Main Request for Funding Form

Lessard-Sams Outdoor Heritage Council Fiscal Year 2014 / ML 2013 Proposal

Program or Project Title: Goose Lake Restoration and Carp Exclusion Project

Funds Requested: \$412,000

Manager's Name: Andy Henschel Title: Director of Field Operations Organization: Shell Rock River Watershed District Street Address: 411 S. Broadway City: Albert Lea, MN 56007 Telephone: 507-377-5785 E-Mail: andy.henschel@co.freeborn.mn.us Organization Web Site: www.shellrock.org

County Locations: Freeborn,

Ecological Planning Regions:

• Prairie

Activity Type:

- Restore
- Enhance

Priority Resources Addressed by Activity:

• Habitat

Abstract

To install an electric fish barrier at the outlet on Goose Lake. The structure will prevent upstream movement of invasive fish. Benefits will be improved aquatic habitat, improved waterfowl nesting, breeding and feeding habitat, and increase in desirable fish populations.

Activity Detail

Design and Scope of Work

The Shell Rock River Watershed District (SRRWD) encompasses 246 square miles in Freeborn County. The District includes 11 lakes that drain to the Shell Rock River which flows into the Cedar River. Among the District's lakes are Fountain Lake and Albert Lea Lake, located on either side of the city of Albert Lea. These two lakes are central to Albert Lea's tourism economy and identity. Goose Lake is upstream of these two major water bodies.

This project proposes to control carp by preventing upstream and downstream migration through the installation of an electric fish barrier at the outlet on Goose Lake; eradicate the existing rough fish populations in Goose Lake; and re-introduce game fish (bluegill, perch and northern pike). The project will complement our existing fish barriers installed in 2008 and 2009 including one to separate White Lake from Fountain Lake, one on Wedge Creek, one on Mud Lake to isolate Pickerel Lake and one on the outlet of Fountain Lake to create separation from Fountain and Albert Lea Lake.

The direct result of the project will be improved aquatic habitat; improved waterfowl nesting, breeding, and feeding habitat; an increase in spawning habitat of desirable fish populations, such as northern pike and bluegill; and improved water quality and clarity in Goose Lake. An anticipated outcome for both Fountain Lake and Albert Lea Lake is enhanced aquatic habitat, waterfowl habitat, fishery resources and water quality.

The project is designed to be part of a multi-prong approach to watershed and lake restoration in the SRRWD and the permanent fish barrier is a necessary element to prevent the migration of rough fish through wetlands while other work is done to improve water quality, enhance aquatic vegetation and restore a healthy fish population that includes carp-egg predators. Visible and measurable effects are anticipated within two to three years. The Goose Lake fish barrier project has been identified as a high priority in the SRRWD Management Plan, DNR Shallow Lake Management Plan 2010 (pg. 9), and Long Range Duck Recovery Plan 2006 (pg. 18).

Reduction of the common carp population is important to the improvement of both habitat and water quality in Goose, Fountain and Albert Lea Lakes. Carp and other bottom-feeding fish uproot and consume rooted aquatic vegetation, disturb and re-suspend phosphorous-rich sediments. The resulting increase in turbidity reduces light penetration—discouraging rooted plant growth—and contributes to algal blooms responsible for oxygen depletion.

The destruction of aquatic vegetation by large populations of foraging fish also impacts waterfowl nesting, breeding, and feeding habitat, shoreline and littoral habitat, and game fish spawning habitat. This has adverse effects on fish, migratory bird and waterfowl, mammal, and invertebrate populations in the lake.

Asian carp migration is a concern due to reports of populations encountered at 5-in-1 Dam on the Cedar River in Cedar Rapids, Iowa. The Cedar River and Shell Rock River join in this same location 100 miles from the Albert Lea chain of lakes. The proposed electric barrier could be used continuously to preclude all species, including the highly destructive Asian carp, from entering our shallow lake system. While there is not, currently general agreement about the threat posed by Asian carp in lake waters, if this does become a concern, existing and the proposed electric fish barriers could be used year-round, and an alternative fish management plan developed.

The SRRWD has a proven track record of success with fish barriers. The fish barriers at Wedge Creek, White Lake (partially funded by 2009 Outdoor Heritage Funds), and Mud Lake upstream of Albert Lea Lake have improved water clarity and habitat in the upstream areas. Since these upstream water bodies are connected to Fountain Lake, water quality in Fountain Lake has also improved. Secchi disk readings on Fountain Lake were the best on record in 2010, averaging 2.7 feet of water clarity. In addition, improved water quality resulting from carp management has increased aquatic vegetation in upstream lakes. This improved habitat has led to increased sightings of waterfowl and aquatic fur bearers. Waterfowl species sighted during the fall migration included: Wood-duck, American Widgeon, Green-winged Teal, Blue-winged Teal, Northern Shoveler, Gadwall, Mallard, Northern Pintail, Canvasback, Redhead, Ring-neck, Lesser Scaup, Common Merganser, and Ruddy Ducks.

