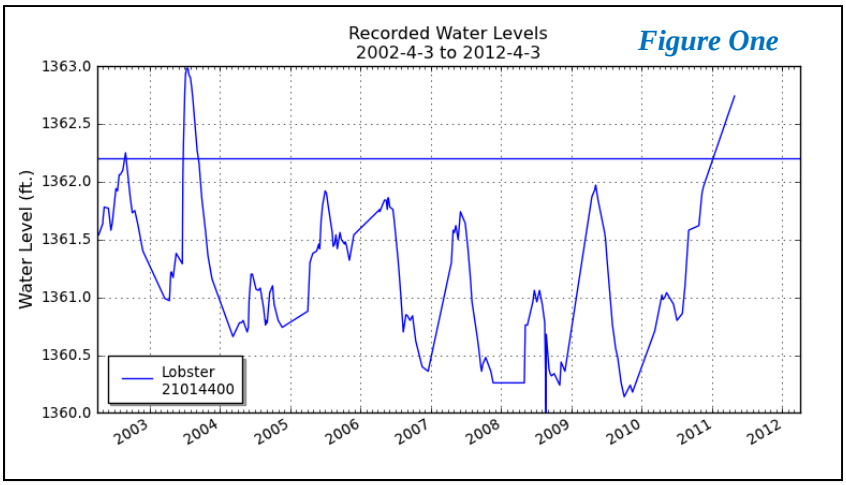


Figure One

Fisheries:

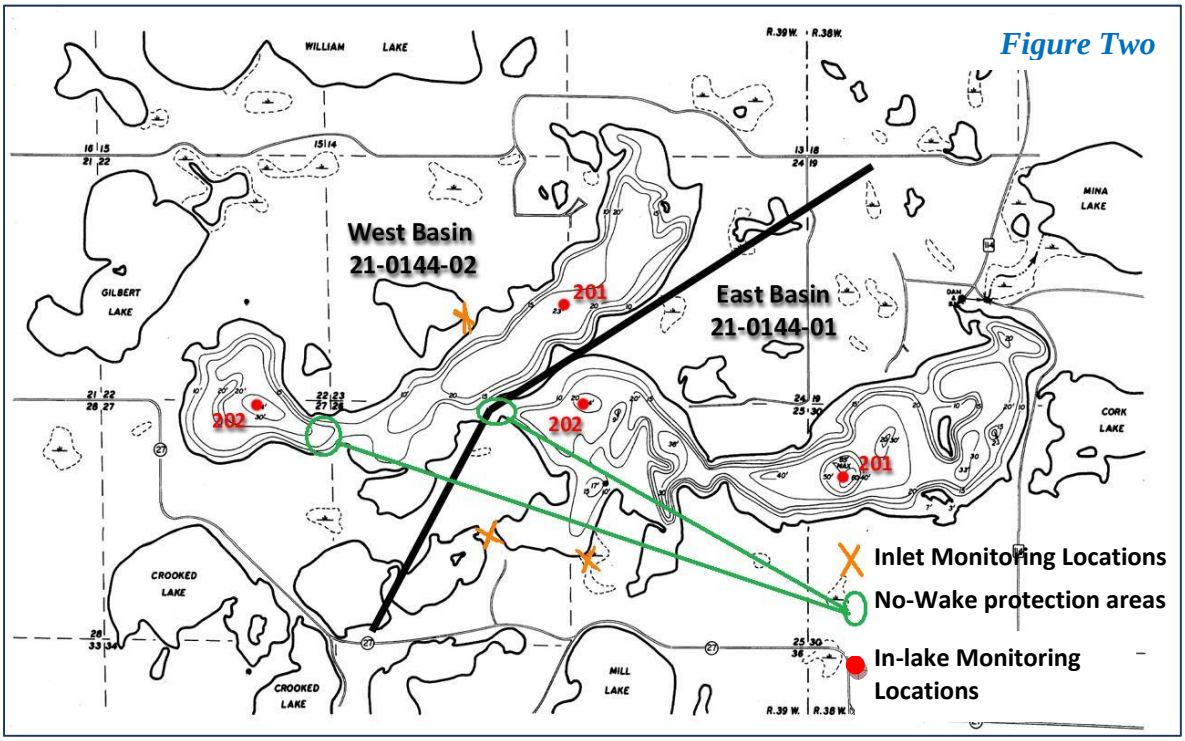
An updated DNR Fisheries survey was completed in 2009. A general increase in the fish population from the 2001 survey was noted for bluegills, and walleye. A healthy largemouth bass, muskie and crappie population was also noted. The full survey and the fish stocking plan can be found on the lake association website or the DNR lakefinder at: http://www.dnr.state.mn.us/lakefind/showreport.html?downum=21014400.

