

Main Request for Funding Form

**Lessard-Sams Outdoor Heritage Council
Fiscal Year 2012**

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

Funds Requested (\$000s)	Funding Request	OHF Out-Year Projections of Needs		
	FY 2012	FY 2013	FY 2014	FY 2015
Outdoor Heritage Fund	\$ 2,332	0	0	0

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County Location: Goodhue; Lake; Nicollet; Olmsted; St. Louis; Wabasha; Winona

Ecological Planning Regions:

- Northern Forest Forest/Prairie Transition Southeast Forest
 Prairie Metro/Urban

Activity Type:

- Protect Restore Enhance

Priority Resources addressed by activity:

- Wetlands Forests Prairie Habitat

Project Abstract

Our program will enhance in-stream and riparian fish and wildlife habitat in twelve coldwater streams located in existing Aquatic Management Areas, and other existing public lands.

Project Narrative

Design and scope of work

A. The problem being addressed.

Degraded in-stream and riparian habitat of coldwater streams and rivers is a conservation issue of statewide importance that requires accelerated investment through habitat restoration and enhancement projects. The Lessard-Sams Outdoor Heritage Council (“L-SOHC”) has very appropriately declared the restoration and enhancement of coldwater fish habitat a priority action in the L-SOHC Ecological Sections in which these projects are located. Minnesota Trout Unlimited (“MNTU”) has identified additional priority habitat enhancement opportunities around the state which our local members have the capacity to complete with Fiscal Year 2012 funding from the Outdoor Heritage Fund (“OHF”). MNTU proposes to partner with Minnesota taxpayers to enhance in-stream and riparian fish and wildlife habitat in and along the following Minnesota waters (counties) with FY 2012 funding:

1. Garvin Brook (Winona);
2. Pine Creek (Winona);
3. Hay Creek (Goodhue);
4. Spring Creek (Goodhue);
5. Seven Mile Creek (Nicollet);
6. Little Isabella River (Lake);
7. Manitou River (Lake);
8. Sucker River (St. Louis);
9. Cold Spring Brook (Wabasha);
10. Mill Creek (Olmsted);
11. South Branch of Whitewater River (Winona);
12. West Albany Creek (Wabasha).

B. The scope of work.

The projects proposed for FY 2012 funding will be similar to projects completed by MNTU chapters in the past several years and will seek to incorporate new research to improve project designs. Each discrete project in our habitat enhancement program is a “stand alone” project which will be completed with the requested funding. The specific fish habitat enhancement methods used on each stream will vary depending upon the distinct natural resource characteristics of each watershed and ecological region, the limiting factors identified for each stream, and the variations in the type and magnitude of poor land uses practices within each watershed. MNTU will tailor each project accordingly, using the best available science, in close consultation with resource professionals within the Minnesota Department of Natural Resources (“MNDNR”). Our local chapter members will share their first-hand knowledge of the watersheds and the myriad lessons they have learned from over 30 years of planning, funding, and completing fish habitat restoration and enhancement projects in Minnesota.

Purposes: Each project will be designed and completed using techniques selected to accomplish one or more of the following purposes: (a) reduce stream bank erosion and associated sedimentation downstream, (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 habitat and biodiversity for both invertebrates and other non-game species, (f) be long lasting with minimal maintenance required, and (g) improve angler access and participation.

Habitat enhancement methods used may include one or more of the following techniques: (1) sloping back stream banks to both remove accumulated sediments eroded from uplands areas and better reconnect the stream to its floodplain, (2) removing undesirable woody vegetation (invasive box elder, buckthorn, etc.) from riparian corridors to enable removal of accumulated sediments, reduce competition with desirable plant and grass species, and allow beneficial energy inputs (sunlight) to reach the streams, (3) stabilizing stream banks using vegetation and/or rock, (4) selectively installing overhead and other in-stream cover for trout, (5) installing soil erosion blankets (6) mulching and seeding exposed stream banks (including native prairie plant species where appropriate), (7) improving or maintaining stream access roads and stream crossings, (8) fencing grassy riparian corridors to prevent damage from over grazing, and (9) in Northern forested watersheds with little cold groundwater, planting desirable trees in riparian areas (especially former beaver meadows infested with invasive reed canary grass) to provide shade for the stream channel and help cool the water.

Agricultural area example: Many streams in the agricultural areas of southern and central Minnesota have been negatively impacted by many decades of poor land management practices. How and why the various habitat enhancement actions are typically taken here is best illustrated by the following example:

Erosion has led to wider, shallower and warmer streams, as well as excessive streamside sediments which regularly erode, covering food production and trout reproduction areas. In many cases shallow rooted invasive trees have taken over the riparian corridors, out competing native vegetation which better secures soils, and reducing energy inputs to the stream ecosystem. To remedy this, a typical enhancement project will involve several steps. First, invasive trees are removed from the riparian zone and steep, eroding banks are graded by machinery to remove excess sediments deposited here from upland areas. Importantly, this reconnects the stream to its flood plain. Since many of these agricultural watersheds still experience periodic severe flooding, select portions of the streambanks are then reinforced with indigenous rock from local quarries. In lower gradient watersheds, or watersheds where flows are more stable, little or no rock is used. After enhancement work is completed the streams flow faster and become deeper, keeping them cooler and providing natural overhead cover through depth and the scouring of sediments deposited by decades of erosion.

Second, overhead cover habitat is created. Bank degradation and the removal of native prairie have dramatically decreased protective overhead cover in the riparian zone. Two methods are used to remedy this situation: increasing the stream's depth, which alone provides natural cover to trout, and installing overhead cover structures in select stream banks. Wooden structures are often installed into banks in hydraulically suitable locations and reinforced with rock as a way to restore or recreate the undercut banks which had existed before settlement and agricultural land use altered the more stable flows which had gradually created and maintained them.

Finally, native vegetation is reestablished in the re-graded riparian corridor, although often mixed with fast sprouting annual grains to anchor soils the first year. Depending upon the specific site conditions, landowner cooperation, and agricultural use, native prairie grasses are planted along the stream corridors (riparian areas) to further stabilize banks and act as buffer strips to improve water quality.

