Lessard-Sams Outdoor Heritage Council Laws of Minnesota 2014 Accomplishment Plan

Date: November 01, 2013

Program or Project Title: Fisheries Habitat Protection on Strategic North Central Minnesota Lakes

Funds Recommended: \$ 2,130,000

Manager's Name: Paula West

Title: Executive Director

Organization: Leech Lake Area Watershed Foundation

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Organization Web Site: www.leechlakewatershed.org

Legislative Citation:

Appropriation Language:

County Locations: Aitkin, Cass, Crow Wing, and Hubbard.

Ecological Planning Regions:

Northern Forest

Activity Type:

- Protect in Easement
- Protect in Fee

Priority Resources Addressed by Activity:

Habitat

Abstract:

Approximately 500 acres of critical shoreland and forested parcels in the watersheds of strategic North Central Minnesota lakes will be permanently protected to insure availability of high quality fish habitat to sustain a healthy sport fishery in North Central Minnesota.

Design and Scope of Work:

A recent survey of the U.S. Fish and Wildlife Service reported 32 percent of Minnesotans participated in sport fishing, contributing \$2.4 billion to the state economy in 2011. Sport fishing is a powerful economic engine in Minnesota and important to its resident's quality of life. Sustaining a strong angling heritage revolves largely around protecting fisheries habitat necessary for healthy sport fish populations in the near- and long-term future with resurging shoreland development pressures and looming climate changes. This project will focus on fisheries habitat protection on lakes that have the best biological integrity for a sustained sport fishery in lights of these changes. These lakes are known collectively as "tullibee lakes."

Tullibee (also known as cisco) is the preferred forage fish for the production of quality walleye, northern pike, muskellunge, and lake trout. They require cold, well-oxygenated waters, conditions most common in lakes with

deep water and functioning watersheds. Tullibee populations are the "canary in the coalmine" for three significant collective threats to Minnesota's sport fishery: shoreline development, watershed health, and climate warming. As average summer temperatures have increased, tullibee declines have already been observed in some lakes. Deep, cold water tullibee lakes that have high quality, well-oxygenated waters and natural, undisturbed land cover along the shorelines and within their watersheds will have the best chance to sustain tullibee populations in the face of these threats and will serve as a "refuge" for the tullibee if annual temperatures increase.

Minnesota DNR Fisheries researchers studied tullibee lakes and designated 68 lakes in Minnesota as the primary "refuge lakes" for tullibee that need protection. Thirty-eight (38) of these refuge lakes—or 58%--are located in Hubbard, Crow Wing, Cass, and Aitkin counties. Many are also Minnesota's premier recreation lakes. The next 10 years are a critical window of opportunity to protect some of the "best of the best" sport fishery lakes in Minnesota. While recent economics slowed shoreland development, realtors now report a resurgence of shoreland property sales. Growth will be driven by retiring baby boomers and technology that allows landowners to live, work, and play from the same location. With land values sure to rise in the region, now is the time to protect these refuge tullibee lakes and maximize the effectiveness of this fisheries habitat protection project.

Scope of Project:

Fee title acquisition and conservation easements will be used to achieve permanent conservation of fisheries habitat on strategic parcels primarily in the watersheds of the 38 tullibee refuge lakes in Hubbard, Cass, Crow Wing, and Aitkin counties. Shoreland parcels and private forested parcels within these lake's watersheds will be targeted for protection. A project team, including DNR Fisheries Habitat Coordinator and county SWCD, will develop a set of strategic criteria for parcel identification and use the best available data (state and county) to prioritize projects and maximize outcomes. The new 2013 Minnesota DNR Fish Habitat Plan will provide strategic guidance.

