

**Request for Funding Form
Lessard-Sams Outdoor Heritage Council
Fiscal Year 2011**

Program Title: **#32 Restoring Fish & Wildlife Populations in the Lower St. Louis River (Implementing the Remedial Action Plan)**
Project Title: **Knowlton Creek Fishery Restoration and Enhancement Project.**

Date: November 2, 2009

Manager's Name: John Lindgren
Title: St. Louis River AOC and Estuary Program Manager, MN Department of Natural Resources
Mailing Address: DNR Duluth Area Fisheries Office, 5351 North Shore Drive, Duluth, MN. 55804
Telephone: (218) 525-0853
Fax: (218) 525-0855
E-Mail: john.lindgren@dnr.state.mn.us
Web Site:

Funds Requested (\$000s)	Council Funding Request	Out-Year Projections of Needs		
	FY 2011	FY 2012	FY 2013	FY 2014
Outdoor Heritage Fund	2971	2500	2500	2500

A. Summary

The Knowlton Creek Fishery Restoration and Enhancement Project is the next priority action in implementing fish and wildlife related portions of the St. Louis River Remedial Action Plan (RAP). Implementing the RAP is a broadly supported (MDNR, WDNR, MPCA, USFWS, USEPA) program to improve conditions in the St. Louis River estuary to reverse Beneficial Use Impairments and ultimately delist the St. Louis River as a Great Lakes Area of Concern. Completion of the proposed project will restore cold-water fishery habitat, establish a critical fish and wildlife corridor, and ensure perpetual angler access to an urban fishery. The proposed project is also immediately upstream to a Superfund habitat mitigation project scheduled for 2010 and will reduce

sedimentation from Knowlton Creek to the Tallus Island Restoration project in the Estuary.

B. Background Information

1. What is the problem or opportunity being addressed?

The MDNR Duluth Area Fisheries Office (DAFO) requests funding to assist the St. Louis River Alliance, a Duluth based non-profit conservation organization, in continuing implementation of habitat restoration projects outlined in the Lower St. Louis River Habitat Plan, a conservation plan developed in support of the St. Louis River Remedial Action Plan (RAP). The RAP is the implementation plan to de-list the Beneficial Use Impairments (BUI) and remove the Lower St. Louis River from the State's Impaired Waters (303d) List. Currently, 45 large scale restoration projects have been identified, with 4 being implemented. The Knowlton Creek Fishery Restoration and Enhancement Project is **the next priority project** because of its ecological value and recreational potential.

The St. Louis River is northeastern Minnesota's second largest river and the largest U.S. tributary to Lake Superior. The lower 21 miles of the river constitute the St. Louis River estuary which has more than 12,000 acres of wetland and aquatic habitats. This region is the most significant source of biological productivity for western Lake Superior and provides critical habitat for fish and wildlife communities. The River is listed as a Key River in Minnesota's Comprehensive Wildlife Conservation Strategy "Tomorrow's Habitat for the Wild and Rare. Eighty four species of greatest conservation need (SGCN) are included in the Northshore Highlands and 55 SGCN are listed for the Glacial Lake Superior Plain subsection. Many of these SGCN use the lower St. Louis River habitats during all, or part, of their life cycle.

The sport-angling fishery of the St. Louis River estuary draws several large tournaments and sees more than 180,000 hours of fishing recreation annually. The estuary is located at the western-most tip of Lake Superior and the Great Lakes, resulting in a unique funneling of an extraordinary number of migrating birds, including waterfowl, shorebirds and song birds. The estuary is an international destination for hunters and birding enthusiasts alike.

The lower St. Louis River and surrounding watershed was designated an EPA "Area of Concern" (AOC) in 1989 because of the presence of chemical contaminants, poor water quality and reduced fish and wildlife populations. Minnesota Pollution Control Agency (MPCA) also listed the lower St. Louis River as an impaired waterway in 1989 and identified 9 BUI's including Loss of Fish and Wildlife Habitat and Degraded Fish and Wildlife Populations. ***In 2002, a "Lower St. Louis River Habitat Plan" was completed to identify critical habitat areas for preservation, restoration and enhancement. This Plan was the result of a collaboration of more than 20 Federal,***

State, Municipal, private and non-government organizations and agencies and presents the combined vision for restoring fish and wildlife populations, biological health and ecological diversity within the AOC.

