Main Request for Funding Form

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

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

Funds Requested: $2,900,000

Manager's Name: John Lenczewski
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County Locations: Carlton , Cook, Dakota, Filllmore, Goohue, Lake, Olmsted, Rice , St Louis, Wabasha, and Winona.

Ecological Planning Regions:

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

Activity Type:

- Enhance

Priority Resources Addressed by Activity:

- Habitat

Abstract
Minnesota Trout Unlimited and our volunteers, chapters and partners will directly enhance habitat for fish and wildlife in and along thirteen coldwater streams located in existing Aquatic Management Areas and on existing public lands around the state.

Activity Detail

Design and Scope of Work

The problem being addressed.

Minnesota's remaining coldwater streams represent just six percent of the State's total miles of streams and rivers. They are, however, disproportionately popular with anglers and valued by citizens because they represent the highest quality aquatic systems remaining. Degraded habitat in and along coldwater streams is, therefore, a conservation issue of statewide importance that requires accelerated investment in projects which enhance or restore this habitat.

Minnesota Trout Unlimited ("MNTU") proposes to improve degraded habitat on thirteen streams located on existing AMAs and public land around the state. Our members have demonstrated the capacity to complete these projects with Fiscal Year 2014 funding from the Outdoor Heritage Fund ("OHF"). MNTU respectfully proposes to partner with the Lessard-Sams Outdoor Heritage Council and the citizens of Minnesota to enhance habitat in and along the following public waters (in these counties):

1. Junco Creek (Cook);
2. Split Rock River (Lake);
3. Keene Creek (St. Louis);
4. Garvin Brook (Winona);
5. Spring Creek (Goodhue);
6. Trout Brook (Dakota);
7. Rice Creek/Spring Brook (Rice);
8. Blackhoof River (Carlton);
9. Pine - Rush Creeks (Winona);
10. Mill Creek (Olmsted);
11. Newburg Creek (Fillmore);
12. West Albany Creek (Wabasha);
13. Willow Creek (Fillmore).

Descriptions are attached.

Goals and scope of work.

Each project aims to increase the carrying capacity and trout population of the stream, increase angling access and participation, improve water quality and provide other benefits to aquatic and terrestrial wildlife. FY 2014 funded projects will use methods similar to those used on successful projects recently completed by MNTU chapters. MNTU will leverage our experience to optimize project design and implementation.

In consultation with resource professionals within the Minnesota Department of Natural Resources ("MNDNR"), MNTU will use the best available stream restoration and coldwater aquatic science to select specific habitat improvement methods for each stream that reflect the distinct characteristics of the watershed and ecological region, address the specific limiting factors (e.g. spawning substrate, adult or juvenile cover, invertebrate production), and account for the land use practices.

Objectives: Projects will accomplish these objectives: (a) increase adult trout abundance, (b) reduce stream bank erosion and associated sedimentation downstream, (c) reconnect streams to their floodplains to reduce negative impacts from severe flooding, (d) increase natural reproduction of trout and other aquatic organisms, (e) increase habitat for invertebrates and non-game species, (f) improve angler access and participation, and (g) protect productive trout waters from invasive species.

Methods: Habitat enhancement methods typically include: (1) sloping stream banks back to both remove streamside sediments that have previously been transported from uplands areas and better reconnect the

stream to its floodplain, (2) removing shallow rooted woody vegetation (invasive box elder, buckthorn, etc.) 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 eroding stream banks using vegetation and/or rock, (4) installing overhead bank and other in-stream cover for trout, (5) installing soil erosion prevention measures (6) seeding exposed banks and taking steps to firmly establish vegetation (including using native prairie grasses where appropriate and feasible), (7) improving angling access, (8) fencing riparian corridors where appropriate to facilitate managed grazing and prevent damage from over-grazing, (9) restoring large cover logs to the channels of Northern forested streams to increase deep pool habitat, and (10) planting long lived trees along Northern forested streams to shade and cool the water, and eventually become large cover logs.

These actions directly enhance physical habitat, and typically increase overall trout abundance, the number of larger trout, and levels of successful natural reproduction. Additional benefits, that extend many miles downstream from the project, include reduced erosion and sedimentation, cooler water temperatures, and improved water quality.

How priorities were set.