As the plan states, fish habitat in lakes is largely affected by shoreline disturbance and the quality of the water as determined by its oxygen levels and nutrient content. Shoreline disturbance reduces physical habitat (shore and aquatic vegetation, woody structure in the lake, and bottom substrates) that fish need for food production, spawning, and cover from predation. The oxygen and nutrient levels of the water are largely determined by land disturbance in the nearshore zone and within the lake's watershed. Run-off from disturbed land can contribute oxygen-depleting nutrients which are especially harmful to sensitive species like tullibee that need high oxygen levels. Nutrient-laden runoff also causes algae to grow on bottom spawning substrates; the algae consume oxygen needed for survival of fish eggs. Lakeshore development decreases a lake's ability to function as a healthy ecosystem for sport fish and their forage, not only by allowing increased runoff, but also through physical fish habitat alteration by lakeshore owners. Land conservation keeps the physical habitat intact and prevents runoff that contributes to poor water quality habitat.

Fisheries research has shown that healthy watersheds with intact forests are fundamental to good fish habitat. If a lake's watershed has less than 25% land disturbance and 75% or more of its landscape remains forested and permanently protected, the lake has a high probability of sustaining a healthy lake ecosystem to support fish. The undisturbed forest cover allows water to infiltrate into the ground rather than running off directly to the lake. Projects that can simultaneously reduce shoreline development and watershed disturbances can yield the greatest conservation return. The 38 refuge tullibee lakes in North Central Minnesota all have less than 25% land disturbance in their watersheds and already have some degree of watershed protection. With strategic effort, it is feasible to reach permanent 75% watershed protection for many of these refuge tullibee lakes.

This project will protect 3-4 miles of critical shoreland and approximately 500 acres. It includes:

*A fee-title acquisition of 105 acres on Woods Bay of Lake Roosevelt, a target tullibee lake. The DNR will have permanent ownership as an Aquatic Management Area; it is a DNR acquisition priority. One + mile of sensitive shoreland will be protected and 105 acres open to the public for hunting, fishing, and other recreation. Wood's Bay is the prime spawning area for recently stocked muskie. The property is listed on the Minnesota County Biological Survey because of its high biological significance and intact old growth forest canopy. It is under immediate threat of development to settle a family estate.

*Use of conservation easements to protect shoreland zones on refuge tullibee lakes and large-tract private forest lands within the refuge lakes' watersheds to achieve permanent habitat protection on approximately 400 acres. The project will maximize the State's financial leverage by securing fully donated conservation easements where possible and paying approximately 50% of easement value for most acquired easements.

Investing now in strategic fish habitat protection along the shores and within the watersheds of refuge tullibee lakes and other critical shorelands will insure a healthy, resilient sport fishery for Minnesota.

Planning:

MN State-wide Conservation Plan Priorities:

- H1 Protect priority land habitats
- H2 Protect critical shoreland of streams and lakes
- H3 Improve connectivity and access to recreation
- H6 Protect and restore critical in-water habitat of lakes and streams
- H7 Keep water on the landscape

Plans Addressed:

- Long Range Plan for Fisheries Management
- Long Range Plan for Muskellunge and Large Northern Pike Management Through 2020
- Midwest Glacial Lakes Partnership
- Minnesota DNR AMA Acquisition Plan
- Minnesota DNR Scientific and Natural Area's Long Range Plan
- Minnesota DNR Strategic Conservation Agenda
- Minnesota Forest Resource Council Landscape Plans
- Minnesota Sustainability Framework
- National Fish Habitat Action Plan
- Outdoor Heritage Fund: A 25 Year Framework
- State Comprehensive Outdoor Recreation Plan
- Tomorrow's Habitat for the Wild and Rare
- U.S. Fish and Wildlife Service Strategic Habitat Conservation Model
- 2013 DNR Fish Habitat Plan: Strategic Guidance Document

LSOHC Statewide Priorities:

- Address Minnesota landscapes that have historical value to fish and wildlife, wildlife species of greatest conservation need, Minnesota County Biological Survey data, and rare, threatened and endangered species inventories in land and water decisions, as well as long-term or permanent solutions to aquatic invasive species
- Are ongoing, successful, transparent and accountable programs addressing actions and targets of one or more of the ecological sections
- Ensures activities for "protecting, restoring and enhancing" are coordinated among agencies, non profits and others while doing this important work; provides the most cost-effective use of financial resources; and where possible takes into consideration the value of local outreach, education, and community engagement to sustain project outcomes
- Leverage effort and/or other funds to supplement any OHF appropriation
- Produce multiple enduring conservation benefits
- Provide Minnesotans with greater public access to outdoor environments with hunting, fishing and other outdoor recreation opportunities
- Use a science-based strategic planning and evaluation model to guide protection, restoration and enhancement, similar to the United States Fish and Wildlife Service's Strategic Habitat Conservation model