Duluth is renowned for its outdoor recreation and scenic beauty. Approximately 250,000 people live within 20 miles of the lower St. Louis River and it is estimated that more than 3.5 million tourists visit Duluth each year. Restoring the lower St. Louis River will add significantly to the area's economic and ecological health by recovering fish and wildlife populations and habitat, providing safe drinking water, removing fish consumption advisories, and improving fishing, boating and swimming recreation.

2. What action will be taken?

A series of habitat improvement actions will be implemented along Knowlton Creek, a designated trout stream within the City of Duluth. These actions will result in the ability of Knowlton Creek to once again function as a cold-water trout fishery. These actions include the following items:

1. Restore instream fish habitat. Portions of the Knowlton Creek channel are highly degraded due to historic land use and excessive runoff. An estimated 3200 linear feet of channel will be reconstructed to a natural, stable form providing increased habitat for brook trout and other wildlife.
2. Enhance fish and wildlife movement corridor between St. Louis Bay and Magney Snively Natural Area. Although road and trail crossings can provide recreational access they also constrict the river environment and can impede or block movement of fish and wildlife when inadequately designed. There are eighteen crossings (culverts, bridges and low water crossings) of Knowlton Creek and its tributaries that will be assessed for upgrades, or decommissioning, as well as improving angler access.
3. Revegetate riparian and streambank areas. Human activities and the invasion of woody non-native plant species has reduced the overall extent and quality of the riparian corridor along Knowlton Creek. An estimated 30 acres of floodplain restoration will enhance the wildlife corridor and improve allochthonous input into the creek.

The direct habitat improvement actions are coupled with necessary run-off and water quality improvement actions. The water related improvements include placing run-off diversions and water control structures to restore the natural flow regime of the creek. Funding for these actions is being sought through other sources for clean water, private, and other non-state (federal) funds and are not included in this L-SOHC request.

1. Restore flow regime to more closely reflect Knowlton Creek's historic flows. Urban and recreational development has increased the spring runoff volume discharged to Knowlton Creek to more than 120% of the stream's natural discharge causing increased erosion and channel degradation. A water runoff and diversion system will be constructed to reduce peak stream flow.

L-SOHC Request for Funding Form

2. Reduce instream water temperature and sedimentation. The decrease of forest cover and increase in impervious surface resulting from development within the Knowlton Creek watershed causes an increase in the temperature and sediment load delivered to the stream channel during rain and snowmelt events. A water retention and infiltration structure will be constructed to improve stream temperatures and capture sediment before reaching the stream.

3. Who will take action and when?

The DAFO will be the project sponsor and provide coordination and oversight for implementation of the project. The DAFO plans to grant the day to day operations and implementation to the SLRA. The existing Executive Director of the SLRA will be responsible for contract oversight and management as well as management of public information and education associated with the application of L-SOHC towards completion of this habitat restoration project within an urban area. This commitment of time is represented under “personnel” in the Budget section. Additionally, a project manager will be contracted by the SLRA to coordinate with MDNR and manage the implementation of the project. This element of the project is represented as a sub-heading of “contracts” in the Budget section.

The SLRA will begin implementation immediately, focusing first on the assessment and upgrading of road-stream crossings, and beginning planning and coordination of channel restoration and revegetation actions with the runoff and water quality control measures. It is necessary to complete the flow restoration actions before initiating any in-channel, or floodplain revegetation work. Construction will be sub-contracted to qualified contractors. It is anticipated that the entire project will take 3 years. Aquatic Management Area (AMA) easements will be sought to permanently protect the project and ensure public access.

4. How will you coordinate this program with the other Constitutional Funding?

This L-SOHC request supports only direct restoration and rehabilitation of fish and wildlife habitat. Funding to complete the flow restoration and water quality portion of the project is being sought from the clean water portion of the Constitutional Funding.