It is important for the Lobster Lake Association to work with the DNR on a fishery focused Comprehensive Lake Plan to enable maximum potential for sport fishing.

Water Quality Monitoring:

The Lobster Lake Association Website at: http://www.lobsterlake.org/waterquality.htm has extensive information regarding water quality monitoring, sample site maps and trend analysis information. The trends for secchi depth (water clarity) have been slowly rising since 1987 when monitoring was initiated on the lake. This is a positive trend, showing improvement in the depth of clarity. Lobster Lake is among the higher clarity lakes within the ecoregion with a Mesotrophic state. Mesotrophic lakes are defined as moderately clear with increasing probability of low oxygen in the hypolimnion (cold layer of the lake below the thermocline) during the summer.

Inlet monitoring for Total Phosphorus and Chlorophyll-A from Fish Lake and Mill Lake has been added in 2011 to determine the quality of waters entering Lobster Lake from upstream waters. This will be followed for high concentration and trends over the upcoming years. An additional site, Eisland Slough, will be added in 2012. Sites for in-lake and inlet monitoring are shown in ***Figure Two*** below.



Preliminary data collected in 2011 will serve as a baseline for comparison in future years. This data, shown in ***Figure Three*** below does show that Chlorophyll-a, which is the green in algae, increases with the end of summer in the Fish Lake inflow. There is not sufficient data at this time to make correlations between the Total Phosphorus and the Chlorophyll-a, but generally speaking the higher the Total Phosphorus / the higher the Chlorophyll-a and algal blooms.

Figure Three - Inlet Monitoring 2011	Stream Inlet from Mill Lake to Lobster Lake		Stream Inlet from Fish Lake to Lobster Lake	
Date	**Chlorophyll-a µg/L**	**Total Phosphorus mg/L**	**Chlorophyll-a µg/L**	**Total Phosphorus mg/L**
June 19, 2011		0.041	7	0.03
July 10, 2011	5	0.044	1	0.03
July 31, 2011	9	0.05	4	0.05
August 21, 2011	4	0.036	2	0.081
September 11, 2011	7	0.054	13	0.037

Aquatic Invasive Species and Vegetation:

The Aquatic Invasive Species (AIS) of concern in the Douglas County area include Curley Leaf Pondweed, Eurasian watermilfoil and Zebra mussels. None are found at this time in Lobster Lake however diligence is needed to keep them out and identify as soon as possible if an infestation occurs. Lobster Lake Association, the Douglas County Lakes Association and the Douglas County Board of Commissioners have taken an active stand against the spread of AIS. Lobster Lake Association volunteers have been conducting monthly inspections of shorelines around the lake since 2004. Fifty one boat inspections at the public access were completed by the DNR in 2009 and of these, four had attached vegetation. The goal is to reduce the spread of invasive species by education of boaters.

Curley Leaf Pondweed is the most prevalent in the county, choking out the native vegetation and making boating difficult. Leaves of the plant are somewhat stiff and crinkled, approximately 1/2-inch wide and 2 to 3 inches long; leaves are arranged alternately around the stem, and become denser toward the end of branches; it produces winter buds and blooms early in the season.

Eurasian watermilfoil has been identified in Lake Oscar – the only lake in Douglas County with verified infestation. Lake Oscar is located less than two miles cross-country from Lobster Lake. It is important to prevent the spread from Oscar to area lakes. In nutrient-rich lakes Eurasian watermilfoil can form thick underwater stands of tangled stems and vast mats of vegetation at the water's surface. In shallow areas the plant can interfere with water recreation such as boating, fishing, and swimming. The plant's floating canopy can also crowd out important native water plants.

Eurasian watermilfoil has difficulty becoming established in lakes with well established populations of native plants. In some lakes the plant appears to coexist with native flora and has little impact on fish and other aquatic animals.

Milfoil may become entangled in boat propellers, or may attach to keels and rudders of sailboat. Stems can become lodged among any watercraft apparatus or sports equipment that moves through the water, especially boat trailers. Cleaning all areas of your boat, motor and live well when leaving the lake is an important preventive measure.

Zebra mussels and a related species, the Quagga mussel, are small, fingernail-sized animals that attach to solid surfaces in water. Adults are 1/4 to 1 1/2 inches long and have D-shaped shells with alternating yellow and brownish colored stripes. Female zebra mussels can produce 100,000- 500,000 eggs per year. These develop into free-living larvae called veligers. Veligers cannot be seen with the naked eye – they are microscopic. After two to three weeks, the microscopic veligers start to settle and attach to any firm surface. It is the only freshwater mussel that can attach to objects. Since 2009, twelve Douglas County Lakes and the Long Prairie River have identified infestations of this mussel.