Taken together, these actions directly enhance physical habitat, and typically increase overall trout abundance, population structure, the number of larger trout, and levels of successful natural reproduction. In addition to the benefits to anglers of increased trout habitat and trout abundance, project benefits extending well downstream include reduced erosion and sedimentation, improved water quality and numerous wildlife benefits.

Individual Project Descriptions: The following project summaries outline the types of actions, unique opportunities, partnerships and timetables for each individual project included in this proposal. All of the projects are on existing public property or land already permanently protected by a conservation and management easement under the aquatic management area system. No acquisition is anticipated, as all of the projects will enhance degraded habitat located on land previously acquired by the State as aquatic management areas or State Forest land. One project is on U.S. Forest Service land located in and around a National Forest Campground.

1. Garvin Brook (Winona).

Garvin Brook has long been an extremely productive brook and brown trout fishery, far beyond what might be expected given its small size, high visibility, easy roadside angling access, and proximity to the population center of Winona. The historically intense flooding that occurred in August 2007 severely impaired this stretch of Garvin Brook targeted for the work. In some places, whole trees and other woody debris jammed flows and caused channel braiding. In other places, the channel widened dramatically and became very shallow, causing detrimental warming in summer and freezing in winter. Long shallow pools have become choked with weeds which warm the water and threaten to deplete critical oxygen through eutrophication. Vegetation was torn from broad swaths of the flood plain, leaving bare areas which invasive species such as garlic mustard, wild parsnip, and buckthorn quickly colonized, posing threats to health of the State Forest lands here.

The habitat enhancement project along 6,100 feet of stream will begin in July 2011 with a thorough geomorphic survey of this unstable stream bed and installation of a monitor which will determine a discharge – stage relationship necessary to guide proper design of the habitat enhancement work. Woody debris and other flood damage will be removed, an engineered stream crossing will be installed, several flood-created riffles will be lowered by the MNDNR using heavy construction equipment, and the entire system will be allowed to stabilize for a year. Following analysis of the updated discharge –stage data and a re-survey, final design and implementation of the habitat enhancement project will take place in close consultation with two of our partners, MNDNR Fisheries and the Water Resources Center at Winona State University. The enhancement project will narrow the stream channel, remove accumulated sediment as needed, re-slope and stabilize stream banks, install overhead cover for trout in selected locations, and re-establish native vegetation.

This project will also enhance approximately 40 acres of surrounding forest and wildlife habitat through an intensive, systematic, multi-year effort to remove and eradicate invasive plant species threatening this heavily disturbed area. Garlic mustard threatens stream bank stability since it has very shallow roots and releases chemicals that prevent deep rooted native vegetation from growing here. We propose to act aggressively within the critical 5 year, post flood disturbance “window” to prevent these invasive species from becoming solidly, perhaps

irreversibly, established. Volunteers from the Win-Cres Chapter of Trout Unlimited will work closely with MNDNR Forestry personnel, the local Conservation Corps Minnesota crew, and WSU interns and begin removal in July 2011. MNTU is in the process of applying for a National Fish and Wildlife Foundation grant for \$10,000, which we hope to pair with similar OHF funding to accomplish this important work.

The project site is highly visible and accessible to the public via US Hwy 14 which runs alongside Garvin Brook down through this valley. The popular Farmers' Park is located at the top end of the project site adjacent to State Forest land. Already in 2010, Win-Cres Chapter TU members have organized several work days to remove woody debris and invasive trees and clean up flood damage. This has resulted in nearly 400 hours of volunteer labor contributions, including many by 48 area high school students! In addition, the partnership with researchers at the Water Resources Center provides a unique opportunity to objectively assess the effectiveness of stream habitat improvement efforts, as well as broader watershed improvement measures in the Driftless area. The project has the potential to substantially advance the science of stream protection, restoration and enhancement, which should help improve work in all watersheds. MNDNR Fisheries is a major partner on this project. Other valuable partners include MNDNR Forestry, the Stockton-Rollingstone-Minnesota City Watershed District, the Winona County SWCD, local property owners, and area residents. The Win-Cres Chapter TU anticipates providing 640 hours of volunteer labor on the project.

2. Pine Creek (Winona).

Pine Creek is a regionally significant trout fishery in the Root River watershed and home to the only native strain of brook trout remaining in southeast Minnesota. Aquatic habitat and stream function have been severely degraded by upland erosion and altered hydrology within the watershed. Historical poor land management practices have caused the stream to become incised and disconnected from its floodplain, contributing to further altered hydrology and sediment re-suspension.

The proposed project will be approximately one mile in length on a severely degraded segment of stream containing highly eroding stream banks. Habitat will be enhanced using methods previously described in the "Agricultural area example" above. Work will include sloping and stabilizing stream banks, installing overhead cover for trout, installing soil erosion blankets, and mulching and seeding of exposed stream banks with native plant species as appropriate. The project would not only build upon other habitat enhancement work scheduled to be complete upstream of the project, but also upon a major watershed initiative.

The project is located in the Rush-Pine subwatershed, a focus area of the Mississippi River Basin Healthy Watersheds Initiative (MRBI), and thus seizes upon a timely opportunity to work with partners on upland erosion sites within the context of a

comprehensive watershed protection and restoration effort. Through the MRBI, the NRCS and numerous partners will focus efforts in the Rush-Pine subwatershed, helping landowners implement conservation practices that avoid, control, and trap nutrient runoff; improve wildlife habitat; and maintain agricultural productivity.

Phosphorus was identified as the limiting nutrient in this surface water and sediment was the number one water quality problem. Pine Creek is an incised stream, and consequently erosion from its banks likely contributes 50 to 90 percent of the stream's sediment and phosphorus loads. MRBI partners agreed with MNTU that stream bank stabilization with additional habitat enhancement measures for trout and nongame species would be one of the practices offered to landowners in the project area.

This project will be undertaken by the Win-Cres and Hiawatha Chapters of Trout Unlimited, with the MNDNR as a key partner. In addition to MNTU, its local chapters, and the MNDNR, MRBI partners include the NRCS, several Water Conservation Districts, the Land Stewardship Project, the MN Board and Water and Soil Resources, The Nature Conservancy, Winona State University, and others.