LSOHC Northern Forest Section Priorities:

• Protect shoreland and restore or enhance critical habitat on wild rice lakes, shallow lakes, cold water lakes, streams and rivers, and spawning areas

Relationship to Other Constitutional Funds:

- Arts and Cultural Heritage Fund
- Environmental and Natural Resource Trust Fund
- Clean Water Fund

This project builds on two ENRTF projects:

- 1) A \$300,000 ENRTF project "Conserving Sensitive and Priority Shorelands in Cass County" where approximately 3 miles of sensitive shoreland will be permanently protected through donated conservation easements by willing landowners. As a collaborative project of Cass County and the Leech Lake Area Watershed Foundation (LLAWF), conservation easements are placed on sensitive and critical habitat shoreland parcels identified through a DNR scientific-based assessment on 19 lakes in Cass County. The success of this project and its successor, funded by BWSR, provided impetus for the FY2012 OHF funded project: "Protecting Sensitive Shorelands in North Central Minnesota" that expanded the project to include Crow Wing and Aitkin counties, too.
- 2) ENRTF funded the DNR project "Sustaining Lakes in a Changing Environment", a statewide collaborative effort to develop a system to monitor and record biological and chemical changes in sample lakes statewide. Several tullibee lakes in this propsoal are included in the study.

Several projects currently funded by the Clean Water Fund directly support this project.

- 1) DNR/BWSR/County SWCD Forest Stewardship Project for Tullibee Lake Watersheds provides grants to private forest landowners for the development of a forest stewardship management plans on parcels not exceeding 1,920 acres in the watersheds of "refuge" tullibee lakes in Cass, Crow Wing, Hubbard, and Aitkin counties. Participating landowners in priority refuge tullibee lake watersheds will be the priority for the forest-parcel conservation easements in this proposal.
- 2) The MPCA is conducting Watershed Restoration and Protection Projects (WRAPS) on the major watersheds in this project's geography. The WRAPs will identify impaired waters and develop a restoration plan. It is anticipated these watersheds will have few, if any, impaired waters that need restoration. Hence, implementation plans will be protection-oriented with land conservation as a key protection strategy.
- 3) BWSR provides Clean Water Grants to counties for lake stewardship activities that prevent runoff to the lakes and reduce pollutant levels. Many landowners on tullibee lakes have participated in these grant programs.

The Arts/Cultural Heritage Fund is funding Hamline University archeological excavations on the Lake Roosevelt property in this proposal. Findings thus far have identified artifacts dating back 8,000 years.

Accelerates or Supplements Current Efforts:

The Leech Lake Area Watershed Foundation (LLAWF) and the Minnesota Land Trust (MLT) are partners in the other projects to place conservation easements on priority shorelands in North Central Minnesota. LLAWF has established relationships with regional governments, land owners, lake associations and other regional entities for effective outreach and landowner relationships and provides technical assistance to landowners. MLT is a nationally accredited land trust that is appropriate to hold and perpetually manage the easements. This proposal is a continuation of the FY2012 OHF funded project "Protecting Priority Shorelands in North Central Minnesota" for donated conservation easements in similar geography. Many of the target lakes in that project are refuge tullibee lakes allowing continued work with landowners from previous outreach efforts.

LLAWF has a long history of successful acquisitions. Since 1995 LLAWF has protected over 20 miles of critical shorelands, most of which are now in public ownership for public use and enjoyment.

The majority of financial support for both LLAWF and MLT must be raised on an annual basis. The work in this proposal allows both organizations to enhance and accelerate ongoing conservation efforts in North Central Minnesota; these grant funds will not substitute for or supplant other funds.