Zebra mussels can cause problems for lakeshore residents and recreationists. Homeowners that take lake water to water lawns can have their intakes clogged. Mussels may attach to motors and possibly clog cooling water areas. Shells can cause cuts and scrapes if they grow large enough on rocks, swim rafts and ladders. Anglers may lose tackle as the shells can cut fishing line. Zebra mussels can also attach to native mussels, killing them. Zebra mussels filter plankton from the surrounding water.

Wildlife:

The Douglas County Biological Survey was completed by the DNR since 2005. Results of the survey can be found at: http://www.dnr.state.mn.us/eco/mcbs/index.html. There are no known species of concern or special interest in the Lobster Lake watershed area.

The abundant cattails and emergent vegetation around the lake make excellent habitat for ducks, geese, egrets, herons, gulls, pelicans and cormorants. Loon nesting platforms provided by the Lobster Lake Association volunteers has improved the habitat.

Landuse and Zoning:

Some of the major changes in the Douglas County planning and zoning department include an update of the County Comprehensive Plan which can be viewed on the county website at: http://www.co.douglas.mn.us/LRM/PDFs/Adopted9-13-11CompPlanWeb.pdf. This document will guide the County during any changes in zoning rules and in land use decisions.

The DNR has developed new Shoreland Rules – governing how land within 1000-feet of a lake is developed and used. While these rules have not been adopted by the State, Douglas County will be updating and adopting new Shoreland Rules that are at least as restrictive as these rules.

The State of Minnesota has adopted new Sub-surface Sewage Treatment System (SSTS) Regulations. These rules replace the old Individual Sewage Treatment System (ISTS) rules. Douglas County will adopt and enforce these rules. Septic system information can be found at: http://septic.umn.edu/.

Surface Water Zoning:

Narrow, shallow channels located on sensitive areas of the lake, as noted on the map in ***Figure Two***, are posted as no-wake areas annually between April and October at the discretion of the Douglas County Sherriff's Department. This is done to prevent shoreline erosion, preserve vegetative habitat and for boater's safety. Regulations regarding surface water in Douglas County can be found on the County website at: http://www.co.douglas.mn.us/Sheriff/Water_Patrol.htm.

Public Access:

There is one public access on Lobster Lake located on the west end of Lobster Lake. It has a concrete apron. Lobster Lake Association intends to utilize the access on busy weekends to provide educational information to boaters in the form of hand outs and signage.

III. Public Feedback and Perception

Process:

The Lobster Lake Association board solicited feedback from the membership and residents living on the lake through a mailed/online survey and a visioning session incorporated as part of their 2011 annual meeting. They received 35 survey responses and attendance at their annual meeting was 77 people. Prioritizations of focus areas for this Plan update were completed through this process.

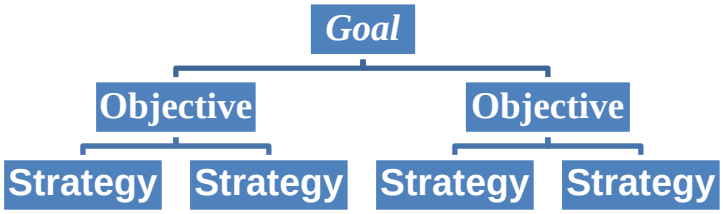
Outcomes: 2011 Planning/Visioning Session and Survey Results:

Through a facilitated process, with the inclusion of the survey results, the following list of priorities and feedback were determined during the Lobster Lake Association Planning/Visioning Session held May 7, 2011:

1. **Water Quality –** Water Quality was the highest priority of the participants. Comments included:
   - Water quality enhances other problems within the lake.
   - It affects the quality of life, property values.
   - Water quality has an impact on swimming, aesthetics, and fisheries management.
   - There is a need for management of lake levels.
   - We need total septic compliance.
   - Water quality is influenced by land uses.
2. **Aquatic Invasive Species (AIS) –**The second strongest concern, comments included:
   - Reflects on water quality, boating and the fishery.
   - Affects the overall use of the lake.
   - Property values are affected by AIS infested waters.
   - There is a high cost to preventing and controlling AIS.
   - AIS crowds out natural habitat in the lake and on the shoreline.
3. **Land Use and Zoning –** Comments included:
   - Orderly development is important.
   - Development should have “reasonable” restrictions.
   - Planning for future development strategically.
4. **Fisheries –** Suggestions:
   - Everyone loves fishing.
   - Need Department of Natural Resources involvement.

