



Lessard-Sams Outdoor Heritage Council

Resilient Habitat for Heritage Brook Trout - Phase 2

ML 2024 Request for Funding

General Information

Date: 05/31/2023

Proposal Title: Resilient Habitat for Heritage Brook Trout - Phase 2

Funds Requested: \$5,456,000

Confirmed Leverage Funds: \$20,000

Is this proposal Scalable?: Yes

Manager Information

Manager's Name: John Lenczewski

Title:

Organization: Minnesota Trout Unlimited

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Location Information

County Location(s): Houston, Wabasha, Fillmore and Winona.

Eco regions in which work will take place:

- Southeast Forest

Activity types:

- Protect in Easement
- Restore
- Enhance

Priority resources addressed by activity:

- Wetlands
- Prairie

- Forest
- Habitat

Narrative

Abstract

Minnesota Trout Unlimited, the Minnesota Land Trust, and The Nature Conservancy will combine their expertise within 12 targeted watersheds to increase the resilience of remnant populations of brook trout unique to Southeast Minnesota. We will protect 1,150 acres, restore/enhance 204 acres of instream and adjacent upland habitats to address stream degradation (floodplains, gullies, slopes, and bluffs), slow runoff, increase infiltration, and keep aquatic habitat productive. This holistic watershed approach, combined with in-stream enhancements designed for Heritage Brook Trout, will protect the long-term health of these unique coldwater communities.

Design and Scope of Work

Word has spread that Southeast Minnesota's streams support a robust trout fishery and trout fishing now generates \$800 Million annually to local communities. Less well known is that a small number of these streams hold remnant populations of native brook trout unique to Southeast Minnesota. They have persisted for thousands of years and through the time of European settlement. These "Heritage Brook Trout" populations are indigenous to this unique area and a Species in Greatest Conservation Need. Yet their long-term persistence is far from secured.

Small populations of Heritage Brook Trout persist in perhaps 20% of Southeast trout streams, and are abundant in just 17 streams. These face growing challenges from land conversion, parcelization, intensified agricultural practices, poor land management and an increasingly wet and warm climate. Recent DNR research suggests that consistent baseflow from groundwater springs can provide a level of resilience to these coldwater systems. Coldwater streams with ample spring baseflow may provide a climate refugia for brook trout and other coldwater species.

Minnesota Trout Unlimited and DNR Fisheries have made significant investments in restoration and enhancement of in-stream habitat in Southeast Minnesota. Protecting the health of the surrounding watersheds will be critical to maintaining these coldwater streams and gaining the maximum benefit from in-stream improvements. Improved riparian habitat and connectivity are key factors in stream quality; they also provide important corridors for terrestrial wildlife, connecting large habitat cores.

Program partners Minnesota Trout Unlimited, Minnesota Land Trust, The Nature Conservancy, and Trust for Public Land used several resilience factors to identify 12 watersheds where conservation of robust populations of Heritage Brook Trout is most achievable. Partners will harness their collective expertise in land protection and terrestrial and in-stream habitat restoration/enhancement to increase the resiliency of these coldwater systems and their Heritage Brook Trout. Partner Trust for Public Land will not be participating in this proposal.

While restoring in-stream habitat has improved stream bank and aquatic habitat in many coldwater reaches, little work has been done restoring broader floodplain areas surrounding DNR easement corridors. Restoring floodplain forests, wet prairies and wetlands provides significant benefits to stream health and corridors provide habitat connectivity.

Because of the Driftless Area's rugged terrain, the vast majority of its natural communities occupy steep slopes that play an important role in the region's hydrology. Protecting through targeted fee and easement acquisition and improving the condition of these forests and prairies through restoration and enhancement will improve their

ability to slow runoff and increase infiltration. This will reduce sediment and nutrient delivery to streams and improve the hydrology of the watershed by reducing peak flows and increasing baseflows, while also improving plant diversity and habitat for wildlife in one of the most biologically diverse parts of Minnesota. Restoring habitat along the upper edges of steep forested slopes will help buffer the natural communities, while significantly slowing the formation and spread of gullies that deliver large amounts of sediment and nutrient runoff directly to streams.