5. What specific habitat changes will occur if this item is funded? Be specific about and list multiple benefits if they exist.

1) Implementation of the St. Louis River Recovery program will see the protection, restoration, or enhancement of over 7,000 acres of key fish and wildlife habitat in the Northshore Highlands and Glacial Lake Superior Plain ecological subsections of Minnesota. These connected actions will benefit game species including walleye, muskie, and waterfowl as well as SGCN species including lake sturgeon, piping plover, black throated blue warbler, and wood turtle.

Program Title: Restoring Fish & Wildlife Populations in the Lower St. Louis River

- 1) completion of environmental review,
- 2) implementation of stream channel restorations,
- 3) riparian revegetation and
- 4) completion of the first large stream crossing replacements.

2013 will see:

- 1) the completion of the final stream crossing,
- 2) completion of riparian revegetation and
- 3) completion of project monitoring, evaluation and planning for the next project.

8. How will you pay for the maintenance of the accomplishments?

The habitat restoration actions are designed to be enduring with no expected future maintenance costs. Maintenance of culverts will be the responsibility of the existing road authority.

9. How does this action directly restore, enhance, or protect prairies, wetlands, forests or habitat for fish, game, and wildlife?

The actions outlined in the St. Louis River Recovery program's implementation strategies combine remediation (soil clean-up, removal of marine debris, re-engineering land improvements) with habitat restoration (geomorphic, vegetative) to reverse current impairments to the river's beneficial uses. Once complete, the river's recovery will include: 1) edible game fish populations with no special consumption advisories, 2) native fish and wildlife populations not limited by past harvest practices, or historic pollution sources 3) abundant and optimally productive fish and wildlife habitat intermixed with the river's commercial uses and 4) clean water for swimming, drinking and recreation.

The Knowlton Creek Fishery Restoration and Enhancement Project directly improves, enhances and protects cold-water fisheries habitat through stream channel restoration, including establishment of pool/riffle sequences, overhanging riparian vegetation and establishment of easements along riparian corridors. The project also re-establishes connectivity for movement of fish and wildlife populations within the stream channel and riparian corridor.

10. If you are restoring or enhancing property, is the activity on permanently protected land?

YES

NO

If yes briefly describe the kind of protection.

Project actions will occur on lands owned and managed by the City of Duluth, however, this area does not have special use zoning to protect the stream corridor. Special use

zoning or a permanent easement AMA will be secured prior to project work to protect the riparian zone and ensure public access.

11. How will you ensure transparency and provide information about your work and use of Outdoor Heritage Fund dollars.

The SLRA regularly conducts workshops and educational tours for local citizens, agency personnel, and local and state leaders. A specific task highlighting the L-SOHC role in specific projects will be developed for tours and publications relating to the recovery of the St. Louis River AOC.

12. Why will this strategy work?

The DAFO seeks to build the capacity of the SLRA to implement habitat remediation and restoration projects outlined in the Lower St. Louis River Habitat Plan. By utilizing a re-granting process DNR retains strong financial and performance oversight, while building local capacity to manage and implement a large scale habitat restoration program. A strong local NGO partner will alleviate workforce concerns within the agency while creating local jobs and business for area contractors.

The St. Louis River Citizens Action Committee, now doing business as the SLRA, has a long history contributing to the restoration and recovery of fish and wildlife habitat of the lower St. Louis River. Since 1996, the SLRA has been an active partner with local, tribal, state and federal agencies planning and implementing projects related to the recovery of the St. Louis River AOC. The SLRA has managed and coordinated many joint projects that focus on protecting, restoring and enhancing the St. Louis River environment. Its role has included securing the funding, handling the fiscal responsibilities and managing the implementation for many joint projects. Projects have included developing the Habitat Plan for the Lower St. Louis River, documenting the historical land use on the lower St. Louis River, and assessing contaminated sediments in the estuary. The SLRA has also secured funding for habitat restoration projects for piping plover and sturgeon spawning as well as removing buckthorn from along the river. The SLRA has also played a major role in promoting education and advocating the St. Louis River to the public. This includes working with the WDNR, MDNR and MPCA to involve the public and stakeholders in developing the delisting targets for the St. Louis River AOC.