3. Hay Creek (Goodhue).

Hay Creek remains a top priority of the Twin Cities Chapter, being a short drive for most metro residents to fish the many miles this accessible spring creek. Building upon ongoing efforts to restore and enhance this watershed, the proposed project site is downstream from past projects in a highly visible area near a popular campground and trail system. The project will enhance habitat along approximately 6,000 feet of stream flowing through State Forest lands. The Hay Creek Campground, historic Dressen store/stagecoach stop in the village of Hay Creek, horse riding trails, Goodhue Pioneer Bike trail, and walking trails are all near the project area.

The scope of this habitat enhancement work will be very similar to recent projects in the upper Hay Creek watershed and will use many of the methods described in the "Agricultural area example" above. Work will include sloping and stabilizing stream banks, installing overhead cover for trout, and creating depth cover for wild brown trout. MNTU members will donate approximately 1,200 hours of labor on this project. Survey, final project design and permitting will begin in July 2011 in preparation for fieldwork in 2012. This south metro stream is well on its way to becoming a regional gem.

4. Spring Creek (Goodhue).

This south metro stream hosts both wild brook and brown trout. The proposed project is located within the Peter Hoffman Spring Brook Valley WMA off of State Hwy 19 near Red Wing, MN. This 396 acre WMA is actively managed by MNDNR Wildlife and

stewarded by Pheasants Forever. It boasts recreational opportunities for a wide variety of interests, including hunting, trout fishing, bird watching, and mushroom gathering.

The proposed project would enhance fish, game and wildlife habitat along approximately 3,100 feet of stream. The project reach has numerous unstable and eroding streambanks. Enhancement work will consist of sloping and stabilizing these eroded banks and successfully reconnecting the stream to its floodplain. The larger WMA will reap benefits for many game and nongame species. In-stream habitat for wild brook trout will be added. Bank cover and improved pool depth will ensure that fish populations thrive here, providing quality angling opportunities close to both the Twin Cities and Rochester. MNTU members expect to donate more than 500 hours of labor to ensure the project's success. Most of the field work will be done in 2012, but reestablishing native prairie here will require work in subsequent years as well.

5. Seven Mile Creek (Nicollet).

This unique coldwater stream is located less than an hour's drive from the southwest Twin Cities suburbs just east of the city of St. Peter. This small subwatershed in the Minnesota River valley has been the focus of concerted efforts to improve upland land management practices. The proposed project site is located downstream of the bluff line where numerous cold springs enter the stream. The project site is approximately 2,500 feet in length and located entirely within a popular Nicollet County park. At the county's urging, the MNDNR has completed some trout habitat enhancement work immediately downstream of the project site. Streambanks will be stabilized and overhead cover added to provide the deep wintering cover identified as the major limiting factor on this stream. Addressing this limiting factor should increase survival of larger adult trout and bolster natural reproduction.

This collaborative project with MNDNR will complete the remaining habitat enhancement work which MNDNR envisioned for this stream, but has been unable to fund through traditional budget sources. This project represents an important opportunity to supplement traditional sources of funding to provide more coldwater angling opportunities in an area of the state where they are very scarce. Anglers from the Mankato and St. Peter areas have enthusiastically embraced this unique fishery. The project will provide local residents with a very tangible way to see the benefits of the ongoing watershed protection initiative in this agricultural area.

6. Little Isabella River (Lake).

The Little Isabella River is a quality brook trout stream north of State Hwy 1. It flows north and drains into the Boundary Waters Canoe Area Wilderness. This project location is at a Superior National Forest Campground on the river. The proposed habitat enhancement project will revitalize and replace habitat improvement structures

originally installed nearly 60 years ago. These aging structures no longer function properly. This project will enhance the native brook trout fishery and provide an easily accessible angling opportunity to campground guests and visiting anglers alike.

The proposed project segment is located in the headwaters reach of the Little Isabella River in Section 25, T-60, R-9. The project will use significant volunteer labor provided by MNTU members, as well as members of other local angling and conservation groups interested in joining us. A total of 17 failing habitat improvement structures along 1,500 feet of the river will be repaired or replaced. At least three of these structures will be entirely reconfigured to more appropriately provide the deep water cover that the brook trout in this section of the river need. Rock located on and near the site will be added to structures to ensure that they direct both high and low stream flows appropriately. Site planning and in-stream volunteer work will take place during the summer of 2011.

The project is collaboration between MNTU, the MNDNR, and the US Forest Service-Superior National Forest. MNTU members and other volunteers will contribute significant volunteer labor.

7. Manitou River (Lake).

The Manitou River is an important North Shore trout stream that enters Lake Superior in Crosby-Manitou State Park. The main stem of the river is one of the most popular hike-in fishing locations on Minnesota's North Shore. The watershed has been the focus of numerous habitat projects, forest stewardship programs, protection efforts and enhancements. The project, located in the headwaters of the main branch of the river, will address failing banks, stream channel segments and old improvement areas.

For this project, MNTU will work with the Manitou Collaborative, a group of public and private land owners and land managers, on a project reach located on the upper main branch of the Manitou River in Section 27, T-59, R-7. This 1,500 foot long river segment currently contains eight failing habitat improvement structures that are nearly 60 years old. The structures are failing, or have failed completely, causing portions of the stream channel to erode and be in overall poor condition. A portion of the stream channel in this segment is also braided. Using habitat improvement techniques tailored to the site conditions, this project will repair failing banks and braided channel segments and replace and revitalize poorly/improperly functioning structures. Project planning and initial survey work will take place in 2011. In-stream habitat enhancements will begin the following summer. Disturbed riparian areas will be seeded with native vegetation.

Since 2000, the Manitou Collaborative has been striving to conserve and manage the unique ecological, recreational, and economic values in this landscape. The future

health of the coldwater fishery is well protected. Partners of the Manitou Collaborative include the MNDNR, The Nature Conservancy, Lake County, Wolf Ridge Environmental Learning Center, the Minnesota Forest Resources Council, and the US Forest Service.