Explain how the proposal addresses habitat protection, restoration, and/or enhancement for fish, game & wildlife, including threatened or endangered species conservation

This proposal focuses principally on the protection and restoration/enhancement of priority coldwater stream systems through a watershed approach. Though with a focus on Heritage Brook Trout populations, this work will also benefit a large number of associated coldwater stream species.

Sedimentation and erosion are major threats to fish in the region. Protecting and enhancing upland natural communities, especially on the steep bluffs that flank most trout streams, will help prevent additional erosion. Aquatic habitat also benefits from protection of trout stream banks and floodplains. The water quality benefit that comes with the protection of forested upland areas is significant and contributes to improved trout and non-game fish and mussel habitat. In-stream restoration of coldwater streams will amplify the conditions necessary to support Heritage Brook Trout and other coldwater species.

Watersheds selected as priorities for this work contain significant high-quality examples of native plant communities ranging from oak savanna and bluff prairie to maple-basswood and white pine-oak/maple forests, and oak-hickory woodlands. These habitats support species including: tri-colored and northern long-eared bats, timber rattlesnake, Blanding's turtle, western foxsnake, North American racer, American ginseng, great Indian plantain, plains wild indigo and red-shouldered hawk. Protection and restoration efforts will create and build off of existing complexes of protected lands and habitat blocks.

What are the elements of this proposal that are critical from a timing perspective?

After being nearly wiped out by catastrophic flooding and sedimentation in the early 20th century, Southeast Minnesota's coldwater stream communities have made an impressive recovery. This recovery, made possible in large part by widespread conservation practices following the dust bowl era, demonstrates that ecological restoration is possible, but also a long and slow process. It is also threatened by new challenges facing Driftless Area streams. Warmer climates will place increased importance on groundwater sources of cool water during summer. Agricultural intensification and expansion are growing stressors of watershed health. Fragmentation and parcelization of upland habitat reduce the ability to manage natural communities. From 2008 to 2012, Southeast MN experienced significant loss of perennial cover. Protecting key habitat, and the ecosystem services it provides, is essential to preserving the success of Southeast Minnesota's trout fishery and coldwater communities.

Describe how the proposal expands habitat corridors or complexes and/or addresses habitat fragmentation:

Minnesota DNR's Watershed Health Assessment Framework (WHAF) provides health scores for watersheds across the state at a catchment level based on multiple metrics. We used a subset of those metrics to identify watersheds containing coldwater trout streams that will be most resilient to changing conditions. Features we considered most important for coldwater stream resilience include aquatic and riparian connectivity, density of known springs, high proportions of perennial cover, hydrological factors (such as high perennial cover and minimal wetland loss and impervious cover), and the quality of the current aquatic biotic community (IBI scores). We also emphasized watersheds of streams that support "Heritage Brook Trout" populations - genetic strains that are native to the

region and pre-date modern stocking efforts.

Based on those criteria, we selected watersheds that contained the highest scoring catchments. Expanding the project areas to the larger watersheds includes upstream catchments that may not score as highly, but where conservation will benefit resilient areas downstream. Within these priority watersheds, individual projects will focus on landscape features that have maximum impact on water quality and hydrology. These include riparian areas, floodplains, wetlands, steep slopes and highly erodible areas, and transition zones from upland agricultural areas to the steeper, often forested, slopes of bluffs. This focus will direct our work towards the land most critical for watershed health while minimizing impact on the most productive cropland.

Streams and floodplains are natural corridors for wildlife and plant movement or dispersal. The selected watersheds contain areas of biodiversity significance identified by the MN County Biological Survey and corridors that score highly on the Wildlife Action Network. Protection, restoration, and enhancement in these watersheds will expand and connect existing public land areas and stream easements held by MN DNR Department of Fisheries to develop and strengthen corridors and complexes of habitat. This will provide multiple benefits for the game and non-game wildlife of these areas while protecting watershed health.