MNTU focuses on those Minnesota watersheds likely to continue to support viable, fishable populations of naturally reproducing trout, steelhead and salmon fifty years and more from now. Habitat work is done only where degraded habitat is a limiting factor for a quality, sustainable fishery. Priority project locations are determined using MNTU members' extensive knowledge of the watersheds, MNDNR management plans and surveys, other habitat and conservation planning efforts, consultations with MNDNR Fisheries professionals, and science based criteria. Some projects build upon previous habitat work in neighboring segments to collectively boost the overall fishery, while others are the first project on a stream and can significantly boost spawning success by providing scarce cover for adult trout and/or spawning habitat. Some projects are in locales with limited opportunities for quality coldwater angling. All things being equal, we consider the potential to draw new anglers outdoors, increase public awareness of the threats facing coldwater fisheries and watersheds, foster conservation partnerships, and increase public support for OHF projects.

Urgent conservation opportunities.

The targeted stream segments are no longer providing habitat or clean water benefits, angling opportunities, or other enticements that result in increased participation in outdoor recreation and encourage public appreciation and stewardship of aquatic ecosystems. By creating productive fisheries in visible and accessible areas, these projects will increase citizens' use of our coldwater ecosystems, tangibly re-connect Minnesotans to the land and water, foster understanding of threats to them, and motivate citizens to advocate for watershed and water quality improvements. Without immediate action, Minnesota will lose these myriad benefits, as well as the substantial economic benefits the projects generate, including through ongoing recreation and tourism.

Stakeholder support.

MNTU continues to receive strong support for these projects from local landowners, rural communities (especially given that most funding pays local contractors and suppliers for direct construction expenses), and local civic and sporting organizations. We will continue to gather local input and develop partnerships in the planning and implementation stages. Landowners typically become very enthusiastic partners, working side-by-side with local TU volunteers, donating materials, and even securing farm bill conservation funding for use on the projects.

Budget numbers are estimates only. Through construction efficiencies and leveraging substantial federal and private monies we expect to lengthen several projects and even work on additional streams.

Planning

MN State-wide Conservation Plan Priorities

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

Plans Addressed

- Driftless Area Restoration Effort
- Long Range Plan for Fisheries Management
- National Fish Habitat Action Plan
- Outdoor Heritage Fund: A 25 Year Framework
- State Comprehensive Outdoor Recreation Plan
- Strategic Plan for Coldwater Resources Management in Southeastern Minnesota
- Tomorrow's Habitat for the Wild and Rare
- Asian Carp Action Plan

LSOHC Statewide Priorities

- Are ongoing, successful, transparent and accountable programs addressing actions and targets of one or more of the ecological sections
- Produce multiple enduring conservation benefits
- Are able to leverage effort and/or other funds to supplement any OHF appropriation
- Allow public access. This comes into play when all other things about the request are approximately equal
- Address conservation opportunities that will be lost if not immediately acted on
- Restore or enhance habitat on state-owned WMAs, AMAs, SNAs, and state forests
- Use a science-based strategic planning and evaluation model to guide protection, restoration and enhancement, similar to the United States Fish and Wildlife Service's Strategic Habitat Conservation model
- Address wildlife species of greatest conservation need, Minnesota County Biological Survey data, and rare, threatened and endangered species inventories in land and water decisions, as well as permanent solutions to aquatic invasive species
- Provide Minnesotans with greater public access to outdoor environments with hunting, fishing and other outdoor recreation opportunities
- Ensures activities for "protecting, restoring and enhancing" are coordinated among agencies, non profits and others while doing this important work
- Target unique Minnesota landscapes that have historical value to fish and wildlife

LSOHC Prairie Section Priorities

- Restore or enhance habitat on public lands

LSOHC Northern Forest Section Priorities

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

LSOHC Metro Urban Section Priorities

- Enhance and restore coldwater fisheries systems

LSOHC Southeast Forest Section Priorities

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

Relationship to Other Constitutional Funds

none

Accelerates or Supplements Current Efforts

Each discrete project is an additional "stand alone" project which supplements the amount of habitat work which MNTU chapters have traditionally been able to complete. While our members and chapters have been planning, fundraising for and executing quality fish habitat restoration and enhancement projects around Minnesota for four decades, our partnership with the L-SOHC has dramatically increased the amount of degraded habitat we are restoring and enhancing. While members play vital roles in planning, designing, overseeing, directing and providing manual labor on what are essentially construction projects, we must hire excavation contractors and purchase rock, lumber and other materials put into the project sites. The availability of funds to hire heavy equipment operators and purchase materials remains the limiting factor in the amount of habitat work we can complete. The knowledge, passion and commitment of our volunteers continue to increase, as does their successful acceleration of the pace of habitat restoration. To ensure we finish what we start, we have developed, and continue expanding, a pool of qualified external contractors to assist with critical tasks. In less than three fieldwork seasons, MNTU and our partners have improved over twenty miles of stream habitat using OHF and leveraged funding.