Based on recent experience in Pickerel Lake and other shallow lakes in southern Minnesota we expect rapid water quality improvements, habitat restoration and enhancements as soon as the carp are eradicated. The strategy of carp/rough fish control and exclusion is known to be effective. This program is endorsed by the Department of Natural Resources (DNR) Fishery and Wildlife Divisions and the Minnesota Pollution Control Agency and conducted with their technical assistance and cooperation.

This project would be working under the following published resource management plans:

The Minnesota Conservation and Preservation Plan Phase II provisions that address the control of invasive species (such as carp), the restoration of shallow lakes, water quality improvements in impaired waters and the protection and enhancement of fish and waterfowl breeding habitat (pg 30-96).

• The 2004 Shell Rock River Watershed Management Plan addresses the project as a top priority

(Appendix B, &J).

- The 2009 Minnesota State Management Plan for Invasive Species.
- Endorsed by local Chamber of Commerce, Convention and Visitors Bureau, Freeborn County, City of Albert Lea and Fountain Lake Sportsmen's Club

Planning

MN State-wide Conservation Plan Priorities

- H2 Protect critical shoreland of streams and lakes
- H4 Restore and protect shallow lakes
- H5 Restore land, wetlands and wetland-associated watersheds
- H6 Protect and restore critical in-water habitat of lakes and streams

Plans Addressed

- Driftless Area Restoration Effort
- Ducks Unlimited Living Lakes Initiative
- Long Range Duck Recovery Plan
- Long Range Plan for Fisheries Management
- Long Range Plan for Muskellunge and Large Northern Pike Management Through 2020
- Managing Minnesota's Shallow Lakes for Waterfowl and Wildlife
- Minnesota DNR Strategic Conservation Agenda
- Minnesota Sustainability Framework
- National Fish Habitat Action Plan
- North American Waterbird Conservation Plan
- North American Waterfowl Management Plan
- Outdoor Heritage Fund: A 25 Year Framework
- Partners in Flight Conservation Plans for States and Physiographic Regions
- Tomorrow's Habitat for the Wild and Rare
- U.S. Fish and Wildlife Service Strategic Habitat Conservation Model

LSOHC Statewide Priorities

- Are ongoing, successful, transparent and accountable programs addressing actions and targets of one or more of the ecological sections
- Produce multiple enduring conservation benefits
- Are able to leverage effort and/or other funds to supplement any OHF appropriation
- 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
- Address 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 permanent solutions to aquatic invasive species
- Provide Minnesotans with greater public access to outdoor environments with hunting, fishing and other outdoor recreation opportunities
- Target unique Minnesota landscapes that have historical value to fish and wildlife

LSOHC Prairie Section Priorities

- Restore or enhance habitat on public lands
- Protect, restore, and enhance shallow lakes
- Protect, enhance, and restore migratory habitat for waterfowl and related species, so as to increase migratory and breeding success

Relationship to Other Constitutional Funds

none

Accelerates or Supplements Current Efforts

This project supplements our fish barrier program established in 2008 which includes installation of four (4) fish barriers, located on Mud Lake, Wedge Creek and Fountain Lake. In cooperation with the MN DNR, SRRWD treated Mud Lake, Pickerel Lake and drainage ditches within this drainage system with Rotenone in 2009 to eliminate invasive rough fish populations. In 2010 the MN DNR stocked Pickerel Lake with desirable fish (Northern Pike Fry, adult Bluegills and adult Yellow Perch) from neighboring lakes. Mud and Pickerel Lake Restoration efforts have resulted in the return of desirable aquatic plant species and wildlife such as muskrats, ducks and shorebirds. Water quality assessments conducted in 2011 have resulted in a 60% reduction of phosphorous loads into Fountain Lake and 85% reduction in Pickerel Lake. Water clarity has improved from 1.0 foot to 4.4 feet.

Sustainability and Maintenance

A long term monitoring and maintenance plan has been implemented for the fish barrier program. This project will work in conjunction with the previously constructed fish barriers. The SRRWD is a permanent entity which derives its financial support from a local option sales tax, grants and donations. The SRRWD has a proven track record of successfully constructing and maintaining projects. Future funding requests will be required for construction of additional fish barriers specified in the SRRWD Management Plan.

Is the activity on permanently protected land and/or public waters per MS 103G.005, Subd. 15? - Yes (Public Waters, US Fish & Wildlife Service designated a Waterfowl Management Lake)

Accomplishment Timeline

Activity	Approximate Date Completed
Complete design, surveying and engineering plans for fish barrier	December 2013
Acquire state and county required grading and environmental permits	March 2014
Construct Fish Barrier	August 2014
Rotenone Lake Treatment (cost not included in budget request)	December 2015
Re-introduce game fish populations (cost not included in budget request)	March 2016
Fish Surveys (cost not included in budget request)	June 2016
Monitor and Maintenance of fish barrier and Goose Lake	On going

Outcomes

Programs in prairie region

- Improved condition of habitat on public lands
- Protected, restored, and enhanced habitat for waterfowl, upland birds, and species of greatest conservation need
- Protected, restored, and enhanced shallow lakes and wetlands