13. Who might make decisions that assist or work against achieving the expected impact program?

Completion of the Knowlton Creek Fishery Restoration and Enhancement Project will be greatly assisted by collaborations that have been established as part of the SLRA. All

pertinent agencies and groups with interest in management of natural resources within the estuary are represented on the SLRA. The proposed project, which is described as part of the Implementation Strategies of the SLRA's Lower St. Louis River Habitat Plan, has support from the agencies and groups within the SLRA. It is not anticipated that any agency or group would work against completion of the proposed project.

14. If this is acquisition of land, has the local government formally approved the acquisition?

_____ YES _____ NO
Not Applicable

15. If this is fee simple acquisition of land, is the land free of any other permanent protection such as a conservation easement?

_____ YES _____ NO
Not Applicable

16. If this is an easement acquisition, will the eased land be open for public use?

___X___ YES _____ NO
If Yes what kind of use?

An Aquatic Management Area Easement will be sought and held by DNR Fisheries as part of this project. Easement provisions will ensure public access, grant DNR access for habitat stewardship and restoration, and restrict motorized vehicle use in the riparian zone.

17. If easement acquisition, will the easement be a permanent conservation easement as described in MS 2009, Chapter 84C.01, specifically protecting the natural resource values of real property forever?

___X___ YES _____ NO

18. If you are proposing funding for a new or ongoing program how long into the future do you expect this program to operate?

___20___ Years

19. Which planning sections will you work in? Check all that apply in the list below.

___X___ Northern Forest

L-SOHC Request for Funding Form

- Forest/Prairie Transition
- Southeast Forest
- Prairie
- Metropolitan Urbanizing Area

20. Does the request address an urgent conservation opportunity that will be lost if not immediately funded?

YES NO
If yes, please explain.

21. Does the request restore and/or enhance habitat on existing state-owned Wildlife or Aquatic Management Areas or Scientific and Natural Areas?

YES NO
If Yes, list the names of the AMAs, WMAs and/or SNAs and the acres to be restored and/or enhanced.

The Knowlton Creek Fishery Restoration and Enhancement Project will protect the proposed Tallus Island AMA from degradation from sedimentation. A shallow sheltered bay behind Tallus Island, which is located immediately below the proposed project, has been severely degraded from excess sediment transported down Knowlton Creek. A mitigation project associated with a Superfund Site, which will remove approximately 100,000 cubic yards of sediment from the bay, is scheduled for completion in 2010. The process to designate the area as an AMA is expected to be completed by the end of 2010. Implementation of the proposed project will ensure that excessive sedimentation does not negatively impact the newly restored sheltered bay habitat behind Tallus Island.

22. Is this request based on assessment through a science based strategic planning and evaluation model similar to the United States Fish and Wildlife Service's Strategic Habitat Conservation model?

YES NO
If yes explain the model briefly.

The Lower St. Louis River Habitat Plan was developed using The Nature Conservancy's Conservation by Design methodology (CbD). CbD is a structured approach that utilizes best available scientific information along with local expert knowledge to develop

Program Title: Restoring Fish & Wildlife Populations in the Lower St. Louis River

conservation actions that address the threats and sources of threats to identified conservation targets. The Habitat Plan was developed with input from over 20 resource experts representing 7 State, Federal and Tribal resource management agencies and Universities. Agencies currently active in the implementation phase of the Habitat Plan include MDNR, WDNR, MPCA, Fond du Lac Resource Management, USFWS, USEPA, Natural Resources Research Institute, Minnesota Sea Grant, BWSR, SWCD.

23. Explain the scientific foundation for your project, and the benefits it will produce.

The targets, threats, sources of threat and objectives outlined in the Lower St. Louis River Habitat Plan are based on empirical evidence. The historic and current quality, extent and location of target habitat and species targets is based on extensive field research and monitoring over the past decades by resource management agencies and researchers. The threats, and sources of threats, have been documented extensively through field testing and are summarized in the St. Louis River Remedial Action Plan.