Sustainability and Maintenance

MNTU's coldwater aquatic habitat restoration and enhancement projects are designed for long-term ecological and hydraulic stability. Once in-stream work is completed and riparian vegetation well established, no significant maintenance is usually required in order to sustain the habitat outcomes for at least several decades. The sloped streambanks allow floodwaters to quickly spread out into the re-connected floodplain and dissipate energy, reducing the destructive impact of a flood. Flood waters typically flatten grasses temporarily and do not damage the in-stream structures and undercut banks. A tenfold increase in trout populations and three fold increase in large trout are typical following completion of a Southeast Minnesota project, and are sustainable through natural reproduction.

We 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. MNTU volunteers will provide long-term monitoring and periodic labor as needed.

Is the activity on permanently protected land and/or public waters per MS 103G.005, Subd. 15? - **Yes (WMA, AMA, County/Municipal, State Forests)**

Accomplishment Timeline

Activity	Approximate Date Completed
Begin project planning, design, and permitting work following a July 2013 appropriation	July 2013
Begin habitat enhancements during 2014 fieldwork season, following completion of design, permits and contracting.	2014 fieldwork season
Complete riparian and in-stream habitat enhancements.	October 2015
Cutting, burning and/or spot spraying vegetation to ensure grasses become well established.	Summers 2016 & 2017
Tree palnting in riparian corridors of northern project sites in May-June following in-stream work	By June 2016

Outcomes

Programs in the northern forest region

- Improved aquatic habitat indicators

Programs in metropolitan urbanizing region

- Improved aquatic habitat indicators

Programs in southeast forest region

- Improved aquatic habitat indicators

Programs in prairie region

- Improved condition of habitat on public lands

Budget Spreadsheet

Total Amount of Request: $2,900,000

Budget and Cash Leverage

Budget Name	LSOHC Request	Anticipated Cash Leverage	Cash Leverage Source	Total
Personnel	$125,000	$0	-	$125,000
Contracts	$1,111,000	$0	-	$1,111,000
Fee Acquisition w/ PILT	$0	$0	-	$0
Fee Acquisition w/o PILT	$0	$0	-	$0
Easement Acquisition	$0	$0	-	$0
Easement Stewardship	$0	$0	-	$0
Travel (in-state)	$15,000	$0	-	$15,000
Professional Services	$830,000	$0	-	$830,000
Direct Support Services	$0	$0	-	$0
DNR Land Acquisition Costs	$0	$0	-	$0
Capital Equipment	$0	$0	-	$0
Other Equipment/Tools	$0	$0	-	$0
Supplies/Materials	$819,000	$0	-	$819,000
DNR IDP	$0	$0	-	$0
Total	$2,900,000	$0	-	$2,900,000

Personnel

Position	FTE	Over # of years	LSOHC Request	Anticipated Cash Leverage	Cash Leverage Source	Total
Program manager	0.43	2.00	$70,000	$0	-	$70,000
Watershed director	0.13	2.00	$20,000	$0	-	$20,000
Program assistant	0.25	2.00	$35,000	$0	-	$35,000
Total	0.81	6.00	$125,000	$0	-	$125,000

Capital Equipment

Item Name	LSOHC Request	Anticipated Cash Leverage	Cash Leverage Source	Total
Total	$0	$0	-	$0

Output Tables

Table 1. Acres by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0
Protect in Fee W/O State PILT Liability	0	0	0	0	0
Protect in Easement	0	0	0	0	0
Enhance	0	0	0	94	94
Total	0	0	0	94	94

Table 2. Total Requested Funding by Resource Type

Type	Wetlands	Prairies	Forest	Habitats	Total
Restore	$0	$0	$0	$0	$0
Protect in Fee with State PILT Liability	$0	$0	$0	$0	$0
Protect in Fee W/O State PILT Liability	$0	$0	$0	$0	$0
Protect in Easement	$0	$0	$0	$0	$0
Enhance	$0	$0	$0	$2,900,000	$2,900,000
Total	$0	$0	$0	$2,900,000	$2,900,000

Table 3. Acres within each Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	0	0	0	0	0	0
Protect in Fee with State PILT Liability	0	0	0	0	0	0
Protect in Fee W/O State PILT Liability	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0
Enhance	7	0	60	11	16	94
Total	7	0	60	11	16	94

