

**Minnesota Trout Unlimited Coldwater Fish Habitat Restoration and Enhancement Program**

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

**Program or Project Title:** Minnesota Trout Unlimited Coldwater Fish Habitat Restoration And Enhancement Program

**Date:** November 2, 2009

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	<b>Council Funding Request</b>	Out-Year Projections of Needs		
<b>Funds Requested (\$000s)</b>	<b>FY 2011</b>	FY 2012	FY 2013	FY 2014
Outdoor Heritage Fund	<b>\$1,397,000</b>	0	0	0

**A. Summary**

Our program will restore and enhance in-stream and riparian fish and wildlife habitat in six coldwater streams in the State of Minnesota. The proposed projects will improve habitat for both game and non-game fish and wildlife species uniquely associated with coldwater trout streams and provide expanded recreational opportunities for Minnesota anglers.

**B. Background Information**

**1. What is the problem or opportunity being addressed?**

Seriously degraded coldwater habitat is an important statewide conservation issue requiring immediate investment through habitat restoration and enhancement projects. The Lessard-Sams Outdoor Heritage Council has declared the restoration and enhancement of coldwater fish habitat a

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priority action in the L-SOHC Sections in which these projects are located. As part of our ongoing program of trout and salmon habitat restoration and enhancement, the Minnesota Council of Trout Unlimited (“MNTU”) has identified several priority projects for Fiscal Year 2011 funding. MNTU proposes to restore or enhance in-stream and riparian fish and wildlife habitat in and along the following Minnesota waters (counties) between July 2010 and June 2012:

1. Hay Creek (Goodhue);
2. Lost Creek (Fillmore);
3. North Branch of Whitewater River (Wabasha);
4. Pine Creek (Winona);
5. Vermillion River (Dakota);
6. West Indian Creek (Wabasha).

Minnesota TU also plans to restore and enhance habitat in the Lake Superior basin and St. Croix River watershed as part of larger projects being proposed by other conservation organizations with whom we are partnering. Funding for those projects is not included in this request.

### **2. What action will be taken?**

### **3. Who will take action and when?**

The specific fish habitat restoration or enhancement methods used on each stream will vary depending upon the distinct natural resource characteristics of each ecological region, as well as variations in the type and magnitude of poor land uses practices within each watersheds. MNTU will tailor each project accordingly in close consultation with resource professionals within the Minnesota DNR.

The projects to be undertaken by MNTU as part of this program will be designed to accomplish a number of the following purposes: a) reduce stream bank erosion and associated sedimentation, b) reconnect streams to their flood plains to reduce negative impacts from severe flooding, c) increase natural reproduction of trout and other aquatic organisms, d) maintain or increase adult trout abundance, e) increase biodiversity for both in-stream and non-game species, f) be long lasting with minimal maintenance required, and g) improve angler access.

These brief project summaries outline the types of actions, participants and timetables for each individual project:

Hay Creek (Goodhue): To mitigate the effects of agricultural run-off and sedimentation into the watershed we will restore another 5,500 feet of degraded stream. This will include sloping degraded banks, stabilizing the banks, removing invasive plants and planting native grasses. The stream channel will be narrowed and cover structures installed to provide better fish habitat and habitat for

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other fauna. The project will reduce sediment loads and chemicals in the creek, and provide a stable environment for the aquatic species that depend on the watershed.

Virtually, the whole length of Hay Creek has angler easements and with additional funding, The Twin Cities Chapter of Trout Unlimited will continue to rehabilitate the whole Hay Creek watershed and greatly improve the fishing opportunities on this south metro stream. Funds requested include costs for tree removal, heavy equipment leasing to slope the degraded banks. TCTU, along with MN DNR, and support from other TU chapters will begin and finish this project in the summer of 2011. Based on recommendations by MN DNR Fisheries staff, we jointly design a plan that will improve not only the fishery, but the health and function of the stream and the riparian corridor. MNTU believes this project will be the epitome of what the Lessard-Sams Outdoor Heritage Fund and Amendment was set out to accomplish.