Sustainability and Maintenance:

The Lake Roosevelt fee-title acqusition will have final ownership and management by the Minnesota DNR as an

Aquatic Management Area (AMA); as such it will be permanently managed according to DNR standards and procedures for public land. The Minnesota Land Trust will hold all the conservation easements acquired. The land protected through these conservation easements will be sustained through the best standards and practices for conservation easement stewardship. The Minnesota Land Trust is a nationally-accredited land trust with a very successful stewardship program that includes annual property monitoring, effective records management, addressing inquiries and interpretations, tracking changes in ownership, investigating potential violations and defending the easement in case of a true violation. Funding for these easement stewardship activities is included in the project budget.

Government Approval:

Will local government approval be sought prior to acquisition? - Yes

Permanent Protection:

Is the land you plan to acquire free of any other permanent protection? - Yes

Hunting and Fishing Plan:

Is this land open for hunting and fishing? - Yes

Hunting and Fishing Regulations Not Listed

Public Use:

Will the eased land be open for public use? - No

Permanent Protection:

Is the land you plan to acquire free of any other permanent protection? - Yes

Accomplishment Timeline

Activity	Approximate Date Completed
Fee title acquisition of 105 acres on Roosevelt Lake; convey to MN DNR	6/1/2015
Manage, monitor, and enforce conservation easements	Ongoing in perpetuity
Landowner outreach, consultation, technical assistance, and easement preparation	Ongoing through June 30, 2017
Protect 500 acres on targeted riparian parcels and forested watershed parcels	June 30, 2017

Outcomes

Programs in the northern forest region:

- Forestlands are protected from development and fragmentation *Private forest parcels* < 1,920 acres with a DNR-approved Forest Management Plan will be permanently protected from development and fragmentation with a conservation easement.
- Healthy populations of endangered, threatened, and special concern species as well as more common species Lake Roosevelt AMA will maintain high biological integrity as already documented by MN County Biological Survey. Protected lands will provide habitat integrity for all species.
- Improved aquatic habitat indicators *Tullibee* and sport fish populations will be surveyed; water chemistry monitored; adequate oxygen levels will be maintained during summer; nutrient levels will remain low.
- Increased availability and improved condition of riparian forests and other habitat corridors Riparian forest lands under easement will maintain healthy habitat complexes for upland and aquatic species; forest cover will enhance water quality habitat for tullibee lakes.
- Greater public access for wildlife and outdoors-related recreation Fee-title acquisition open to public for hunting, fishing, and other recreation. Eased properties will protect fish habitat to insure high quality fishing opportunities.

Budget Spreadsheet

Budget reallocations up to 10% do not require an amendment to the Accomplishment Plan

Total Amount of Request: \$ 2130000

Budget and Cash Leverage

Budget Name	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	\$134,000	\$0		\$134,000
Contracts	\$0	\$0		\$0
Fee Acquisition w/ PILT	\$1,000,000	\$100,000	Private Source	\$1,100,000
Fee Acquisition w/o PILT	\$0	\$0		\$0
Easement Acquisition	\$733,700	\$733,700	Private Source	\$1,467,400
Easement Stewardship	\$120,000	\$0		\$120,000
Travel	\$11,000	\$0		\$11,000
Professional Services	\$116,300	\$0		\$116,300
Direct Support Services	\$0	\$0		\$0
DNR Land Acquisition Costs	\$14,000	\$0		\$14,000
Capital Equipment	\$0	\$0		\$0
Other Equipment/Tools	\$0	\$0		\$0
Supplies/Materials	\$1,000	\$0		\$1,000
DNR IDP	\$0	\$0		\$0
Total	\$2,130,000	\$833,700		\$2,963,700

Personnel

Position	FTE	Over # of years	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Conservation Specialist	0.10	1.00	\$9,000	\$0		\$9,000
Conservation Specialist/Outreach/Admin	0.20	3.00	\$50,000	\$0		\$50,000
Conservation Personnell	0.33	3.00	\$75,000	\$0		\$75,000
Total	0.63	7.00	\$134,000	\$0		\$134,000