Table 4. Total Requested Funding within each Ecological Section

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	$0	$0	$0	$0	$0	$0
Protect in Fee with State PILT Liability	$0	$0	$0	$0	$0	$0
Protect in Fee W/O State PILT Liability	$0	$0	$0	$0	$0	$0
Protect in Easement	$0	$0	$0	$0	$0	$0
Enhance	$226,000	$0	$2,165,000	$255,000	$254,000	$2,900,000
Total	$226,000	$0	$2,165,000	$255,000	$254,000	$2,900,000

Table 5. Target Lake/Stream/River Miles

8 miles

Parcel List

Section 1 - Restore / Enhance Parcel List

Carlton

Name	TRDS	Acres	Est Cost	Existing Protection?
Blackhoof River	47170227	6	$0	yes

Cook

Name	TRDS	Acres	Est Cost	Existing Protection?
Junco Creek	06201214	3	$0	yes

Dakota

Name	TRDS	Acres	Est Cost	Existing Protection?
Trout Brook	11317235	7	$0	yes

Filllmore

Name	TRDS	Acres	Est Cost	Existing Protection?
Newburg Creek	10108205	7	$0	yes
Willow Creek	10211201	7	$0	yes

Goohue

Name	TRDS	Acres	Est Cost	Existing Protection?
Spring Creek	11215207	7	$0	yes

Lake

Name	TRDS	Acres	Est Cost	Existing Protection?
Split Rock River	05509216	3	$0	yes

Olmsted

Name	TRDS	Acres	Est Cost	Existing Protection?
Mill Creek	10512225	12	$0	yes

Rice

Name	TRDS	Acres	Est Cost	Existing Protection?
Rice Creek (Spring Brook)	11120203	11	$0	yes

St Louis

Name	TRDS	Acres	Est Cost	Existing Protection?
Keene Creek	05015236	3	$0	yes

Wabasha

Name	TRDS	Acres	Est Cost	Existing Protection?
West Albany Creek	11012229	9	$0	yes

Winona

Name	TRDS	Acres	Est Cost	Existing Protection?
Garvin Brook	10608207	6	$0	yes

Pine - Rush Creeks	10508233	12	$0	yes

Section 2 - Protect Parcel List

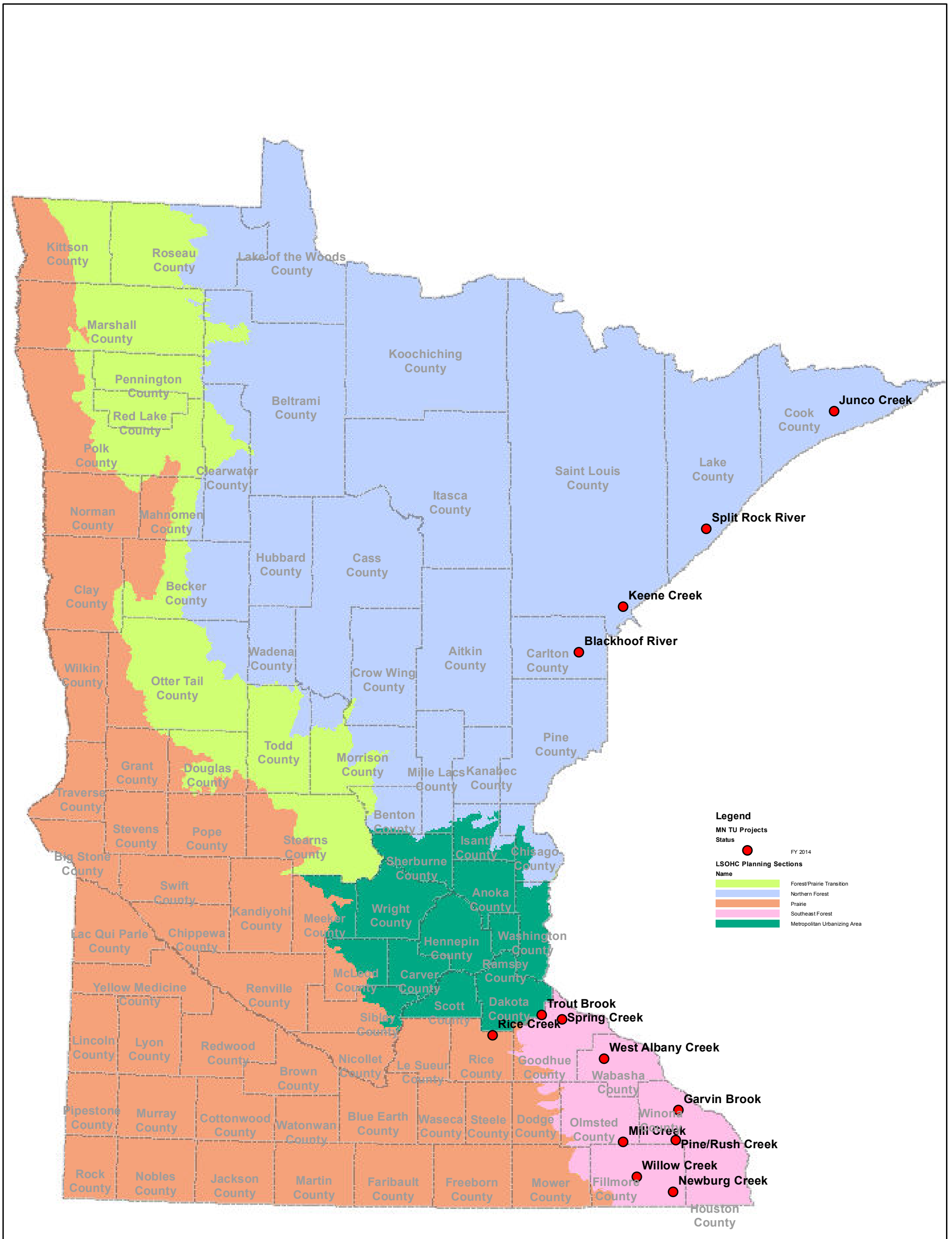
No parcels with an activity type protect.