Which Conservation Plans referenced in MS97A.056, subd. 3a are most applicable to this project?

- Driftless Area Restoration Effort
- Outdoor Heritage Fund: A 25 Year Framework

Explain how this proposal will uniquely address habitat resilience to climate change and its anticipated effects on game, fish & wildlife species utilizing the protected or restored/enhanced habitat this proposal targets.

The existence of heritage populations of brook trout, a species once thought extirpated from Southeast MN before restocking efforts, shows the inherent resilience in these systems. Protecting and restoring habitat in the streams and connected watersheds will protect that resilience by maintaining the ecological processes that moderate flooding, trap sediment, and most critically, maintain the cold water temperatures optimal for brook trout.

The watershed approach this proposal adopts also promotes resilience by focusing management efforts on connected habitat complexes and corridors within those watersheds. Streams and riparian habitat are natural corridors for plants and wildlife as well as aquatic organisms, and improving the ecological condition of stream corridors also improves the overall connectivity, and therefore resilience, of the landscape.

Which LSOHC section priorities are addressed in this proposal?

Southeast Forest

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

Describe how this project/program will produce and demonstrate a significant and permanent conservation legacy and/or outcomes for fish, game, and wildlife, and if not permanent outcomes, why it is important to undertake at this time:

Our program will protect, restore, and enhance habitat on the most significant landforms affecting hydrology and watershed health within the 12 priority watersheds. While many of the streams in our priority areas are protected under trout angling easements held by DNR Fisheries, our program will protect riparian and floodplain areas

beyond the 66 feet covered under those easements, guaranteeing the full benefit of riparian connectivity for both aquatic and terrestrial habitat.

Our restoration and enhancement work will be focused on the most important areas to slow runoff and increase infiltration. Maintaining the health of prairies and forests on steep bluff slopes preserves their collective ability to slow runoff and hold soil in place. Restoring native communities to the upper edges of bluffs slows water down before it hits the steep slopes, reducing erosion and increasing the water quality benefit of the entire bluff community.

Outcomes

Programs in southeast forest region:

- Stream to bluff habitat restoration and enhancement will keep water on the land to slow runoff and degradation of aquatic habitat ~ *Conservation easement (MLT) - acres and shoreline protected. Restoration and enhancement (TNC and MNTU) - acres restored/enhanced; instream feet restored.*

What other dedicated funds may collaborate with or contribute to this proposal?

- N/A

Per MS 97A.056, Subd. 24, Please explain whether the request is supplanting or is a substitution for any previous funding that was not from a legacy fund and was used for the same purpose.

Funding procured by MLT, MNTU, or TNC through the Outdoor Heritage Fund via this proposal will not supplant or substitute any previous funding from a non-Legacy fund used for the same purpose associated with any of the recipient organizations.

How will you sustain and/or maintain this work after the Outdoor Heritage Funds are expended?

TNC – Restoration and enhancement work will occur primarily on state land. Activities will be closely coordinated with DNR partners to ensure the projects completed will fit within their overall management plans and strategies. The goal of all restoration and enhancement projects will be to return a community to a condition where typical maintenance-level management will be sufficient to keep it healthy.

MLT - The land protected through conservation easements will be sustained through the state-of-the-art stewardship standards and practices. MLT is a nationally accredited and insured land trust with a successful easement stewardship program that includes annual property monitoring and defending the easements as necessary.

MNTU - Construction contracts will include maintenance/warranty provisions to ensure habitat work is well established. Afterwards no significant maintenance is usually required to sustain the habitat outcomes for decades.

Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
One year after grant ends	MNTU volunteers or part of regular agency visits	In-stream enhancements: inspect structural elements and vegetation	In-stream enhancements: If needed, alert DNR and develop actions needed.	In-stream enhancements: Conduct maintenance with volunteers and/or contractors if DNR does not.
Every 4-6 Years	Game and Fish Fund;	Survey for invasive	Control invasive	-

	TNC staff as available	species and overall plan community development	species as necessary	
Every 4-6 Years	Game and Fish Fund	Prescribed Fire where appropriate	-	-
Every 3 years thereafter	MNTU volunteers and/or agency.	In-stream enhancements: Insect structural elements and vegetation.	In-stream enhancements: If needed, develop action plan with DNR.	In-stream enhancements: Perform or assist DNR with maintenance if needed.
2029 and annually in perpetuity	MLT Long-Term Stewardship and Enforcement Fund	Annual monitoring of easements	Enforcement as necessary	-

Provide an assessment of how your program may celebrate cultural diversity or reach diverse communities in Minnesota, including reaching low- and moderate-income households:

Fish have long been important food sources for cultures and communities around the globe, and that is reflected in the diversity of Minnesotans that enjoy fishing for both food and recreation today. Fishing the small brook trout streams of Southeast Minnesota is especially accessible to beginners, as well as Minnesotans from low- and moderate-income households because it doesn't require a boat or expensive waders. Most streams can be fished from shore or with mud boots. Since southeast MN has no natural lakes, anglers of all economic and cultural backgrounds focus angling on the region's productive trout streams. This program will help those streams remain healthy and productive with populations of the original trout native to this region.

Minnesota Trout Unlimited, The Nature Conservancy, and Minnesota Land Trust all hold a commitment to diversity, equity, inclusion, and justice as a core organizational value. Examples of that commitment include, but are not limited to, programs to protect camps and nature centers that serve a diversity of Minnesota Youth; partnerships with indigenous communities to protect culturally important resources like wild rice; and to undertake shared learning around cultural practices like prescribed fire. We are committed to seeking more ways to support diverse human communities as we continue preserving the biological diversity of Minnesota.

Activity Details

Requirements

If funded, this proposal will meet all applicable criteria set forth in MS 97A.056?

Yes

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

Yes

Will restoration and enhancement work follow best management practices including MS 84.973 Pollinator Habitat Program?

Yes

Is the restoration and enhancement activity on permanently protected land per 97A.056, Subd 13(f), tribal lands, and/or public waters per MS 103G.005, Subd. 15 or on lands to be acquired in this program?

Yes

Where does the activity take place?

- WMA
- SNA

- AMA
- Permanently Protected Conservation Easements
- Public Waters
- State Forests

Land Use

Will there be planting of any crop on OHF land purchased or restored in this program?

Yes

Explain what will be planted:

Short-term use of agricultural crops is an accepted best practice for preparing a site for prairie restoration. For example, short-term use of soybeans could be used for restorations in order to control weed seedbeds prior to prairie planting. In some cases this necessitates the use of GMO treated products to facilitate herbicide use in order to control weeds present in the seedbank; however, neonicotinoids will not be used.

Will neonicotinoid pesticide products be used within any activities of this proposal?

No

Will the eased land be open for public use?

No

Are there currently trails or roads on any of the proposed acquisitions?

Yes

Describe the types of trails or roads and the allowable uses:

MLT - Most conservation easements are established on private lands, many of which have driveways, field roads and trails located on them. Often, these established trails and roads are permitted in the terms of the easement and can be maintained for personal use if their use does not significantly impact the conservation values of the property. Creation of new roads/trails or expansion of existing ones is typically not allowed.

Will the trails or roads remain and uses continue to be allowed after OHF acquisition?

Yes

How will maintenance and monitoring be accomplished?

MLT - Existing trails and roads are identified in the project baseline report and will be monitored annually as part of the Land Trust's stewardship and enforcement protocols. Maintenance of permitted roads/trails in line with the terms of the easement will be the responsibility of the landowner.

Will new trails or roads be developed or improved as a result of the OHF acquisition?