8. Sucker River (St. Louis).

The Sucker River is an important tributary to Lake Superior located between Duluth and Two Harbors. It supports quality angling for resident brook and brown trout, as well as impressive runs of wild steelhead and other migratory trout and salmon. The project area extends from Ryan Road upstream approximately 1,700 feet, and offers easy access to the public via a permanent angling easement that exists on the property and extends directly downstream of the Ryan Road access point. Important to note is that the project site is located below the “barrier” falls and therefore also accessible to migratory trout and salmon ascending the river from Lake Superior to spawn. It also harbors a resident trout fishery. The habitat enhancements in this reach will thus benefit resident brook and brown trout, as well as several migratory species of trout and salmon.

The project is needed because the amount and quality of year-round adult trout cover and habitat has been significantly degraded on this reach and is currently a limiting factor in the health of the trout fishery in this section of the river. The river channel has exhibited instability, and has become over-widened due to a channel change in the upper portion of the project area. Bank erosion is significant problem in this reach, as is the lack of seasonally stable large woody debris. Lack of overhead cover exposes trout to increased predation when they are most vulnerable. Habitat enhancements will involve the placement of woody cover and rock veining along 1,700 feet of the Sucker River, revegetation of disturbed areas with native riparian plant species (including trees), and exclusion fencing in the riparian corridor.

An in-stream and riparian habitat plan will allow for monitoring of the success of the habitat improvement features of the project. Initial survey work and site planning will take place in the summer of 2011. Installation of woody cover, rock veining, and other fish habitat enhancement work will begin in 2012. Tree planting, fencing, and project wrap-up will take place in spring 2013.

This is a collaborative effort between MNTU and MNDNR. Volunteer labor will be provided by MNTU members and members of other local conservation partners such as the Lake Superior Steelhead Association, Izaak Walton League, Arrowhead Fly Fishers, and others.

Hiawatha Chapter Projects:

Cold Spring Brook (Wabasha)

Mill Creek (Olmsted)

South Branch of Whitewater River (Winona)

West Albany Creek (Wabasha); Branch of Whitewater River (Winona)

Habitat will be enhanced on a reach of each of these southeast Minnesota streams using the methods previously described in the “Agricultural area example” above. The Hiawatha Chapter of Trout Unlimited worked closely with area MNDNR professionals to narrow their list of high priority projects to the specific project sites described below. Approximately 3.75 miles of in-stream habitat and stream banks will be enhanced primarily during the 2012 field work season, with survey, final design and project permitting work beginning in 2011. These projects continue the effective partnership that exists between the Hiawatha Chapter TU and MNDNR. All projects will consist of sloping and stabilizing stream banks, installing overhead cover for trout, installing soil erosion blankets, and mulching and seeding of exposed stream banks with native plant species, where feasible and appropriate.

These four projects are designed to reduce stream bank erosion and associated sedimentation downstream, reconnect the streams to their floodplains, increase cover (including large trout wintering cover), increase trout abundance, increase natural reproduction of trout and other aquatic organisms, increase habitat and biodiversity for both invertebrates and other non-game species, increase energy inputs via beneficial sunlight, and increase quality trout angling opportunities. In addition, the streams have these additional opportunities, features and benefits to citizens and sporting people:

9. Cold Spring Brook (Zumbro River watershed):

This watershed is fairly unique in southeast Minnesota in that its upper half is capable of providing an appropriate thermal environment for brook trout in a relatively larger-sized stream, while the lower reach has the potential to provide quality habitat for brown trout.

The stream reach located above State Hwy 60 is steeper and in places densely wooded. The reach located below State Hwy 60 is primarily large pools leading to its confluence with the Zumbro River. This stream is 'in the back yard' of Zumbro Falls, and as such would provide the community with a quality trout stream as well as having the potential for drawing sportsmen westward from the Lake City/US Hwy 61 corridor and northward from Rochester. This project has already seen local interest and should provide exposure for OHF usage at the rural community level.

10. Mill Creek (Root River watershed):

The proposed project area is located immediately downstream from a habitat enhancement project previously completed by the MNDNR that began at the US Hwy

52 bridge crossing and will continue for approximately one additional mile downstream. The proposed stream section has highly eroding banks that will be sloped and seeded to reduce the sediment load in the stream and to provide more angling opportunities for area anglers. Given its location just a few miles west of Chatfield along US Hwy 52, Mill Creek should experienced increased use by local residents and fishermen from the Rochester area and north, as well as easy access to out-of-state fishermen from the south, thus demonstrating the beneficial application of OHF funds to persons throughout the Driftless area.

11. South Branch of the Whitewater River (Upper Mississippi River Basin):

This proposed project is intended to mitigate a portion of the damage caused to the South Branch as the result of the August 2007 floods and to return improved trout angling opportunities to a section of once quality fishing water in the popular Whitewater area. This stream segment has been heavily silted and cluttered with downed trees and other woody debris. The proposed work will remove undesirable trees and brush, re-slope the banks, re-contour and stabilize the stream channel, and improve its connection to its natural flood plain. This project will also improve trout holding and hiding cover in the project area, improve public access to the waterway, and potentially reduce the negative impact of future flooding and damage to the stream.

12. West Albany Creek (Zumbro River watershed):

The proposed project area on West Albany Creek runs alongside State Hwy 60 between Wabasha and Zumbrota, MN, and thus will provide improved trout angling opportunities in a highly visible and accessible area. In addition to all the usual fish, game, and stream health benefits, its contribution to the economic health of the area would be substantial. The project will provide a positive environmental management exposure to the users of the motocross facility near West Albany. We expect the opportunity to educate and expose many new people to the benefits of what a healthy stream habitat means to both game and nongame species.

Multiple species benefits:

The projects are designed primarily to enhance habitat and increase stream carrying capacity for trout and salmon species, including wild brook trout, brown trout, steelhead (rainbow trout) and potentially coho salmon. Other fish species associated with coldwater ecosystems such as native sculpin and redhorse also benefit, as well as aquatic invertebrates too numerous to list. Most habitat changes will be identifiable and readily visible immediately upon completion of each project, and our experience shows

that fish begin to utilize new in-stream habitat structures for cover immediately upon installation in a given stream bend.