### Lost Creek (Fillmore)

### North Branch of Whitewater River (Wabasha)

### Pine Creek (Winona)

### West Indian Creek (Wabasha)

Habitat will be restored on a section of each of these four Southeast Minnesota streams. Specific project sites have been selected in coordination with the MNDNR. At least 3.0 miles of in-stream habitat and stream banks will be restored or enhanced between July 2010 and June 2012. These projects will be very similar to the cooperative projects done by Hiawatha Chapter TU and the MNDNR in the past several years. They will consist of sloping and stabilizing stream banks using rip-rapping and/or vegetation, installing overhead cover for trout and installing soil erosion blankets. Mulching and seeding of exposed stream banks will be performed, with native plant species used where appropriate. Improving and maintaining stream access road(s) and stream crossing(s) will be necessary to complete these projects. Removal of undesirable woody vegetation (box elder, buckthorn, etc.) from riparian corridors of these streams will reduce competition with desirable plant and grass species and allow beneficial sunlight to reach the stream corridors.

All these projects are designed for reducing bank erosion, increasing overhead bank cover, increasing large trout and trout wintering cover, improving habitat for invertebrate species and other non-game species, reconnecting streams to their flood plain, adding native plant species whenever appropriate and possible, improving/increasing sunlight to streams by removing non-native and undesirable tree and shrub species, increasing trout angling opportunities and local economic impact by providing improved trout populations and habitat. In addition these four streams have these additional features and benefits to citizens and sportspeople:

North Branch of the Whitewater River project in Carley State Park will have the added benefits of new partnerships with a non-angling, nonprofit organization, the Plainview Lions Club. It will also provide the opportunity to work closely with another new partner, the MN State Parks, to provide greatly improved trout angling opportunities in the park. Additionally it will make public access to the stream easier and safer for children and the physically challenged by removing undesirable

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trees, lowering and sloping the banks, providing more trout holding and hiding cover in the area with the best public access and use. The park will see the further benefit of having the stream reconnected to its flood plain in the main park area reducing flood repairs and park maintenance. There will be greatly increased public exposure to the benefits of a healthy trout stream, improvement trout habitats and the value to the LSOHC funds. We will demonstrate how the LSOHC funds benefit both game and nongame species..

The West Indian Creek project is adjacent to a popular campground in Wabasha County. In addition to all the normal fish, game, and stream health benefits it will provide and opportunity to expose many new people to the LSOHC fund benefits as well as increase trout angling opportunities in the area. The project is between two communities with large populations of outdoor enthusiasts, Wabasha and Plainview, so the economic impact of the project will be substantial. Additionally it will give us the opportunity to work with new landowner partners and since the project will be completed during the prime camping season adjacent to a campground. We expect the opportunity to educate and expose many new people to the benefits of what a healthy stream habitat means to game and nongame species.

Pine Creek, additional benefits include the opportunity to connect an additional reach of improved stream habitat to a previously completed MN DNR stream project. The project area is also located a short distance downstream from the Coolridge Creek wild Brook Trout Project so it should provide additional brown Trout habitat for the brown Trout from Coolridge that are being placed in Pine as part of the wild brook trout project. This stream section also has highly eroding banks that will be sloped and seeded greatly reducing the sediment load in the stream and it will provide a lot more angling opportunities for area sports people.

Lost Creek benefits in addition to the normal ones will include doing a project on the western side of the driftless area, increasing overwinter and spawning habitat for adult Brown Trout that reside in the Root River and use Lost as their spawning/wintering site and since it is less than 10 miles from Chatfield and near the Chatfield sportsmen club it will provide new partnering and exposure opportunities for the LSOHC funds.

### Vermillion River (Dakota):

This project will restore or enhance habitat for trout on approximately 2000 feet of this unique metropolitan area trout stream. The reach has been impacted by previous agricultural use, when the floodplain was used to graze cattle. This project will stabilize streambanks to reduce erosion while enhancing fish habitat. Vertical banks will be graded to a 3:1 slope, and will be planted with native grasses, shrubs, and trees to allow plant roots to reach all the way down to the water level and prevent bank slumping. Woody material will also be installed on the toe of some banks to provide 10-15 years of erosion protection. This will allow the roots of vegetation to become established before they are relied upon for erosion protection. In addition, the woody material will create complex overhead cover that trout and other fish and insect species prefer. During bank sloping, the stream will be narrowed in some places to address the over-wide condition. The project will result in a narrower, deeper channel that will have better cover, less silt and sand, and

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more shade. All of these things should result in more trout residing in the project area, and benefit downstream areas by reducing the amount of eroded silt in the Vermillion River.

Following completion of instream habitat work, measures will be taken to replace the reed canary grass that dominates the floodplain. An herbicide labeled for application in near-stream environments will be applied to the approximately 15 acre floodplain area. A follow-up treatment of herbicide in the late spring of 2012 will help to kill off any re-sprouting prior to planting of a native prairie seed mix in the summer of 2012. Additional spot spraying of re-sprouting reed canary grass will be done in the fall of 2012 and 2013 while native species are dormant. TU volunteers or MCC will perform.