No

Will the land that you acquire (fee or easement) be restored or enhanced within this proposal's funding and availability?

No

Explain how, when, and source of the R/E work:

On easements acquired in this appropriation, restoration and enhancement will not be completed within this appropriation. Restoration needs on easement properties will be assessed by MLT staff working with

the landowners, and restoration or enhancement opportunities may be completed with future OHF appropriations.

Other OHF Appropriation Awards

Have you received OHF dollars in the past through LSOHC that are current OPEN appropriations?

Yes

Approp Year	Funding Amount Received	Amount Spent to Date	Funding Remaining	% Spent to Date
2020	\$2,266,000	\$854,800	\$1,411,200	37.72%
Totals	\$2,266,000	\$854,800	\$1,411,200	37.72%

Timeline

Activity Name	Estimated Completion Date
Initiate protection and restoration projects	July 2024
Complete easement protection projects	June 2028
Complete restoration and enhancement projects	June 2028

Budget

Grand Totals Across All Partnerships

Item	Funding Request	Total Leverage	Leverage Source	Total
Personnel	\$493,000	-	-	\$493,000
Contracts	\$1,299,000	\$30,000	-, USFWS	\$1,329,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	\$2,000,000	\$300,000	Landowner donation of easement value	\$2,300,000
Easement Stewardship	\$364,000	-	-	\$364,000
Travel	\$38,000	-	-	\$38,000
Professional Services	\$601,000	-	-	\$601,000
Direct Support Services	\$143,000	\$20,000	-, MNTU	\$163,000
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	\$5,000	-	-	\$5,000
Supplies/Materials	\$513,000	\$30,000	-, USFWS	\$543,000
DNR IDP	-	-	-	-
Grand Total	\$5,456,000	\$380,000	-	\$5,836,000

Partner: The Nature Conservancy

Totals

Item	Funding Request	Total Leverage	Leverage Source	Total
Personnel	\$93,000	-	-	\$93,000
Contracts	\$450,000	-	-	\$450,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	\$3,000	-	-	\$3,000
Professional Services	-	-	-	-
Direct Support Services	\$42,000	-	-	\$42,000
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	-	-	-	-
Supplies/Materials	\$12,000	-	-	\$12,000
DNR IDP	-	-	-	-
Grand Total	\$600,000	-	-	\$600,000

Personnel

Position	Annual FTE	Years Working	Funding Request	Total Leverage	Leverage Source	Total
TNC Project Management and Grant Administration	0.35	3.0	\$93,000	-	-	\$93,000

Partner: Minnesota Trout Unlimited

Totals

Item	Funding Request	Total Leverage	Leverage Source	Total
Personnel	\$100,000	-	-	\$100,000
Contracts	\$740,000	\$30,000	USFWS	\$770,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	\$10,000	-	-	\$10,000
Professional Services	\$250,000	-	-	\$250,000
Direct Support Services	\$20,000	\$20,000	MNTU	\$40,000
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	-	-	-	-
Supplies/Materials	\$500,000	\$30,000	USFWS	\$530,000
DNR IDP	-	-	-	-
Grand Total	\$1,620,000	\$80,000	-	\$1,700,000

Personnel

Position	Annual FTE	Years Working	Funding Request	Total Leverage	Leverage Source	Total
MNTU/TU Enhancement Staff	0.3	5.0	\$100,000	-	-	\$100,000

Partner: Minnesota Land Trust

Totals

Item	Funding Request	Total Leverage	Leverage Source	Total
Personnel	\$300,000	-	-	\$300,000
Contracts	\$109,000	-	-	\$109,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	\$2,000,000	\$300,000	Landowner donation of easement value	\$2,300,000
Easement Stewardship	\$364,000	-	-	\$364,000
Travel	\$25,000	-	-	\$25,000
Professional Services	\$351,000	-	-	\$351,000
Direct Support Services	\$81,000	-	-	\$81,000
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	\$5,000	-	-	\$5,000
Supplies/Materials	\$1,000	-	-	\$1,000
DNR IDP	-	-	-	-
Grand Total	\$3,236,000	\$300,000	-	\$3,536,000