Budget Spreadsheet

Total Amount of Request: \$412,000

Budget and Cash Leverage

Budget Name	LSOHC Request	Anticipated Cash Leverage	Cash Leverage Source	Total
Personnel	\$0	\$15,000		\$15,000
Contracts	\$184,000	\$46,000	Local Option Sales Tax	\$230,000
Fee Acquisition w/ PILT	\$0	\$0		\$0
Fee Acquisition w/o PILT	\$0	\$0		\$0
Easement Acquisition	\$0	\$0		\$0
Easement Stewardship	\$0	\$0		\$0
Travel (in-state)	\$0	\$0		\$0
Professional Services	\$84,000	\$21,000	Local Option Sales Tax	\$105,000
Direct Support Services	\$0	\$0		\$0
DNR Land Acquisition Costs	\$0	\$0		\$0
Capital Equipment	\$0	\$0		\$0
Other Equipment/Tools	\$0	\$0		\$0
Supplies/Materials	\$144,000	\$36,000	Local Option Sales Tax	\$180,000
DNR IDP	\$0	\$0		\$0
Total	\$412,000	\$118,000	-	\$530,000

Personnel

Position	FTE	Over # of years	LSOHC Request	Anticipated Cash Leverage	Cash Leverage Source	Total
Tech 1	0.15	2.00	\$0	\$7,500	In-Kind Services	\$7,500
Tech 2	0.15	2.00	\$0	\$7,500	In-Kind Services	\$7,500
Total	0.30	4.00	\$0	\$15,000	-	\$15,000

Output Tables

Table 1. Acres by Resource Type

Туре	Wetlands	Prairies	Forest	Habitats	Total
Restore	0	0	0	157	157
Protect in Fee with State PILT Liability	0	0	0	0	0
Protect in Fee W/O State PILT Liability	0	0	0	0	0
Protect in Easement	0	0	0	0	0
Enhance	0	0	0	3,100	3,100
Total	0	0	0	3,257	3,257

Table 2. Total Requested Funding by Resource Type

Туре	Wetlands	Prairies	Forest	Habitats	Total
Restore	\$0	\$0	\$0	\$412,000	\$412,000
Protect in Fee with State PILT Liability	\$0	\$0	\$0	\$0	\$0
Protect in Fee W/O State PILT Liability	\$0	\$0	\$0	\$0	\$0
Protect in Easement	\$0	\$0	\$0	\$0	\$0
Enhance	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$412,000	\$412,000

Table 3. Acres within each Ecological Section

Туре	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	0	0	0	157	0	157
Protect in Fee with State PILT Liability	0	0	0	0	0	0
Protect in Fee W/O State PILT Liability	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0
Enhance	0	0	0	3,100	0	3,100
Total	0	0	0	3,257	0	3,257

Table 4. Total Requested Funding within each Ecological Section

Туре	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	\$0	\$0	\$0	\$412,000	\$0	\$412,000
Protect in Fee with State PILT Liability	\$0	\$0	\$0	\$0	\$0	\$0
Protect in Fee W/O State PILT Liability	\$0	\$0	\$0	\$0	\$0	\$0
Protect in Easement	\$0	\$0	\$0	\$0	\$0	\$0
Enhance	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$412,000	\$0	\$412,000

Table 5. Target Lake/Stream/River Miles

5 miles

Parcel List

Section 1 - Restore / Enhance Parcel List

Freeborn

Name	TRDS	Acres	Est Cost	Existing Protection?
Parcel # 34-810-0761	10221204	92	\$0	Yes

Section 2 - Protect Parcel List

No parcels with an activity type protect.

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.

Goose Lake Restoration & Carp Exclusion



Existing Fish Barriers

Minnesota Department of Natural Resources

Office of the Regional Director Southern Region • 261 Highway 15 South • New Ulm, MN • 56073 507-359-6010



June 27, 2012

Mr. Andy Henschel Shell Rock River Watershed District Freeborn County Government Center 411 South Broadway PO Box 1147 Albert Lea, MN 56007-1147

Dear Mr. Henschel,

I am writing this letter in support of your proposal 'Goose Lake Restoration and Carp Exclusion' for Minnesota Laws of 2013 Lessard-Sams Outdoor Heritage Council funding consideration. Consistent with Minnesota Department of Natural Resources (MnDNR) Strategic Conservation Agenda, the Shell Rock River Watershed District has a strong history of success and cooperation with many partners, including the MnDNR, protecting and restoring high quality fish and wildlife habitats in the Albert Lea area. An electric barrier will prevent the migration of common carp, other rough fishes and potentially Asian carp into Goose Lake, a shallow lake and marsh tributary to Fountain and Albert Lea Lakes. A fish barrier will allow U.S. Fish and Wildlife Service and MnDNR staff to better manage aquatic habitats in Goose Lake for migratory waterfowl, other wetland birds and resident wildlife. I look forward to your continued work with Division of Fish and Wildlife staff on future fish and wildlife habitat projects.

I wish you continued success in conservation efforts and with this proposal.

Sincerely,

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Dennis Frederickson Regional Director

DF/bb