ISSUES, GOALS AND STRATEGIES

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. **Strategies** 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 guidance for day-to-day operations of the Association. This document provides assistance in annual budgeting and grant writing decisions.

IV. Prioritized Goals and Action Plan

The core of this Lake Management Plan is the identification and implementation of effective strategies that will assist in the management of water quality and quantity within the Lobster Lake lakeshed and watershed boundaries. The following Management Strategies have been identified and will be implemented as funding becomes available over the next ten years (2012 - 2022). The Lobster Lake Association will pursue funding options through grant writing and support of available programs.

Goals, Objectives and Management Strategies Defined:

This Implementation Plan is based on the goals, objectives and management strategies developed through the process of public input, technical advisory and lake association review. **Goals**, intentionally general in nature, are long-term intentions. **Objectives** are more action oriented. They support the goal and can be measured. **Management Strategies** are specific implementation steps to be followed in order to achieve the goal and objective.

Key

AIS	**Aquatic Invasive Species**
ALASD	**Alexandria Lakes Area Sanitary District**
DCLA	**Douglas County Lakes Association**
DNR	**Minnesota Department of Natural Resources**
DCS	**Douglas County Sherriff's Department**
LLA	**Lobster Lake Association**
LRM	**Douglas County Land and Resource Management**
MPCA	**Minnesota Pollution Control Agency**
MW	**Minnesota Waters**
SSTS	**Sub-surface Sewage Treatment System**
SWCD	**Douglas County Soil and Water Conservation District**

PRIORITY ISSUE #1: WATER QUALITY

WATER QUALITY GOAL: WATER QUALITY TRENDS WILL BE MAINTAINED OR SHOW IMPROVEMENT OVER THE NEXT TEN YEARS.

Objective 1. Maintain intact shoreline buffers and re-vegetate areas of known erosion into Lobster Lake.

	Management Strategy	Proposed Time Frame	Partners	Estimated Cost
1	Review shoreline photos of Lobster Lake from 2005 to determine changes in the lakeshore vegetation survey. Set up a GIS interface using LIDAR to identify changes and priority areas for re-vegetation.	2013-2014	Public Works, SWCD, LRM	$2,000
2	Work with the Douglas County Local Water Management Plan to fund and restore native vegetation to eroded and mowed sites.	Ongoing	SWCD, DNR	Volunteer and staff time
3	Provide information on workshops for design and management of rain gardens to prevent overland runoff into the lake and benefits of "no-mow" on shorelines.	Annually in newsletter and workshop in 2013	SWCD, DNR	$100 annually plus $150 for workshop
4	Inventory inlets to the lake and follow them upstream to determine any sources of pollutants to the lake within the lakeshed boundary.	2012-2013	LLA, RMB labs, SWCD	Volunteer time
5	Investigate possible funding for acquisition to sensitive lands surrounding Lobster Lake.	Ongoing	DNR, SWCD, MW	Unknown

Objective 2. The Trophic State Index of Lobster Lake overall will show positive trend (lower numbers) in 2022.

6	Continue the present lake monitoring program to establish long-term trends in lake quality.	Ongoing	LLA, RMB labs, SWCD	
7	Recruit new monitors and fund attendance to workshops and other training to help establish a monitoring program that will bring the most information for the least amount of money.	Annually	LLA, Volunteer Monitors	$2,000
8	Continue inlet monitoring. Explore upstream lake quality – Lake Mary, Mill Lake, Elisland Slough and Fish Lake.	Ongoing	LLA, RMB labs, SWCD, MPCA	$500 annually
9	Work with the MPCA and LWMP to assess the data from past monitoring and place on website for members to view.	Annually	MPCA, SWCD	Volunteer time + $50 annually
10	Continue to provide education on the water quality trends to property owners through the newsletter and the Lobster Lake website.	Ongoing	Rod Johnson, SWCD, MPCA	$150 annually