The benefits this program will realize are St. Louis River ecosystems that are diverse, productive and healthy with natural processes (hydrologic regimes, biological productivity and nutrient cycling) operating within the range of natural variation. The diversity and abundance of plants and animals present at the time of European settlement are reflected in sustainable ecosystems today.

The Knowlton Creek Fishery Restoration and Enhancement Project is a watershed scale rehabilitation/restoration based on modern concepts of fluvial geomorphology, hydrology and hydraulics, and habitat suitability models. Empirical survey data is used to determine stream parameters and habitat conditions. This information is then used to calculate restoration objectives and design blueprints.

24. How do you set priorities? (Be sure to list the criteria you use and the weight you give each one.)

Projects identified in the St. Louis River Habitat Plan are prioritized by biological relevance, expected recovery (or restoration potential), number of habitat and clean water objectives met, and project readiness (including landowner participation). For example, our highest priority projects are those that: 1) restore or protect known high value habitat targets, 2) improve both habitat and water quality conditions in the AOC, 3) are well known to achieve the habitat objectives and 4) all jurisdictional interests including the landowner support implementation of the project.

C. Relationship to the *Minnesota Conservation and Preservation Plan* and Other Published Resource Management Plans

Program Title: Restoring Fish & Wildlife Populations in the Lower St. Louis River

This program, Restoring Fish and Wildlife Populations in the Lower St. Louis River, is based upon implementation of the Lower St. Louis River Habitat Plan. The Habitat Plan is fully consistent with the Minnesota Conservation and Preservation Plan. The projects outlined in the Habitat Plan address the inherent and intrinsic direct benefits of habitat restoration and protection, but also emphasize the benefit of such strategies for strengthening biodiversity and enhancing resilience to climate change. And they reinforce and strengthen Minnesota cultural values, ethics, appreciation of outdoor recreation and economic health. The St. Louis River Remedial Action Plan and Habitat Plan are continuously integrated across all agencies and across the multijurisdictional scale.

Specifically, the Knowlton Creek Fishery Restoration and Enhancement Project implements the following priorities for the Land and Water Restoration and Protection Strategic Framework Area: H6 -Protect and restore critical in-water habitat in lakes and streams, LU5 -Reduce stream bank erosion through reduction of peak flows and H3 - Improve connectivity and improve access to recreation.

D. Budget

Budget Item	Fiscal Year 11	Fiscal Year 12	Fiscal Year 13
Personnel	20,000	20,000	20,000
Contracts			
1) Project Contracts	686,000	655,000	1,190,000
2) Project Manager	60,000	60,000	60,000
Equipment/Tools/Supplies	25,000	25,000	25,000
Fee Acquisition	0	0	0
Easement Acquisition	61,000	0	0
Easement Stewardship	0	0	0
Professional Services	14,000	10,000	10,000
Travel	10,000	10,000	10,000
Additional Budget Items			
TOTAL	876,000	780,000	1,315,000

E. Personnel Details *In the space below list the names, titles and anticipated program funds to be paid by this recommendation. If you will need to fill a position just list the title and amount.*

It is anticipated that the SLRA through active partnership with local resources management agencies will be capable of completing the proposed project. The SLRA has established the necessary fiscal capabilities. Accounting and legal assistance for the SLRA are listed under the “professional services” section of the proposed budget.

Title	Name	Amount.
SLRA Executive Director	Julene Boe	\$60,000

Program Title: Restoring Fish & Wildlife Populations in the Lower St. Louis River

L-SOHC Request for Funding Form

Program Title: Restoring Fish & Wildlife Populations in the Lower St. Louis River

F. All Leverage *In the table below list the sources and amounts of leverage you anticipate by fiscal year you anticipate receiving it. Include state and non-state leverage.*

Funding of this project will assist in the leveraging of funds from the Clean Water Program. MDNR and MPCA are currently coordinating efforts towards securing funding for elements of the project that are not suitable for L-SOHC funding. Timely completion of both aspects of the project is considered a priority by local resource managers and partners in the SLRA. Elements of this proposal are also being submitted by MDNR and MPCA to the Great Lakes Restoration Initiative as a suite of projects within the AOC. The project is consistent with sorting criteria being established for the GLRI. It is anticipated that monies obtained through the GLRI would be used to match State funding sources and therefore reduce State obligations by approximately 50% for completion of both L-SOHC and Clean Water elements of the project. State and Federal partners on the SLRA are actively coordinating the process by which Federal and State funding sources can be affectively applied to complete AOC projects.