Section 2a - Protect Parcel with Bldgs

No parcels with an activity type protect and has buildings.

Section 3 - Other Parcel Activity

No parcels with an other activity type.



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Individual Project Descriptions - Minnesota Trout Unlimited - Fiscal Year 2014 / ML 2013

This attachment briefly summarizes the high priority habitat enhancement projects which Minnesota Trout Unlimited proposes to complete using Fy 2014 funding from the Outdoor Heritage Fund. Actions to be performed, opportunities seized and partnerships are outlined. All of the projects enhance and/or restore habitat on existing public property or land already permanently protected by a conservation and management easement under the aquatic management area system. No acquisitions are involved.

1. Junco Creek (Cook)

Habitat for brook trout will be enhanced in this storied brook trout stream located north of Grand Marais, Minnesota. Junco Creek and its tributaries connect a series of trout lakes located west and south of the Gunflint Trail and ultimately flow into Devil Track Lake. In-stream cover was removed during the early logging and settlement era. In the past 50 or more years efforts were made to increase cover for wild brook trout. Many of these habitat improvements were effective and Junco Creek became a popular fishing destination for Cook County residents and anglers from across Minnesota. However, many habitat structures are now in very poor condition and no longer functioning properly, or at all. Habitat enhancement methods have also evolved over the past 20 years, and old work sites can in many cases be enhanced or modified to provide much greater resource benefits. MNTU and the Gitche Gumee Chapter of TU will revitalize and replace failing habitat structures, and install new structures, to create the deep pool cover vital to improving the productivity of the fishery.

The MNDNR Grand Marais Area Fisheries Office recently inspected past habitat improvement sites in Cook County and catalogued the further enhancement needs of dozens of sites, including many on Junco Creek. The Area Fisheries Supervisor identified Junco Creek as a high priority for habitat enhancements. Minnesota Trout Unlimited will utilize the MNDNR catalogue and work with the Grand Marais Area Fisheries Office to identify the highest priority stream segment where our efforts will have the greatest natural resource impact.

Volunteers from MNTU and the Gitche Gumee Chapter of TU will use hand labor to revitalize and replace failing wood and rock habitat structures installed as long as 60 years ago. Using improved understanding of how such structures function in streams such as Junco Creek, new structures will be placed so as to provide the deep water cover that adult brook trout need. Rock may be used direct both high and low stream flows appropriately. We anticipate engaging many local residents and volunteers from sporting, conservation, and outdoor education groups in summer 2014 fieldwork.

2. Split Rock River (Lake)

The Split Rock River supports important brook trout and steelhead fisheries utilized by countless North Shore anglers. The MNDNR Finland Area Fisheries Office considers it a top priority for stream habitat improvement efforts. With FY2014 funding MNTU will improve trout habitat on one or more segments of the West Branch and/or East Branch of the Split Rock River in the vicinity of County Rd 3. A lack of deep pool habitat limits the productivity and long term sustainability of the brook trout fishery in this area. Volunteers will increase deep pool habitat by revitalizing and replacing failing wood and rock habitat structures installed in the 1950s, and adding new cover logs and other structure.

Several improperly installed structures are now causing erosion or no longer functioning properly. We will use improved methods to modify or replace them to improve trout habitat and increase trout populations. The improved trout fishing and easier access will draw anglers from Beaver Bay, Two Harbors, Gooseberry Falls State Park and Split Rock Lighthouse State Park. The MNDNR Finland Area Fisheries Office is a key project partner.