The proposed projects will also incorporate elements to improve habitat for numerous aquatic and terrestrial non-game species such as turtles, snakes, frogs and other amphibians. The deterioration or loss of habitat is a primary cause of such species' rarity according to Minnesota's Comprehensive Wildlife Conservation Strategy. Specifically, regional MNDNR biologists have identified a number of amphibians and reptiles in southeast Minnesota watersheds which they consider species of greatest conservation need. Trout Unlimited and an ensemble of wildlife professionals have developed the *Driftless Riparian Habitat Guide*, a riparian habitat guide for reptiles and amphibians occupying these riparian corridors. We will use this guide to integrate non-game habitat enhancement measures into our projects in an effort to help protect, preserve, and/or increase habitat for a variety of these and other species.

C. How priorities were set:

Our basic approach: MNTU and its chapters approach the project prioritization process with a strategic focus on watersheds and the key subwatersheds within them.

Coldwater stream habitat has been seriously degraded across much of Minnesota, and nearly eliminated in the Twin Cities area. Minnesota's most viable coldwater fisheries are now concentrated in the Northern forested regions (particularly the Northeast) and in groundwater "rich" southeast Minnesota. Other coldwater fisheries are scattered across the state in those subwatersheds that contain both adequate ground water and less harmful land use patterns. We therefore focus our energies and resources on those watersheds which we believe can weather the threats posed by increasing population and the potential impacts of a warming climate. We are in a constant process of engaging the MNDNR, the land trust community, and others in strategic planning to identify and target those Minnesota watersheds and subwatersheds most likely to withstand these and other threats while sustaining fishable populations of naturally reproducing trout and salmon. While this process is ongoing, we have good idea of which watersheds are more likely support viable coldwater fisheries 25 or 50 years from now. We look for opportunities to work in those watersheds and assess others as opportunities arise. All of the projects proposed here are on streams which we believe can sustain viable coldwater fisheries well into the future.

Criteria used: MNTU reviews the MNDNR's watershed specific fisheries management plans and other existing conservation planning efforts, and then consults with area fisheries professionals in MNDNR to identify potential projects that will protect, restore or enhancement coldwater fisheries. MNTU, with input from the MNDNR, then applies

criteria to determine the highest priority projects. We have found that the ranking criteria developed by the MNDNR (shown below) are an effective tool in helping to further prioritize potential projects. We do not weight these, but the highest priority projects meet a majority of these identified objectives. The MNDNR's criteria include:

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

In addition to these criteria, MNTU also strives to have each project be:

- Implemented 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;
- Designed and completed in close partnership with MNDNR fisheries;
- Capable of advancing the long term 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;
- Chosen to seize conservation opportunities that will be lost or significantly delayed if not immediately funded;
- Capable of leveraging other significant sources of funding;
- Durable, especially to withstand flooding; and
- Done on streams capable of sustaining wild trout fisheries given the likely impacts of a warming climate.

Developing the final list of projects to propose: Assembling a list of highest priority streams is a science-based process; since MNTU must trim the list to a manageable number, however, we also consider other factors, such as whether the project helps ensure that robust trout populations will thrive where citizens can most enjoy them - near their homes. Science alone cannot always tell us which of several streams to select when each will greatly benefit from work, but for very different reasons. One project could build upon previous restoration or enhancement work in other stream reaches to collectively boost the overall fishery, while another might be on a stream

where a first project could significantly boost spawning success by providing scarce adult cover and/or spawning habitat. Our final selections include streams in both categories, including some in the latter category which are in locales currently with very limited opportunities for quality coldwater angling. Final selections then include consideration of what additional opportunities (educational, conservation partnerships, local support) could be seized now, or lost through delay. All things being equal, MNTU considers a project's potential to draw new anglers outdoors, increase public awareness of the value of, and threats facing, coldwater fisheries and watersheds, foster a "conservation ethic" and/or conservation partnerships, and increase public support for OHF projects and stream restoration in general.

Additional considerations in Twin Cities area: While the seven county metropolitan area has roughly 1,900 miles of streams and rivers, only approximately 70 miles still support trout. Of these, far fewer hold actual fishable populations, making any restoration or enhancement opportunity here a very high priority. Remaining Twin Cities trout fisheries include several St. Croix River tributaries, two small Cannon River tributaries, the Vermillion River, and Eagle Creek. MNTU chapters and MNDNR have restored or enhanced (or soon will be using previously earmarked funding) on essentially all trout stream reaches with public access which MNDNR feels habitat enhancements are warranted. In short, the lack of public access is the limiting factor to restoring or enhancing these metro streams. However, several "greater metropolitan area" streams lie just across political and planning boundaries. The L-SOHC's vision for the Metropolitan Urbanizing Section uses coldwater fisheries "within an hour's drive" as its benchmark. By this standard, Hay Creek, Spring Creek, and Seven Mile Creek (included in this proposal) are "metro" streams. Metro trout anglers certainly consider them to be such.

D. Urgent conservation opportunities the projects seize

Without immediate action, Minnesota's degraded coldwater aquatic habitats will continue to provide severely limited ecological function for a unique segment of fish and wildlife species. For this reason, the L-SOHC identified the restoration and enhancement of coldwater fish habitat as a priority action in most L-SOHC Sections, including those in which the projects are located. The targeted stream reaches are no longer providing habitat benefits, clean water benefits, angling opportunities or other enticements to maintain or increase participation in outdoor recreation, or encourage greater public appreciation and stewardship of aquatic ecosystems. By capitalizing on these opportunities to restore/enhance habitat, we can create productive trout fisheries in highly visible and accessible areas.

In addition to addressing the pressing habitat needs of the streams and improving water quality, the projects will also increase the use and enjoyment of our coldwater ecosystems, tangibly re-connect people to the land and water, foster greater understanding of threats to them, and ultimately motivate citizens to become advocates for broad watershed and water quality improvements. Failure to seize these opportunities across the state will not only delay long overdue habitat enhancement, but will only serve to deny Minnesotans these myriad benefits and opportunities, as well as substantial economic impacts.

E. Stakeholder involvement and support

For prior projects, MNTU has been very successful in gathering local input and developing partnerships in the planning stages of our habitat enhancement projects. Oftentimes, landowners end up working side-by-side with local TU chapter volunteers. Most impressively, we've drawn both monetary and volunteer labor assistance from numerous project partners. Many of these partnerships are with local organizations such as civic groups, scout troops, and sporting clubs. Through this volunteer involvement, we've logged thousands of volunteer hours on our projects.