Budget and Cash Leverage by Partnership

Budget Name	Partnership	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	Leech Lake Area Watershed Foundation	\$59,000	\$0		\$59,000
Contracts	Leech Lake Area Watershed Foundation	\$0	\$0		\$0
Fee Acquisition w/ PILT	Leech Lake Area Watershed Foundation	\$1,000,000	\$100,000	Private Source	\$1,100,000
Fee Acquisition w/o PILT	Leech Lake Area Watershed Foundation	\$0	\$0		\$0
Easement Acquisition	Leech Lake Area Watershed Foundation	\$0	\$0		\$0
Easement Stewardship	Leech Lake Area Watershed Foundation	\$0	\$0		\$0
Travel	Leech Lake Area Watershed Foundation	\$5,000	\$0		\$5,000
Professional Services	Leech Lake Area Watershed Foundation	\$71,300	\$0		\$71,300
Direct Support Services	Leech Lake Area Watershed Foundation	\$0	\$0		\$0
DNR Land Acquisition Costs	Leech Lake Area Watershed Foundation	\$14,000	\$0		\$14,000
Capital Equipment	Leech Lake Area Watershed Foundation	\$0	\$0		\$0
Other Equipment/Tools	Leech Lake Area Watershed Foundation	\$0	\$0		\$0
Supplies/Materials	Leech Lake Area Watershed Foundation	\$1,000	\$0		\$1,000
DNR IDP	Leech Lake Area Watershed Foundation	\$0	\$0		\$0
Total		\$1,150,300	\$100,000		\$1,250,300

Personnel - Leech Lake Area Watershed Foundation

Position FT		Over # of years	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Conservation Specialist	0.10	1.00	\$9,000	\$0		\$9,000
Conservation Specialist/Outreach/Admin	0.20	3.00	\$50,000	\$0		\$50,000
Total	0.30	4.00	\$59,000	\$0		\$59,000

Budget Name	Partnership	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	Minnesota Land Trust	\$75,000	\$0		\$75,000
Contracts	Minnesota Land Trust	\$0	\$0		\$0
Fee Acquisition w/ PILT	Minnesota Land Trust	\$0	\$0		\$0
Fee Acquisition w/o PILT	Minnesota Land Trust	\$0	\$0		\$0
Easement Acquisition	Minnesota Land Trust	\$733,700	\$733,700	Private Source	\$1,467,400
Easement Stewardship	Minnesota Land Trust	\$120,000	\$0		\$120,000
Travel	Minnesota Land Trust	\$6,000	\$0		\$6,000
Professional Services	Minnesota Land Trust	\$45,000	\$0		\$45,000
Direct Support Services	Minnesota Land Trust	\$0	\$0		\$0
DNR Land Acquisition Costs	Minnesota Land Trust	\$0	\$0		\$0
Capital Equipment	Minnesota Land Trust	\$0	\$0		\$0
Other Equipment/Tools	Minnesota Land Trust	\$0	\$0		\$0
Supplies/Materials	Minnesota Land Trust	\$0	\$0		\$0
DNR IDP	Minnesota Land Trust	\$0	\$0		\$0
Total		\$979,700	\$733,700		\$1,713,400

Personnel - Minnesota Land Trust

Position	FTE	Over # of years	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Conservation Personnell	0.33	3.00	\$75,000	\$0		\$75,000
Total	0.33	3.00	\$75,000	\$0		\$75,000

Output Tables

Table 1. Acres by Resource Type

Туре	Wetlands	Prairies	Forest	Habitats	Total
Restore	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	105	105
Protect in Fee W/O State PILT Liability	0	0	0	0	0
Protect in Easement	0	0	0	400	400
Enhance	0	0	0	0	0
Total	0	0	0	505	505

Table 2. Total Requested Funding by Resource Type

Туре	Wetlands	Prairies	Forest	Habitats	Total
Restore	\$0	\$0	\$0	\$0	\$0
Protect in Fee with State PILT Liability	\$0	\$0	\$0	\$1,050,300	\$1,050,300
Protect in Fee W/O State PILT Liability	\$0	\$0	\$0	\$0	\$0
Protect in Easement	\$0	\$0	\$0	\$1,079,700	\$1,079,700
Enhance	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$2,130,000	\$2,130,000