3. Keene Creek (St. Louis)

Keene Creek is one of Duluth's top brook trout fisheries, despite decades of impacts to this "urban" trout stream. The project will increase the amount of deep pool habitat and trout cover, and bolster the size and long term sustainability of the wild trout fishery. Keene Creek begins in Hermantown and flows south through a forested park and enters Duluth above Skyline Drive. It then tumbles down the hillside in a series of pools and runs before it enters the St Louis River near Grassy Point. This surprisingly productive stream is a short bicycle ride from thousands of homes and is popular with children, as well as adults. It is arguably the most productive, fishable trout stream on the western half of Duluth and has good natural reproduction. The MNDNR Duluth Area Fisheries Office identified this creek as a priority stream for trout habitat improvement efforts. The relative absence of deep pool habitat is a factor limiting the productivity and long term sustainability of this fishery.

Early logging removed large cover logs and boulders from the stream channel, and several logging cycles have maintained a young forest ecosystem which is incapable of naturally replacing this missing habitat anytime soon. The project will directly increase the amount of deep pool habitat and overhead cover using large logs and boulders, using approaches similar to those employed on MNTU's Sucker River project.

The historically heavy rainfall and flooding which recently hit the Duluth area will require the reassessment of streams to identify the highest priority segments for habitat restoration and enhancement. A project site will be carefully selected with MNDNR fisheries biologists and fluvial geomorphologists, and will be done on a priority section

where the lack of physical habitat is a limiting factor in the sustaining a resilient, self-sustaining trout population.

The project will use significant volunteer labor provided by the Gitche Gumee Chapter of TU (Duluth), MNTU, local angling and conservation groups, and Duluth residents.

4. Garvin Brook (Winona)

This project will enhance in-stream habitat for native brook trout in the headwaters of Garvin Brook. Garvin Brook is highly visible, accessible stream located off Hwy. 14 between Lewiston and Stockton, Minnesota. The project begins on the upstream edge of a heavily visited county park and extends one-half mile upstream on a recently acquired AMA. Lack of deep pool habitat is limiting what could become a very productive brook trout fishery in a very accessible setting. The project will increase the amount of pools and the pool to riffle ratio, primarily using strategically placed logs to scour out and maintain deep pools.

Intense flooding in August 2007 significantly impaired large portions of Garvin Brook, including this segment, but also created a "spillway" at a railroad bridge downstream of the park and thus an opportunity to restore a robust native brook trout fishery. This spillway will be modified by the MNDNR to create a barrier to upstream movement by brown trout and the upper portion of Garvin Brook managed for native brook trout only. The FY2014 project will build upon habitat enhancements which MNTU is undertaking immediately below the park to create a more robust fishery in a well-used area.

The Win-Cres Chapter of TU will again donate very substantial amounts of time and energy to improve this fishery and showcase OHF funded habitat work. Win-Cres volunteers have organized numerous work days on Garvin Brook to remove flood debris, invasive trees, and invasive plants. Dozens of high school students and local residents have joined these efforts. This project will provide similar opportunities for children and adults to become engaged in conservation. The MNDNR Fisheries – Lanesboro Area Office is a key partner on this project. Other partners include MNDNR Forestry; Winona State University - Water Resources Center; St Mary's University – Biology Dept., the Lewiston Sportsmen's Club, and local residents.

5. Spring Creek (Goodhue)

This south metro stream hosts wild brook just a few miles south of the Dakota County border. 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 project will enhance fish, game and wildlife habitat along approximately 3,100 feet of stream. The stream here 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 will be added to boost this naturally reproducing brook trout population. Bank cover and improved pool depth will ensure that fish populations thrive here, providing quality angling opportunities close to the Twin Cities and Red Wing. MNTU members expect to donate more than 500 hours of labor to ensure the project's success. Most of the field work will be completed in 2014, but measures to reestablish prairie grasses here will require work in subsequent years. We plan to partner with Pheasants Forever on the grassland work.

6. Trout Brook (Dakota)

Trout Brook is a rare brook trout stream located in Dakota County. It is among a handful of streams in the Twin Cities metropolitan area which still support fishable trout populations, and is the only remaining brook trout fishery in Dakota County. Trout Brook flows into the Cannon River east of Hwy 52 and south of the town of Meisville, Minnesota. Much of the watershed is protected by a large county park and conservation easements on adjacent private lands. Several springs ensure cold water, yet much of the in-stream habitat has been badly degraded.