Planning

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

1. 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
- 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.

2. 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...

3. 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.

4. 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.

5. 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.

6. 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.
 - Increased public involvement with fisheries projects.

7. 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.

B. The projects are the result of science based strategic planning and evaluation similar to the USFWS Strategic Habitat Conservation model.

The U.S. Fish and Wildlife Services' Strategic Habitat Conservation Model uses the following methodology and steps: identify priority species; select a subset of priority species; formulate population objectives; assess the current state of priority species; identify limiting factors; and compile and apply models of population-habitat relationships. USFWS encourages a watershed based approach, especially during consideration of the key threats of development pressures and climate change.

As described previously in the section of this proposal dealing with setting priorities, MNTU uses a similar approach. Projects included in this proposal were selected in consultation with MNDNR Fisheries personnel, who use a science based approach to determine high priority streams and project sites. This includes the use of the MNDNR's annual stream monitoring and assessments, which assess limiting factors (including habitat ones) and others factors bearing on macroinvertebrate and fish populations. Ongoing monitoring of the projects and post-project fish populations will assess our success, and can be used to help MNTU and the MNDNR improve future habitat conservation and enhancement strategies.

C. Lessard-Sams Outdoor Heritage Council Funding Outcomes and Priorities, Substate Regions Targets and Priority Actions

As stated previously, past MNTU projects have been located primarily in the Southeast Forest, Metropolitan Urbanizing Area, and Northern Forest Ecological Sections. L-SOHC funding has allowed MNTU to consider, assess, and plan for upcoming projects in the Prairie and Forest/Prairie Transition sections as well. Priority actions addressed by this proposal include:

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.

Relationship to Other Constitutional Funds

We do not anticipate the use of other constitutionally dedicated state funding on projects included in this proposal. We are not applying for project funding from the other constitutionally dedicated funds. However, we continue to look for partnerships and opportunities to add components such as native prairie restoration, non-game habitat enhancement, improvements to forested lands and improved watershed practices. In the event a partner proposes to apply other constitutional funds to a project we will promptly notify the L-SOHC to coordinate reporting.

Relationship to Current Organizational Budget

Funds appropriated for this program will supplement the cash and in-kind resources typically raised by MNTU and its chapters to support similar projects. This additional habitat enhancement work represents a significant increase in the amount of local projects over several years ago, but our local members have increased their volunteer labor and the projects are within the range of habitat projects managed by Trout Unlimited as an organization.

Sustainability and Maintenance

MNTU's coldwater aquatic habitat restoration and enhancement projects are designed for long-term ecological and hydraulic stability. Once the in-stream projects are completed and riparian vegetation reestablished, we do not anticipate that there will be any significant maintenance required in order to sustain the habitat outcomes 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 MNDNR 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 MNTU, MNDNR AMA maintenance funding, and other grant funds and organizations. The Garvin Brook project includes invasive species removal measures, but native vegetation should be well established before the end of the funding period, and require minimal human intervention thereafter. The Win-Cres Chapter volunteers will provide long-term monitoring and periodic labor as needed.

MNTU's Proposal Meets all Statewide Priority Criteria and Proposal Requirements of the L-SOHC

The projects included in this proposal address these L-SOHC's Statewide Priority Criteria: (1) they are part of MNTU's ongoing (decades long) program of coldwater fish habitat restoration and enhancement, which directly addressing the L-SOHC Planning Section priority actions noted above; (2) they produce multiple conservation benefits including game and non-game wildlife benefits, clean water benefits, etc.; (3) they leverage effort and funds to supplement any OHF appropriation; (4) they allow (and facilitate) public access; (5) they address conservation opportunities that will be lost if not acted on; (6) they enhance habitat on state-owned AMAs, State Forest lands, and one WMA; (7) they use science-based strategic planning and evaluation to guide protection, restoration and enhancement, similar to the USFWS's Strategic Habitat Conservation Model; (8) they consider how to integrate one or more design practices to maintain and enhance habitat for wildlife species of greatest conservation need; and (9) they provide Minnesotans with greater public access to high quality angling, and other recreational opportunities; (10) they involve coordination with agencies and non profit conservation organizations; and (11) they target unique Minnesota landscapes, including the Driftless area in southeast Minnesota and the North Shore of Lake Superior, both of which have historical value to fish and wildlife.

Each project will directly enhance fish and wildlife habitat in coldwater streams and thus squarely address these regional priority actions: "enhance and restore coldwater fisheries systems" (Metro Urbanizing Area Section) and "protect, enhance and restore habitat for fish, game and non-game wildlife in rivers, cold water streams and associated upland habitat." (Southeast Forest Section) and enhance habitat on "coldwater lakes, streams and rivers" (Northern Forest Section).

MNTU will use its website and local media sources to inform the public of our use of Outdoor Heritage Fund dollars and the positive outcome they provides. Our website, [://www.mntu](http://www.mntu), is our primary outlet for the results of completed projects, as well as the status of current and upcoming projects. We are committed to improving our website. Numerous dedicated volunteers at the local level will work with Trout Unlimited officials at the national level to inform media sources upon project completion. This has already been done on projects such as Vermillion, Hay Creek, and Whitewater River systems, which have been funded by the Outdoor Heritage Fund.

At the administrative level, we have project manager who provides regular status reports to a dedicated committee of MNTU Board of Directors. All information from project planning through execution of each project is handled by the manager and the MNTU committee, assisted by MNTU Executive Director. We are often in daily communication, overseeing projects across the State of Minnesota.

In the past 30 years of MNTU's involvement of stream/habitat improvement projects, a substantial amount of data has been collected showing the success and positive outcome of our work. Through our partnership with the Minnesota Department of

Natural Resources Fisheries department, we will continue to measure and evaluate the work we have completed and use this information to implement best practices within our work. The data from current and past projects confirms increased and healthy trout populations and natural reproduction. This information is included in reporting our projects to the public via our website and press releases.

Types of Projects

Fee Acquisition Projects

Will local government approval be sought prior to acquisition?

Yes No, please explain X not applicable

If no, please explain here:

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

Yes No, please explain X not applicable

If no, please explain here:

Easement Acquisition Projects

Will the eased land be open for public use?