Personnel

Position	Annual FTE	Years Working	Funding Request	Total Leverage	Leverage Source	Total
MLT Protection Staff	0.75	3.0	\$300,000	-	-	\$300,000

Amount of Request: \$5,456,000

Amount of Leverage: \$380,000

Leverage as a percent of the Request: 6.96%

DSS + Personnel: \$636,000

As a % of the total request: 11.66%

Easement Stewardship: \$364,000

As a % of the Easement Acquisition: 18.2%

Total Leverage (from above)	Amount Confirmed	% of Total Leverage	Amount Anticipated	% of Total Leverage
\$380,000	\$20,000	5.26%	\$360,000	94.74%

Detail leverage sources and confirmation of funds:

MLT - Expected landowner donation of easement value

MNTU - Internal DSS contributions (confirmed); We hope to secure EQIP and USFWS funds.

Does this proposal have the ability to be scalable?

Yes

If the project received 50% of the requested funding

Describe how the scaling would affect acres/activities and if not proportionately reduced, why?

A reduction in funding would reduce outputs (acres/activities) more than proportionately. Some costs related to program development and oversight remain constant regardless of appropriation amount. The costs of many professional services related to land protection also do not scale proportionately, forcing a larger reduction in acres/activities.

Describe how personnel and DSS expenses would be adjusted and if not proportionately reduced, why?

Program management costs (personnel and DSS expenses) will be reduced as well. However, not exactly proportionately as program development and oversight costs remain consistent regardless of appropriation amount.

If the project received 30% of the requested funding

Describe how the scaling would affect acres/activities and if not proportionately reduced, why?

A reduction in funding would reduce outputs (acres/activities) more than proportionately. Some costs related to program development and oversight remain constant regardless of appropriation amount. The costs of many professional services related to land protection also do not scale proportionately, forcing a larger reduction in acres/activities.

Describe how personnel and DSS expenses would be adjusted and if not proportionately reduced, why?

Program management costs (personnel and DSS expenses) will be reduced as well. However, not exactly proportionately as program development and oversight costs remain consistent regardless of appropriation amount.

Personnel

Has funding for these positions been requested in the past?

Yes

Please explain the overlap of past and future staffing and position levels previously received and how that is coordinated over multiple years?

Phase 2 continues the Resilient Habitat for Heritage Brook Trout Program initiated in 2020. Maintaining funding continuity will allow us to build momentum created through the first phase of the program. Further, it ensures stability in our staffing model and provides the ability to plan and prioritize projects over multiple years. The flexibility provided by stable funding is critically important to achieving conservation goals given the uncertainty and variability of field season weather conditions.

Contracts

What is included in the contracts line?

MLT: Habitat management plans, landowner outreach, and project management.

TNC: Dedicated to enhancement and restoration work. Typical contractors include private vendors and Conservation Corps of MN/IA.

MNTU: Enhancement services, including construction services and small-scale contracted field work (e.g., vegetation management) by private vendors and Conservation Corps MN/IA.

Professional Services

What is included in the Professional Services line?

- Appraisals
- Design/Engineering
- Other : Environmental assessments; mineral assessments; mapping
- Surveys
- Title Insurance and Legal Fees

Easement Stewardship

What is the number of easements anticipated, cost per easement for stewardship, and explain how that amount is calculated?

The Land Trust expects to close 8-12 conservation easement projects. The average cost per easement to perpetually fund the Minnesota Land Trust's long-term monitoring and enforcement obligations is \$28,000; in extreme circumstances, a larger amount may be sought. This figure has been determined by using a detailed stewardship funding cost analysis which is the industry standard according to the Land Trust Accreditation process. The Land Trust shares periodic updates with the Council whenever adjustments are warranted.

Travel

Does the amount in the travel line include equipment/vehicle rental?