Source of Non-State Leverage	Fiscal Year 11	Fiscal Year 12	Fiscal Year 13
Constitutional Funding: Clean Water Program (Clean Water funds are required to complete project funding)	2,500,000		
Great Lakes Restoration Initiative (An application has been submitted to reduce Constitutional Funding request by 50%)	2,700,000		
MDNR Fisheries In-kind services	7,000	7,000	7,000
TOTAL	5,207,000	7,000	7,000

L-SOHC Request for Funding Form

G. Outcomes:

Table 1 Accomplish- ments	Wetlands	Prairies	Forests	Habitats for Fish, Game and Wildlife
Restore				<i>4.1 miles stream corridor</i>
Protect				<i>7000 feet stream corridor</i>
Enhance				

Table 2 Sections Impacted and Impact Quantifier	Wetlands	Prairies	Forests	Habitats for Fish, Game and Wildlife
Restore				<i>Northern Forest</i>
Protect				<i>Northern Forest</i>
Enhance				

Table 3 Recommend Fund Allocation	Wetlands	Prairies	Forests	Habitats for Fish, Game and Wildlife
Restore				<i>\$2,453,000</i>
Protect				<i>\$61,000</i>
Enhance				

Table 4 Leverage \$				Habitats for Fish, Game and Wildlife
	Wetlands	Prairies	Forests	
Restore				\$5,200,000
Protect				
Enhance				

Table 5 Acquisition Data				Habitats for Fish, Game and Wildlife
	Wetlands	Prairies	Forests	
Acquired in Fee with State PILT Liability				
Acquired in Fee without State PILT Liability				
Permanent Easement				32 acres (7,000 feet of stream channel + 100 feet either side of channel)

H. Accomplishment Time Table Using the headings below, include a clear statement of how much of what is being accomplished and when. Attach a map showing where accomplishments are anticipated. Accomplishments should clearly restore, enhance or protect forests, wetlands, prairies and habitat for fish, game and wildlife.

Milestone	Date	Measure
Upper watershed connectivity restored	2011	8 culvert upgrades
Lower watershed connectivity restored	2013	10 culvert upgrades
Upper reach instream habitat restored	2012	1500 ft channel reconstruction
Lower reach instream habitat restored	2012	1700 ft channel reconstruction
Riparian revegetation complete	2013	30 acres revegetation
Stream corridor and access protected	2011	Easement AMA

I. Relationship to Your Current Budget

All costs included in this project proposal are supplemental to currently budgeted projects. MDNR anticipates providing approximately \$7,000/ year in-kind services and program oversight services. Total MDNR FY09 budget expenditures were \$350 million and total Division of Fish and Wildlife FY09 budget expenditures were \$92.6 million.