Yes No, please explain X not applicable

If no, please explain here:

Will the conservation easement be permanent?

Yes No, please explain X not applicable

If no, please explain here:

Restoration and Enhancement Projects

Is the activity on permanently protected land and/or public waters?

X Yes No, please explain not applicable

If no, please explain here:

Does the activity take place on an Aquatic Management Area (AMA), Scientific and Natural Area (SNA), Wildlife Management Area (WMA), or State Forests?

X Yes, which ones No, please explain not applicable

If so, please indicate which ones:

Garvin Brook AMA

Pine Creek AMA

RJ Dorer Memorial Hardwood Forest

John Peter Hoffman WMA

Manitou River AMA

Sucker River AMA

Cold Spring Brook AMA

Mill Creek AMA

W. Albany Creek AMA

Accomplishment Timeline

Activity	Milestone	Date
On all projects survey work, final project design, and permitting work will begin in July 2011		July 2011
Unless where noted in the narrative, fieldwork will begin on all projects in 2012	Begin habitat enhancements	2012 fieldwork season
Complete riparian and in-stream habitat enhancements, unless as noted in the narrative,	Complete riparian and in-stream habit enhancements	October 2013

Attachments:

- A. Budget**
- B. Proposed Outcome Tables 1-5**
- C. Map**
- D. Parcel List**

Attachment A. Budget Spreadsheet

[Link Here to definitions of the budget items below.](#)

Total Amount of Request \$ 2,332,000 *From page 1 on the funding form.*

Personnel

Position breakdown here	FTE	Over # of years	LSOHC Request	Anticipated Cash Leverage	Cash Leverage Source	Total
<i>Project manager</i>	0.425	3	\$ 57,000			\$ 57,000
<i>Project administrator</i>	0.125	3	\$ 16,500			\$ 16,500
<i>comptroller</i>	0.125	3	\$ 16,500			\$ 16,500
<i>position 4</i>						\$ -
<i>position 5</i>						\$ -
<i>position 6</i>						\$ -
<i>position 7</i>						\$ -
Total	0.68		\$ 90,000	\$ -	\$ -	\$ 90,000

Budget and Cash Leverage *(All your LSOHC Request Funds must be direct to and necessary for program outcomes.)*

Please describe how you intend to spend the requested funds.

Budget Item	LSOHC Request	Anticipated Cash Leverage	Cash Leverage Source	Total
Personnel - auto entered from above	\$ 90,000	\$ -	\$ -	\$ 90,000
Contracts	\$ 1,289,000	\$ 95,000	<i>various federal</i>	\$ 1,384,000
Fee Acquisition w/ PILT <i>(breakout in table 6 & 7)</i>				\$ -
Fee Acquisition w/o PILT <i>(breakout in table 6 & 7)</i>				\$ -
Easement Acquisition				\$ -
Easement Stewardship				\$ -
Travel (in-state)				\$ -
Professional Services				\$ -
DNR Land Acquisition Costs				\$ -
Other				\$ 1,048,000
Capital Equipment				\$ -
Other Equipment/Tools	\$ 20,000	\$ 10,000	<i>TU -Embrace a Stream</i>	\$ 30,000
Supplies/Materials	\$ 933,000	\$ 85,000	<i>various federal</i>	\$ 1,018,000
	\$ 2,332,000	\$ 190,000	\$ -	\$ 2,522,000

Attachment B. Proposed Outcome Tables

Only enter data in the outlined cells

Table 1 and Table 3 column totals should be the same AND Table 2 and Table 4 column totals should be the same

If your project has lakes or shoreline miles instead of land acres, convert miles to acres for Tables 1 and 3 using the following conversion:

Lakeshore = 6 acres per lakeshore mile / Stream & River Shore = 12 acres per linear mile, if both sides

Table 1. Acres by Resource Type

Describe the scope of the project in acres (use conversion above if needed)

	Wetlands	Prairies	Forest	Habitats	Total
Restore					0
Protect					0
Enhance				107	107
Total	0	0	0	107	

Total Acres (sum of Total column)

107

Total Acres (sum of Total row)

107

These two cells should be the same figure.

Table 2. Total Requested Funding by Resource Type

	Wetlands	Prairies	Forest	Habitats	Total
Restore					\$ -
Protect					\$ -
Enhance				\$ 2,332,000	\$ 2,332,000
Total	\$ -	\$ -	\$ -	\$ 2,332,000	

Total Dollars (sum of Total column)

\$ 2,332,000

Total Dollars (sum of Total row)

\$ 2,332,000

These two cells should be the same figure.

Check to make sure this amount is the same

as the Funding Request Amount on page 1 of Main Funding Form.

Table 3. Acres within each Ecological Section

	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore						0
Protect						0
Enhance			90.6	5.7	10.7	107
Total	0	0	90.6	5.7	10.7	

Total Acres (sum of Total column)

107

Total Acres (sum of Total row)

107

Total Acres from Table 1.

107

These three cells should be the same figure.

Attachment B. Proposed Outcome Tables

Table 4. Total Requested Funding within each Ecological Section

	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore						\$ -
Protect						\$ -
Enhance			\$ 2,153,000	\$ 80,000	\$ 99,000	\$ 2,332,000
Total	\$ -	\$ -	\$ 2,153,000	\$ 80,000	\$ 99,000	

Total Dollars (sum of Total column)

\$ 2,332,000

These two cells should be the same figure.

Total Dollars (sum of Total row)

\$ 2,332,000

Check to make sure these amounts are the same

as the Funding Request Amount on page 1 of Main Funding Form.