The project will be completed with assistance from the MNDNR during the summer of 2011. A contractor will be hired to provide heavy equipment work needed to slope streambanks and install woody cover. Volunteers from Twin Cities Trout Unlimited will be on hand to supervise construction, and to perform manual labor such as installing erosion blankets, seeding, planting, and mulching disturbed areas. The DNR Trout Stream Habitat Specialist will be on hand to assist with project supervision.

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

For the majority of projects we do not anticipate the use of other constitutional funding. However, the upland areas on the Vermillion River project site are being planted in native prairie with assistance from Pheasants Forever, utilizing L-SOHC funds. By establishing native prairie throughout the parcel, habitat will be improved and sources of invasive plants minimized. On all projects we will continue to look for partnerships and opportunities to add components such as native prairie restoration, non-game measures and improved watershed practices.

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

In-stream cover for fish and invertebrates will be installed and stream banks will be stabilized. With stream banks better stabilized, the streams will narrow and deepen, further improving fish habitat. The narrower channels will have coarser substrates preferred by aquatic invertebrates as well as spawning trout. Native riparian vegetation will stabilize stream banks, provide shading, and improve habitat for upland wildlife species such as pheasants.

### **6. When do you expect to see these habitat changes?**

Most habitat changes will be seen upon completion of each project. Stream banks will be stabilized upon completion of the project, and installed in-stream habitat structures and woody material will provide cover for fish immediately. On the Vermillion River site where native vegetation is used in

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place of harder structures, undercut stream banks and overhanging vegetation preferred by trout will become established within 2 to 3 years. Upland prairie plants will be established in a similar timeframe, at which time upland wildlife species will benefit from improved habitat.

### 7. Will your Outdoor Heritage Fund dollar request complete the planned accomplishments?

YES  NO  
If not, how will you finance completion?

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

We do not anticipate that there will be any significant maintenance required to maintain the habitat accomplishments once the projects are completed.

MNTU habitat restoration and enhancement projects are designed for long-term ecological and hydraulic stability. Maintenance, primarily until vegetation is established, is budget into the initial 2 years of the projects. Following completion of the projects, it is anticipated that long-term monitoring of the integrity of the improvements will be done in conjunction with routine inspections and biological monitoring conducted by local DNR staff, MNTU members, or landowners as appropriate. This monitoring will not require separate OHF or other constitutional funding. In the unlikely event that there are other maintenance costs, potential sources of funding and volunteer labor include Minnesota Trout Unlimited, MNDNR AMA maintenance funding, and other grant funds and organizations.

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

Each project involves the installation of in-stream fish habitat structures, in addition to measures which reduce stream bank erosion and associated sedimentation, and reconnect streams to their flood plains to reduce negative impacts from severe flooding.

On the Vermillion River habitat is restored/enhanced by installing woody cover, creating undercut stream banks and overhanging vegetation, and reducing sediment erosion into the stream. The stabilized stream banks will also allow the stream to narrow and deepen over time, improving habitat for trout and their invertebrate food source by maintaining coarser bottom substrate and cooler temperatures

### 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.

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All of MNTU's habitat restoration and enhancement projects will be completed on land permanently protected by state ownership or permanent conservation easement. The Vermillion River project will restore or enhance habitat on land owned by the MNDNR (fee title) as the Vermillion River Aquatic Management Area. The project on the North Branch of the Whitewater River will restore or enhance habitat on state owned land in Carly State Park. The other projects will take place on land permanently protected by MNDNR fish management easements containing land use restrictions designed to conserve natural resource benefits.

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

MNTU will improve and maintain its statewide website to showcase the projects funded by the Outdoor heritage Fund. We will maintain detailed descriptions of the projects, including before and after photos, status reports, project contacts and links to the websites of the L-SOHC, MNDNR and legislative coordinating commission.

### **12. Why will this strategy work?**

Internet sites provide ready access to large amounts of material and are the search method which an ever-increasing number of citizens turn to.

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

The Minnesota DNR is the primary entity with decision-making authority which could impact the expected outcomes. Because we work in close partnership with them, and rely heavily upon their professional expertise to ensure project site selection and design is based upon the best available science, we do not anticipate any impediments to successfully achieving the intended habitat outcomes.