Table 3. Acres within each Ecological Section

Туре	Metro Urban	Forest Prairie	SE Forest	Prairie	N Forest	Total
Restore	0	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	105	105
Protect in Fee W/O State PILT Liability	0	0	0	0	0	0
Protect in Easement	0	0	0	0	400	400
Enhance	0	0	0	0	0	0
Total	0	0	0	0	505	505

Table 4. Total Requested Funding within each Ecological Section

Туре	Metro Urban	Forest Prairie	SE Forest	Prairie	N Forest	Total
Restore	\$0	\$0	\$0	\$0	\$0	\$0
Protect in Fee with State PILT Liability	\$0	\$0	\$0	\$0	\$1,050,300	\$1,050,300
Protect in Fee W/O State PILT Liability	\$0	\$0	\$0	\$0	\$0	\$0
Protect in Easement	\$0	\$0	\$0	\$0	\$1,079,700	\$1,079,700
Enhance	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$0	\$2,130,000	\$2,130,000

Table 5. Target Lake/Stream/River Miles

3 miles

Parcel List

For restoration and enhancement programs ONLY: Managers may add, delete, and substitute projects on this parcel list based upon need, readiness, cost, opportunity, and/or urgency so long as the substitute parcel/project forwards the constitutional objectives of this program in the Project Scope table of this accomplishment plan. The final accomplishment plan report will include the final parcel list.

Section 1 - Restore / Enhance Parcel List

No parcels with an activity type restore or enhance.

Section 2 - Protect Parcel List

Aitkin

Name	TRDS	Acres	Est Cost	Existing Protection?	Hunting?	Fishing?
Big Sandy Lake	02912224	0	\$0	No	No	No
Cedar Lake	04727231	0	\$0	No	No	No
Hill Lake	05226212	0	\$0	No	No	No
Long Lake	04625210	0	\$0	No	No	No
Nord Lake	04604226	0	\$0	No	No	No
Round Lake	04923225	0	\$0	No	No	No

Cass

Name	TRDS	Acres	Est Cost	Existing Protection?	Hunting?	Fishing?
Cooper Lake	14028211	0	\$0	No	No	No
Girl Lake	14128233	0	\$0	No	No	No
Hattie Lake	13929231	0	\$0	No	No	No
Long Lake	14128223	0	\$0	No	No	No
Long Lake	14231233	0	\$0	No	No	No
Mann Lake	14029204	0	\$0	No	No	No
Pleasant Lake	14030221	0	\$0	No	No	No
Ten Mile Lake	14131206	0	\$0	No	No	No
Thunder Lake	14026209	0	\$0	No	No	No
Washburn Lake	13926209	0	\$0	No	No	No
Woman Lake	14028206	0	\$0	No	No	No

Crow Wing

Name	TRDS	Acres	Est Cost	Existing Protection?	Hunting?	Fishing?
Big Trout	13728223	0	\$0	No	No	No
Borden Lake	04428215	0	\$0	No	No	No
Clear Lake	12728233	0	\$0	No	No	No
Crooked Lake	04528216	0	\$0	No	No	No
Kenney Lake	04428202	0	\$0	No	No	No
, , , , , , , , , , , , , , , , , , ,	13729225	0	\$0	No	No	No
Ossawinamakee Lake	13628204	0	\$0	No	No	No
Pelican Lake	13628227	0	\$0	No	No	No
Roosevelt	13826208	0	\$0	No	No	No
Roosevelt Lake	13826208	105	\$1,000,000	No	Full	Full
Star Lake	13728226	0	\$0	No	No	No
Whitefish Lake	13728207	0	\$0	No	No	No

Hubbard

Name	TRDS	Acres	Est Cost	Existing Protection?	Hunting?	Fishing?
Big Mantrap Lake	14233232	0	\$0	No	No	No
	14138228	0	\$0	No	No	No
Eleventh Crow Wing Lake	14132215	0	\$0	No	No	No
Kabekona Lake	14332230	0	\$0	No	No	No
Ninth Crow Wing Lake	14032206	0	\$0	No	No	No
Spearhead Lake	14534223	0	\$0	No	No	No

Section 2a - Protect Parcel with Bldgs

No parcels with an activity type protect and has buildings.

Section 3 - Other Parcel Activity

No parcels with an other activity type.