Table 5. Target Lake/Stream/River Miles

miles of Lakes / Streams / Rivers Shoreline

Table 6. Acquisition by PILT Status (enter information in acres)

	Wetlands	Prairies	Forests	Habitats	Total
Acquired in Fee with State PILT Liability					0
Acquired in Fee without State PILT Liability					0
Permanent Easement NO State PILT Liability					0

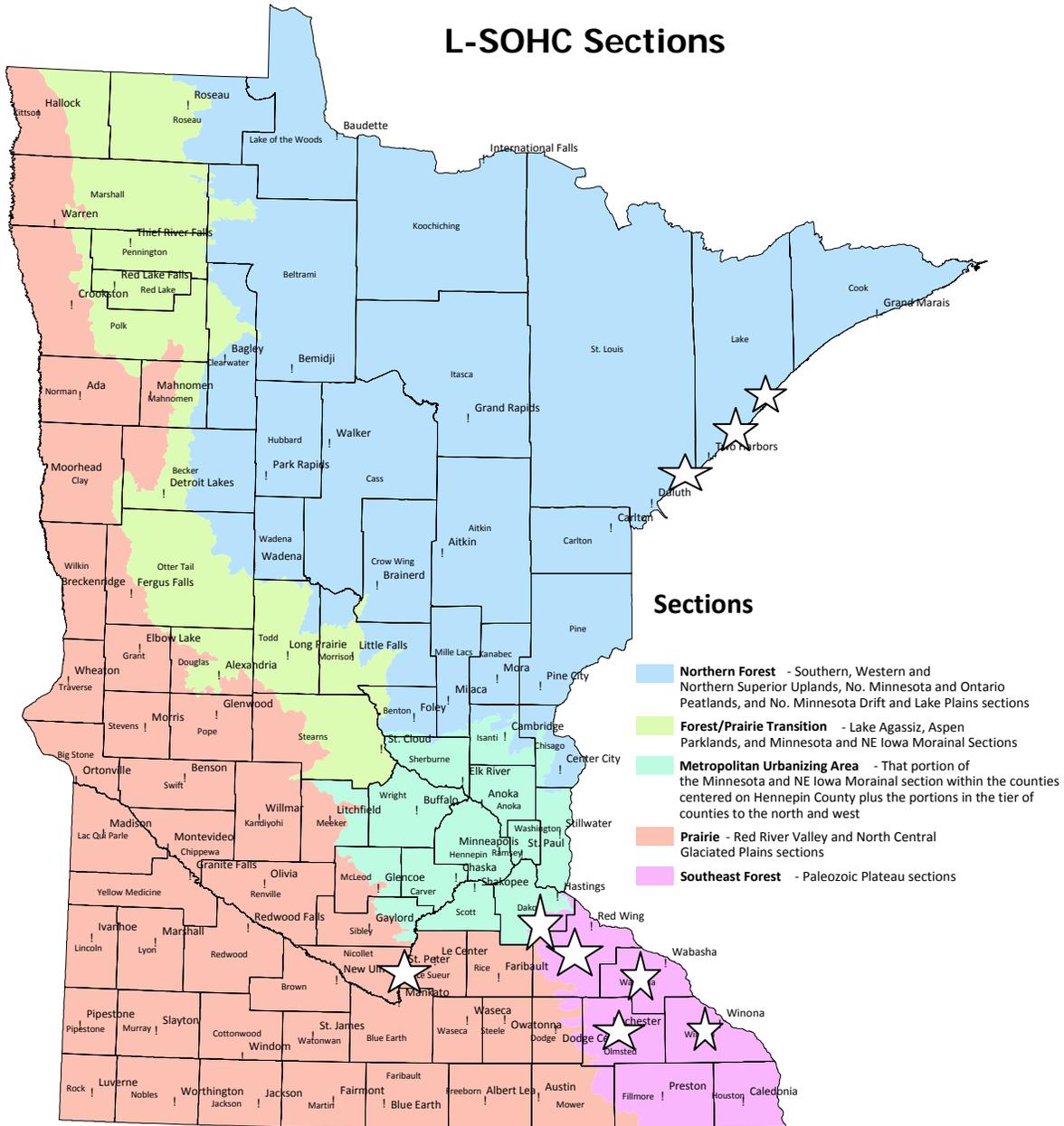
Table 7. Estimated Value of Acquisition by PILT Status (enter information in dollars)

	Wetlands	Prairies	Forests	Habitats	Total
Acquired in Fee with State PILT Liability					\$ -
Acquired in Fee without State PILT Liability					\$ -
Permanent Easement NO State PILT Liability					\$ -

Attachment C.

Instructions: 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: 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, 4) Attach to web form.



Attachment D. Parcel List

Program Title										R=Restore
Minnesota Trout Unlimited Coldwater Fish Habitat Enhancement Program FY 2012										P=Protect
Parcel Name	County	Township	Range	Direction	Section	TRDS	# of acres	Estimated Cost to OHF	Description	Activity
										E=Enhance
Garvin Brook AMA	Winona	106	8	2	4	1068204	na			E
		106	8	2	5	1068205	na			E
		106	8	2	8	1068208	na	\$201,000	Repair flood damaged 6,100' reach	E
Pine Creek AMA	Winona	105	5	2	29	1055229	na			E
		105	5	2	30	1055230	na			E
		105	5	2	32	1055232	na	262,000	1 mile reach in watershed initiative focus	E
Hay Creek	Goohue	112	15	2	13	11215213	na	210,000	1+ mile near campground and trail system	E
Spring Creek	Goohue	112	15	2	7	11215207	na	105,000	Enhance 3,100' in existing WMA	E
Seven Mile Creek	Nicollet	109	27	2	12	10927212	na	80,000	2,500' on unique prairie stream	E
Little Isabella River	Lake	60	9	2	25	609225	na	4,000	1,500' in Superior NF Campground	E
Manitou River	Lake	59	7	2	27	597227	na	20,000	1,500' on premier brook trout stream on	E
Sucker River	St. Louis	52	12	2	30	5212230	na			E
		52	12	2	31	5212231	na	75,000	1,700' for migratory and resident fish, in	E
Cold Spring Brook	Wabasha	110	13	2	25	11013225	na			E
		110	13	2	36	11013236	na	340,000	1 mile+ on larger brook trout stream	E
Mill creek	Olmsted	105	12	2	23	10512223	na			E
		105	12	2	25	10512225	na			E
		105	12	2	26	10512226	na	269,000	1+ mile with high eroding banks	E
West Albany Creek	Wabasha	110	12	2	29	11012229	na			E
		110	12	2	30	11012230	na	351,000	3/4 mile in highly visible, accessible reach	E
So Branch Whitewater River	Winona	107	10	2	13	10710213	na			E
		107	10	2	14	10710214	na	325,000	Repair flood damage on approx 3/4 mile	E