We will enhance in-stream and riparian habitat along a 3,000 foot segment extending upstream from the park's main access to hiking trails. Partners will include Dakota County, the MNDNR, and local community groups. This project will provide improved coldwater angling opportunities within an hour's drive of most metro area residents.

7. Rice Creek / Spring Brook (Rice)

Rice Creek, also known to many as Spring Brook, is located on the edge of Northfield, Minnesota and is the only trout stream in Rice County. This small spring fed stream supports a wild brook trout fishery and remains the focus of community led water quality monitoring and watershed protection efforts. For many years Trout Unlimited members have been quietly working to protect this stream. In-stream and riparian habitat will be enhanced an AMA easement area which is approximately 5,000 feet in length. Overhead cover and pool depth will be increased, eroding banks stabilized, and sedimentation decreased. Project partners include Rice Creek Concerned Citizens, the Cannon River Watershed Project, and the MNDNR. The neighboring colleges and community will likely participate as well.

8. Blackhoof River (Carlton)

The Blackhoof River is the most important coldwater tributary of the Nemadji River and is located east of Barnum, Minnesota, approximately 30 miles south of Duluth. The Blackhoof is Minnesota's premier South Shore tributary to Lake Superior, and hosts

runs of wild steelhead and anadromous brown trout. It also supports a healthy population of resident brook trout. MNTU and the MNDNR agree that this watershed is the highest priority for habitat work in the Nemadji basin.

Historic logging activities have left a legacy of large slumping clay banks and an excessive bedload of sand, which recent improvements in forest management practices and land conservation efforts alone cannot remedy. Together with several partners, MNTU will assess the impacts of recent severe flooding and develop a prioritized list of habitat restoration and enhancement projects in the Blackhoof River watershed. We will restore or enhance a priority segment of river with FY2014 OHF funding, and aggressively seek federal funding (including via the Great Lakes Restoration Initiative) to fund additional high priority restoration work here. FY2014 OHF funding and habitat work can provide the key spark to leverage funding for a multi-year restoration effort in this vital watershed.

The initial habitat project will likely involve the placement of whole trees at the toe of a large slumping bank to stabilize the slope and provide woody in-stream cover and depth. Depending upon site conditions, large rock may also be used to direct and encourage the scouring of sand and other sediments. These actions should improve spawning habitat and increase pool depth and other year round cover habitat for juvenile steelhead and adult brook trout. Slopes and disturbed areas will be planted with long lived tree species. Longer term benefits of these plantings include shading the water, stabilizing the stream channel, curbing erosion and sedimentation, and providing a source of future in-stream cover habitat as trees naturally recruit to channel over time.

Assessment and site selection, initial survey work, design and permitting will begin following a July 2013 appropriation. In-stream work will begin in 2014, and tree planting and project wrap-up occur in 2015. Trout Unlimited members will likely be joined by volunteers from the Lake Superior Steelhead Association and other angling and conservation groups.

Agricultural area streams of southeast MN:

The five projects in southeast Minnesota described below share a legacy of degraded habitat due to agricultural practices of the past century. The following example is typical of how and why MNTU improves habitat along coldwater streams in this ecological region:

Decades of erosion have led to wider, shallower and warmer streams, and left a legacy of excessive streamside sediments which continually re-erode and cover in-stream habitat, food production areas and spawning habitat. 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. Projects remove

invasive trees and grade steep, eroding banks with machinery to remove sediments. Importantly, this reconnects the stream to its floodplain.

Eroding banks are sloped back to a more gradual 3 to 1 slope and the toe anchored to curb erosion. Banks are then seeded with deep rooted grasses to secure soils within the entire corridor and keep them from eroding in high water. The sloped banks allow floodwaters to quickly spread out into the floodplain and slow down, reducing the destructive impact of a flood. Since the projects are designed for long-term ecological and hydraulic stability, flood waters typically just flatten grasses temporarily and do not damage the in-stream structures and undercut banks.

Overhead cover habitat is created both by increasing the stream's depth through via narrowing the channel or installing rock weir plunge pools, and by placing cover structures in select stream banks. These wooden structures help recreate the undercut banks which had existed before settlement and land use practices altered the more stable flows which had gradually created and maintained them. The streams flow faster, deeper and cooler, and provide vital overhead cover.

9. Pine - Rush Creeks (Winona)

This mile long project builds upon concerted efforts to protect and improve water quality and coldwater fisheries in the Pine Creek-Rush Creek subwatershed of the Root River. The FY2014 project will permit the Hiawatha and Win-Cres Chapters of TU to ensure that all remaining degraded habitat in the lower half of Pine Creek is enhanced or restored. When habitat work on Pine Creek is completed to its confluence with Rush Creek, we will shift work to a priority segment of Rush Creek.