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

Not applicable

\_\_\_\_\_ YES

\_\_\_\_\_ NO

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

Not applicable

\_\_\_\_\_ YES

\_\_\_\_\_ NO



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

- Northern Forest
- 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.**

Yes, we risk losing conservation partnership opportunities, particularly with Carly State Park and the Plainview Lions' Clubs. We do not know yet what potential sources of matching funds could be lost if the projects are put off. All of MNTU's projects enhance or restore coldwater fisheries habitat, and their undertaking constitutes a priority action identified by the Council. Delaying long overdue habitat such as we propose will only mean lost opportunities to engage and educate local citizens, and the lost benefits of cleaner water, increased angling opportunities and local economic stimulus.

**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.**

Five of the six projects will restore or enhance habitat on existing state-owned Aquatic Management Areas. The sixth project, on the North Branch of the Whitewater River, will restore or enhance habitat on state-owned land within Carly State Park, in close partnership with park managers. The AMAs on which we will restore and enhance habitat include the Hay Creek Aquatic Management Area, Lost Creek Aquatic Management Area, Pine Creek Aquatic Management Area, Vermillion River Aquatic Management Area and the West Indian Creek Aquatic Management Area.

**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?**

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YES  NO  
If yes explain the model briefly.

The U.S. Fish and Wildlife Services' Strategic Habitat Conservation Model use the following methodology: Identify priority species; select subset of priority species; formulate population objectives; assess current state of priority species; identify limiting factors; and compile and apply models of population-habitat relationships.

All of Minnesota Trout Unlimited's projects were selected in consultation with MNDNR Fisheries personnel, who use a science based approach to determine the high priority streams and the project sites. In addition to using the criteria described under question #24 below, the MNDNR used its annual stream monitoring and assessments, which assess limiting factors and others factors bearing on macroinvertebrates/fish populations. Consequently MNTU's projects were selected based on strategic planning and evaluation models very similar to the U.S. Fish & Wildlife Service's model.

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

Each project is based on science-based assessments by Trout Unlimited and the Minnesota DNR of the habitat needs of the stream and particular project site. Based on these assessments, habitat restoration or enhancement practices appropriate to the site will be selected to match management goals. Ongoing monitoring of the projects will assess our success, and can be used both in maintenance of the projects and to help MNTU and the MNDNR improve future habitat work.

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

All of the six projects which Minnesota TU is proposing were identified by MNDNR fisheries personnel as high priority restoration or enhancement projects based upon extensive criteria developed by these resource professionals. The MNDNR ranks trout streams based upon the below criteria. They do not weight them, but higher priority streams meet more of these identified objectives. The MNDNR's criteria include:

- The project site must have public access;
- The project has the potential to increase the carrying capacity (fish numbers);
- No habitat work has been done on project site in the past;
- Proximity to cities, anglers, etc;
- The stream must have natural reproduction;
- Ability of the project to reduce significant amounts of sedimentation to the stream; and
- The influence the project site has on the rest of the trout population in the stream.

In addition to these criteria, Minnesota Trout Unlimited also strives to have each project:

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- Done only where the lack of quality habitat is a limiting factor for the fishery;
- Conducted in locations where the public can access the water and in such a way that they are actually fishable by the public;
- Done in close partnership with MNDNR fisheries;
- Consistent with the long term system resource goal of ensuring that robust populations of native and wild trout and salmon thrive in Minnesota's coldwater lakes and streams, so that present and future generations can enjoy healthy fisheries near their homes;
- Seize conservation opportunities that will be lost or significantly delayed if not immediately funded;
- Capable of leveraging other significant funding; and
- Durable, especially to withstand flooding.

Finally, MNTU looks at a project's potential to increase public awareness of the value of, and threats to, coldwater resources and whether it can foster important conservation partnerships. While identifying a pool of high priority streams is science based, all things being equal we try to consider the educational and partnership potential as well. For example, the project on the North Branch of the White Water River is in highly visible Carly State Park. It provides an opportunity to work with the state park managers as well as the local Lions Club from nearby Plainview. It will provide the park an opportunity to teach visitors about the impacts of land use practices. It provides visitors and local residents the opportunity to see their tax dollars making concrete improvements to natural resources in Southeast Minnesota.

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

#### **Minnesota Statewide Conservation and Preservation Plan – Land & Aquatic Preservation Plan.**

Habitat 2. Protect critical shorelands of streams & lakes...pp. 67-74

- Target shallow wildlife lakes, natural environment lakes, shallow bays of deep lakes, cold-water/designated trout streams...