L-SOHC Request for Funding Form

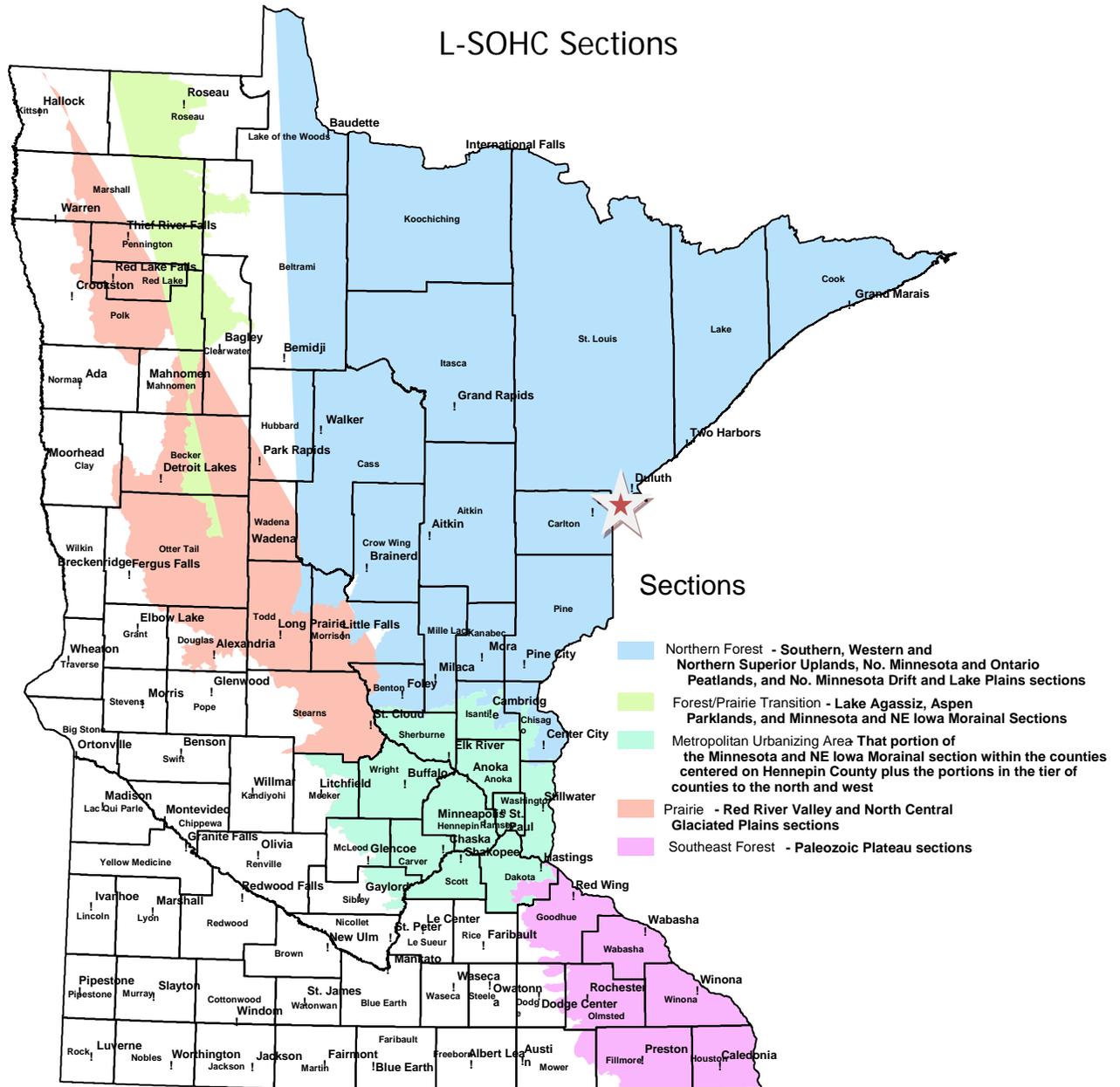
J. How Will the Habitat Improvements Be Sustained?

Channel restoration and other habitat improvements are designed to be maintained by natural processes and will be self sustaining. Fisheries easements to protect access and riparian zones are managed by DNR through the existing Aquatic Management Area easement program.

K. Attach a list of your projects listing their county location and edit the map of Minnesota on the next page to show each project as a symbol.

Partial list of implementation projects for the St. Louis River Recovery Program (not in priority order).

1. Minnesota Point Barrier Beach and Dune Community Restoration
2. Spirit Island Estuary Flats Restoration
3. Spirit Lake Sheltered Bay / Shallow Wetlands Restoration
4. Mud Lake Sheltered Bay / Shallow Wetlands Restoration
5. Stora Enso Bay-Coffee Ground Flats (40th Ave West Complex) Restoration
6. Radio Tower Bay Sheltered Bay / Shallow Wetlands Restoration
7. Perch Lake Sheltered Bay / Shallow Wetlands Restoration
8. Erie Pier Complex Restoration
9. Interstate Island Nesting Bird Habitat Enhancement
10. Keene Creek Tributary Restoration



L-SOHC Request for Funding Form