The Pine Creek and Rush Creek subwatershed extends from the Interstate 90 corridor south to the Root River at Rushford. The combined Pine-Rush subwatershed contains more than 58 miles of designated trout water over 35 miles of perpetual easements. Pine Creek and its two tributaries, Hemingway and Coolridge, are considered some of the finest trout waters in the state, and harbor native brook trout genetics in a large, robust population. The watersheds receive special Farm bill funding through the Mississippi River Basin Healthy Watersheds Initiative (MRBI), which has enabled the NRCS and numerous partners to focus efforts here, helping landowners implement conservation practices that avoid, control, and trap nutrient runoff; improve wildlife habitat; and maintain agricultural productivity. By funding this project the Council can realize its vision of combining in-stream enhancement work with streamside/riparian work to the top of the watershed in order to slow runoff and keep aquatic habitat clean and productive, with prolific fish, game and wildlife populations.

We will likely leverage substantial federal dollars to fund additional habitat improvement in these two subwatersheds. Stream bank stabilization with additional habitat

enhancement measures for trout and nongame species is a conservation practices for which landowners can secure federal cost sharing dollars. We have been very successful in getting landowners to become partners on our projects, secure federal cost share dollars, and permit us to utilize these dollars to cover a portion of the direct construction expenses.

The FY2014 project will be on the last mile of Pine Creek or a segment of Rush Creek with severely degraded habitat and highly erodible stream banks. Habitat will be enhanced using methods 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. Recent analyses of the banks on the lower end of Pine indicate that 180 tons of soil annually erodes from a one mile segment of stream, and most sites on Rush Creek have worse conditions. The project will essentially halt this soil loss.

The MNDNR is a key partner in work in these subwatersheds. MRBI partners working on broad watershed efforts include MNTU, the MNDNR, the NRCS, several Soil and Water Conservation Districts, the Land Stewardship Project, the MN Board and Water and Soil Resources, The Nature Conservancy, and Winona State University.

10. Mill Creek (Olmsted)

This project builds upon habitat improvements completed or to be completed between 2010 and 2013. The FY2014 project will start at the lower end of previous work below US Hwy 52 and extend downstream approximately one mile.

The stream channel on Mill is deeply incised, resulting in significant soil erosion after even modest rainfalls. Estimates are that nearly 200 tons of soil annually erodes off the project site. The habitat enhancement methods described in the agricultural area example above will be used. Trout habitat, trout populations, and trout angling will increase. Water quality benefits due to the reconnected floodplain and stabilized streambanks will be substantial. The Hiawatha Chapter of TU will coordinate this work with the landowner and MNDNR Lanesboro Area Fisheries Office to also improve brook trout habitat on a tributary.

11. Newburg Creek (Fillmore)

This stream is a tributary of Wisel Creek. Both the MNDNR and MNTU have improved habitat in Wisel Creek within the past decade. Habitat improvements on this tributary would bolster the earlier work and make the overall trout population in the watershed more resilient. The landowner has done an excellent job of land stewardship and we

anticipate that he will be a key partner in helping to develop and maintain Newburg Creek as a quality angling destination.

12. West Albany Creek (Wabasha)

West Albany Creek runs alongside State Hwy 60 between Wabasha and Zumbrota, Minnesota. Work here will provide improved trout angling opportunities in a very visible and accessible area. The project will enhance habitat in two stream segments and build upon work done by the MNDNR and Hiawatha TU nearly a decade ago.

Degraded habitat conditions here are fairly typical, with a deeply incised stream channel and shallow rooted, invasive trees which prevent deep rooted plants from taking hold. The unstable stream banks are eroding and the stream steadily widening, slowing and warning. The habitat enhancement methods described in the agricultural area example above will be used. A motocross facility is located nearby and the project provides an opportunity to educate and expose many visitors to the benefits of healthy stream habitat for fish, game and nongame species.

13. Willow Creek (Fillmore)

Willow Creek is a productive tributary to the Root River west of Preston, Minnesota. This project will improve a half mile segment near the headwaters of Willow Creek. The project's proximity to the new National Trout Center in Preston, presents an opportunity to capture the growing fishing traffic. By summer 2014 habitat enhancement by MNTU on nearby Camp Creek will allow anglers to better understand the interaction of the area's unique geology with its trout streams. Habitat work on Willow will provide another opportunity to showcase how the L-SOHC and Minnesota Legislature are partnering with committed volunteers to improve habitat for present and future generations.