Habitat 3: Improve connectivity and access to outdoor recreation. pp. 74-77

- Also provide benefits to wildlife, SGCN, etc.

Habitat 6: Protect and restore critical in-water habitat of lakes and streams. pp 81-84

- Expand efforts to restore critical habitats for aquatic communities in near-shore areas of lakes, in-stream areas of rivers and streams, and deep-water lakes with exceptional water quality
- Reverse negative effects of stream channelization on in-stream habitats

Habitat 7: Keep water on the landscape – pp.84-87

- Habitat benefits include improved water quality, maintaining habitat for wildlife and game species, and enhancing biological diversity

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- Increase riparian buffers along shorelines of rivers, lakes, and sinkholes
- Maintain and restore headwater wetlands, riparian areas, and floodplains
- Enhance and expand the use of perennial vegetation.

## **Minnesota's Nonpoint Source Management Program Plan 2008**

Goal 1: Promote a Healthy Hydrological Regime for Minnesota's Streams and Rivers. – pp. 4.3 – 176

- Promote stream restoration projects that restore connectivity between rivers and their flood plains.
- Develop an interagency program to assess/control streambank erosion...

## **Tomorrow's Habitat for the Wild & Rare – an action plan for Minnesota Wildlife.**

Goal I: Stabilize and increase Species in Greatest Conservation Need; 8. Stream habitats, actions include: – pp. 80

- Maintain good water quality, hydrology, geomorphology, and connectivity in priority stream reaches.
- Maintain and enhance riparian areas along priority stream reaches.

## **Strategic Plan for Coldwater Resources Management in Southeast Minnesota 2004-2015**

- Theme 1: Provide for the protection, improvement, and restoration of coldwater aquatic habitat and fish communities so that this unique resource is available for future generations. pp 9.
- Theme 2: Provide diverse angling opportunities so that a broad range of experiences are available to anglers. pp 12.

## **Minnesota's 2008-2012 State Comprehensive Outdoor Recreational Plan**

- Strategy 1: Acquire, protect and restore Minnesota's natural resource base on which outdoor recreation depends. pp12.
- Strategy 2: Develop and maintain a sustainable and resilient outdoor recreation infrastructure. pp 17.

## **DNR, Division of Fish and Wildlife Long Range Plan for Fisheries Management Covering Fiscal Years 2004-2010**

- Core Function 2. Conserve, Improve, and Rehabilitate Fish Populations and Aquatic Habitat. pp8.
  - Shoreline habitat restoration program – rehabilitate riparian and aquatic vegetation to improve fish habitat, wildlife habitat and water quality;
  - Metro trout stream initiative – conserve and rehabilitate threatened trout stream resources in the Twin Cities metropolitan area;
- Core Function 4. Provide Opportunities for Partnerships, Public Information, and Aquatic Education. pp8.

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- Increased public involvement with fisheries projects.

### Trout Unlimited Driftless Area Restoration Effort – Strategic plan

Goals: Through DARE, TU is partnering with local, state and federal agencies, nongovernmental organizations and private landowners to strategically link upland conservation and stream corridor restoration to achieve the following goals: - pp 15.

- Protect and restore habitat for fish and other species of interest to increase angling and other recreational opportunities. – pp 15.

### Lessard-Sams Council Funding Outcomes and Priorities, Substate Regions Targets and Priority Actions

Priority Actions for the Southeast Forest Section Recommendations to the 2010 Legislative Session:

- 2. Protect, enhance and restore habitat for fish, game and non-game wildlife in rivers, cold water streams and associated upland habitat.

Priority Actions for the Metropolitan Urbanizing Area Section Recommendations to the 2010 Legislative Session:

- 3. Enhance and restore coldwater fisheries systems.

### D. Budget

Budget Item	Fiscal Year 11	Fiscal Year 12	Fiscal Year 13
Personnel	\$66,000		
Contracts	\$384,000		
Equipment/Tools/Supplies	\$947,000		
Fee Acquisition	\$0		
Easement Acquisition	\$0		
Easement Stewardship	\$0		
Professional Services	\$0		
Travel	\$0		
Additional Budget Items	\$0		
<b>TOTAL</b>	<b>\$1,397,000</b>		

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**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.*

<b>Title</b>	<b>Name</b>	<b>Amount.</b>
Project administrator (.425 FTE), Project manager (.125 FTE), Comptroller (.125 FTE).		\$66,000 (combined)

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**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.