Objective 3. Manage Sub-surface Sewage Treatment Systems within the drainage area of Lobster Lake.				
11	Provide information to property owners on the proper care and maintenance of an SSTS.	2013	LRM, Extension	$500
12	Provide information to property owners regarding new regulations on the website and in the newsletter.	2012 newsletter	LRM, Extension	$150
13	Work with LRM to ensure full septic compliance within the lakeshed of Lobster Lake.	2012-2015	SWCD, LRM	Volunteer time
14	Continue to explore the feasibility of cluster systems in areas of poor soil filtration and/or areas of limited space.	2012 - ongoing	LRM, SWCD, DNR	Volunteer time
15	Continue to explore the feasibility of the creation of or joining an already established sanitary district.	On-going	SWCD, LRM, ALASD, DNR	Volunteer time
PRIORITY ISSUE #2: AQUATIC INVASIVE SPECIES (AIS)				
AIS GOAL: PREVENT INTRODUCTION OF AIS INTO LOBSTER LAKE THROUGH EDUCATION, MONITORING AND ENFORCEMENT.				
Objective 1. The property owners and boaters using the accesses of Lobster Lake will understand the urgency of AIS prevention and will have the tools to ensure they are not introducing any to the lake.				
16	Lobster Lake will continue to have an active AIS committee, keeping current with new regulations and programs being made available by the DNR, applying for funding to promote programs identified in this plan.	On-going	LRM, DNR	Volunteer time
17	AIS information will be made available in each newsletter and on the Lobster Lake website.	Ongoing	LLA, DNR	$150 annually
18	Provide speaker at the Lobster Lake annual meeting on an as-needed basis based on changes in lake and/or regulations.	2012-as needed	LLA	$150
19	Support the County LRM in their efforts of providing a wash station on infested waters.	Ongoing	SWCD, DNR, Commissioners, LRM	Volunteer time
20	Continue monthly milfoil and curley leaf pondweed inspections with added investigation for zebra/quagga mussels. Additional training from the DNR as needed for new inspectors and/or new invasives.	Ongoing	LLA, DNR	Volunteer time plus $500
21	Maintain signage at access educating boaters entering about AIS.	Ongoing	LLA, DCLA	Volunteer plus $500 annually
22	Hand out educational information at accesses during two busy weekends each season.	Ongoing	LLA, DNR, DCLA	Volunteer plus $100 annually
23	Support LLA board members in attending informational workshops to stay abreast of new developments.	Ongoing	LLA, DNR,	$375 annually

Objective 2. Lobster Lake Association will have a preparedness plan in the event of AIS detection.				
24	Complete a current emergent and submergent vegetation survey in and around Lobster Lake.	2012	LLA, Private contractor, DNR	$4,300
25	Work with DNR to develop a management plan to protect and/or restore vegetation based on the survey completed in 2012.	2013 – 2014	LLA, DNR, SWCD	Volunteer time
PRIORITY ISSUE #3: LAND MANAGEMENT / ZONING				
LAND USE MANAGEMENT GOAL: PROTECT DESIGNATED SENSITIVE AREAS OF THE LOBSTER LAKE LAKESHED THROUGH THE DEVELOPMENT AND USE OF BETTER TOOLS FOR LAND USE.				
Objective 1. The property owners and users of Lobster Lake will understand the potential impacts of their land use and boating activities on the lake.				
26	Work with Land and Resources Management and the Soil and Water Conservation District to identify and preserve the sensitive areas of Lobster Lake.	Ongoing	LRM, DNR, SWCD	Volunteer time
27	Review and comment on new proposed subdivisions within the watershed of Lobster Lake.	Ongoing	LRM, LLA, DNR	Volunteer time
28	Support the County LRM in their efforts of conservation subdivision with less density and a smaller footprint on the land.	Ongoing	LRM, LLA, DNR	Volunteer time
29	Provide information to property owners on the benefits of native vegetation to the water quality of the lake and for wildlife habitat.	Annually in newsletter	LLA, DNR	$100 annually
30	Educate the Lobster Lake property owners on the impacts of alterations of the natural shoreline area and the effects of boat motors on aquatic vegetation through newsletter articles.	Annually website / newsletter	LLA, DNR	$150 annually
31	Pursue surface water zoning in areas identified as sensitive to shoreline erosion and/or habitat destruction.	Annually	DNR, LLA, DCS	$900
PRIORITY ISSUE #4: FISHERIES / WILDLIFE MANAGEMENT				
FISHERIES AND WILDLIFE MANAGEMENT GOAL: PROVIDE EDUCATION AND INCENTIVES TO PROTECT AND IMPROVE THE FISHERIES AND WILDLIFE HABITAT.				
Objective 1. Lobster Lake Association will work with the DNR to preserve the habitat and support the fishery of the lake for appropriate game fish.				
32	Work closely with the DNR on the completion of a Comprehensive Fisheries Management Plan. Post on the Lobster Lake website.	2013-2015	LLA, DNR	$50 annually
33	Explore the feasibility of fish cribs and other habitat to increase spawning and/or nesting areas.	2012	LLA, DNR	$2,400
34	Explore feasibility of voluntary slot limits to manage fishery.	Ongoing	LLA, DNR	Volunteer time
35	Cost-share with local organizations as needed to stock lake with Walleye. Work with DNR on assessment of need.	Annually	LLA, DNR,	$2,000 annually