<b>Source of Non-State Leverage</b>	<b>Fiscal Year 11</b>	<b>Fiscal Year 12</b>	<b>Fiscal Year 13</b>
<b>Volunteers</b>	\$58,300		
<b>National Fish Habitat Action Plan</b>	\$120,000		
<b>Embrace-A-Stream</b>	\$15,000		
<b>TU National Funding</b>			
<b>National Fish &amp; Wildlife Foundation</b>	\$10,000		
<b>Farm Bill Program</b>	\$100,000		
<b>Lions Club</b>	\$5,000		
<b>U.S. Fish &amp; Wildlife Service</b>	\$20,000		
<b>TOTAL</b>	<b>\$328,300*</b>		

**\*All leverage amounts are estimates only and identify likely sources of funding**

**G. Outcomes:**

- 1) *In the first table below, quantify the outcomes you plan to achieve with the recommended funds.*
- 2) *In the second table show list the sections where outcomes will occur.*
- 3) *In the third table, allocate your recommended funds to each cell with outcomes listed in table 1.*
- 4) *In the fourth table show the leverage to be applied to each cell with outcomes listed in table 1. and*
- 5) *If you have any outcomes listed in the “protect” row in table 1, account for them according to the type of acquisition and PILT status in table 5*

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<b>Table 1 Accomplish- ments</b>	<b>Wetlands</b>	<b>Prairies</b>	<b>Forests</b>	<b>Habitats for Fish, Game and Wildlife</b>
<b>Restore</b>				Restore fish habitat in over 4.4 miles of trout stream*
<b>Protect</b>				
<b>Enhance</b>				

\* Leveraging additional funding may enable us to restore additional trout habitat (more miles).

<b>Table 2 Sections Impacted and Impact Quantifier</b>	<b>Wetlands</b>	<b>Prairies</b>	<b>Forests</b>	<b>Habitats for Fish, Game and Wildlife</b>
<b>Restore</b>				<i>Southeast Forest 3.0 miles; Metropolitan Urbanizing Area 1.4 miles</i>
<b>Protect</b>				
<b>Enhance</b>				

<b>Table 3 Recommend Fund Allocation</b>	<b>Wetlands</b>	<b>Prairies</b>	<b>Forests</b>	<b>Habitats for Fish, Game and Wildlife</b>
<b>Restore</b>				<i>\$1,397,000</i>
<b>Protect</b>				
<b>Enhance</b>				



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### 5. West Indian Creek (Wabasha):

Milestone	Date	Measure
Begin project design, permitting and preparation	July 2010	
Stream Bank Restoration (tree removal)	Oct. 2010 – Mar. 2011	
Begin in -stream habitat restoration	July 2011	
Complete in-stream restoration	June 2012	3.0 miles

### 6. Vermillion River (Dakota):

Milestone	Date	Measure
Begin project design, permitting and preparation	July 2010	
Begin in -stream habitat restoration	July 2011	
Complete in-stream restoration	June 2012	2,000 feet

### I. Relationship to Your Current Budget

Funds appropriated for this program will supplement the cash and in-kind resources typically raised by Minnesota TU and its chapters to support similar projects. This program represents a significant increase in the amount of local effort to be invested in similar habitat projects, but it is within the range of habitat restoration and enhancement projects managed by Trout Unlimited as an organization.

### J. How Will the Habitat Improvements Be Sustained?

MNTU habitat restoration and enhancement projects are designed for long-term ecological and hydraulic stability. Once the projects are completed we do not anticipate that there will be any significant maintenance required in order to sustain the habitat improvements for at least several decades. We do anticipate that long-term monitoring of the integrity of the improvements will be done in conjunction with routine inspections and biological monitoring conducted by local DNR staff, MNTU members, or landowners as appropriate. This monitoring will not require separate OHF or other constitutional funding. In the unlikely event that there are other maintenance costs, potential sources of funding and volunteer labor include Minnesota Trout Unlimited, MNDNR AMA maintenance funding, and other grant funds and organizations. While the Vermillion River project uses some additional methods on this unique prairie trout stream, because they are intended to mimic natural habitat forming processes human intervention should be minimal.

### 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.

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Double left click to bring up the map editor. Symbols should be on the left side of the pop-up banner at the top of your screen or at the bottom left depending on your software.

If you can't bring up the interactive map editor follow these instructions:

1. Make a paper copy of the map,
2. By hand place symbols on the map corresponding to the location of the projects in your proposal,
3. Scan the marked map to a pdf, and
4. Insert the marked pdf map as the last page in your submission.

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