Yes

Explain the amount in the travel line outside of traditional travel costs of mileage, food, and lodging

MLT often rents vehicles for grant-related work in Southeast Minnesota.

I understand and agree that lodging, meals, and mileage must comply with the current MMB Commissioner Plan:

Yes

Direct Support Services

How did you determine which portions of the Direct Support Services of your shared support services is direct to this program?

MLT - In a process that was approved by the DNR on March 17, 2017, Minnesota Land Trust determined our direct support services rate to include all of the allowable direct and necessary expenditures that are not captured in other line items in the budget, which is similar to the Land Trust's proposed federal indirect rate. We will apply this DNR approved rate only to personnel expenses to determine the total amount of the direct support services.

TNC - DSS is based on TNC's Federally Negotiated Rate (FNR) as proposed and subsequently approved by the US Dept. of Interior on an annual basis. In this proposal we are requesting reimbursement of 7.5% of eligible base costs as determined by our annual FNR and based on suggestions from the Council in last year's hearings. The portion of the approved rate unrecovered through the life of the grant is offered as leverage.

MNTU - The DSS requested represents a portion of TU's federal rate, which is approved annually. The requested amount likely represents one-half of what we would be eligible to claim based upon past DNR approval. TU is donating the other portion.

Other Equipment/Tools

Give examples of the types of Equipment and Tools that will be purchased?

Equipment and tools to be purchased will be those necessary for protection, restoration and management activities. Examples include Personal Protective Equipment, other field safety equipment, GPS units, backpack sprayers for herbicide application, bladder bags, and assorted hand tools for prescribed fire.

Federal Funds

Do you anticipate federal funds as a match for this program?

No

Output Tables

Acres by Resource Type (Table 1)

Type	Wetland	Prairie	Forest	Habitat	Total Acres
Restore	0	10	10	10	30
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	1,150	1,150
Enhance	0	0	0	174	174
Total	0	10	10	1,334	1,354

Total Requested Funding by Resource Type (Table 2)

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	-	\$25,000	\$25,000	\$300,000	\$350,000
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	\$3,236,000	\$3,236,000
Enhance	-	-	-	\$1,870,000	\$1,870,000
Total	-	\$25,000	\$25,000	\$5,406,000	\$5,456,000

Acres within each Ecological Section (Table 3)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
Restore	0	0	30	0	0	30
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	1,150	0	0	1,150
Enhance	0	0	174	0	0	174
Total	0	0	1,354	0	0	1,354

Total Requested Funding within each Ecological Section (Table 4)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	-	\$350,000	-	-	\$350,000
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	\$3,236,000	-	-	\$3,236,000
Enhance	-	-	\$1,870,000	-	-	\$1,870,000
Total	-	-	\$5,456,000	-	-	\$5,456,000

Average Cost per Acre by Resource Type (Table 5)

Type	Wetland	Prairie	Forest	Habitat
Restore	-	\$2,500	\$2,500	\$30,000
Protect in Fee with State PILT Liability	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	\$2,813
Enhance	-	-	-	\$10,747

Average Cost per Acre by Ecological Section (Table 6)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	-	\$11,666	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-

Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	\$2,813	-	-
Enhance	-	-	\$10,747	-	-

Target Lake/Stream/River Feet or Miles

6

Parcels

Sign-up Criteria?

[Yes - Sign up criteria is attached](#)

Explain the process used to identify, prioritize, and select the parcels on your list:

MLT - The Land Trust uses a competitive, market-based approach via RFP to identify and prioritize parcels for easement acquisition. All proposals are evaluated and ranked relative to their ecological significance on three primary factors: 1) size of habitat; 2) condition of habitat; and 3) the context (amount/quality of remaining habitat and protected areas) within which the parcel lies. We encourage landowners to contribute easement value to the program (see attached sign-up criteria). Restoration and enhancement work will take place on private lands over which MLT has secured permanent conservation easements.

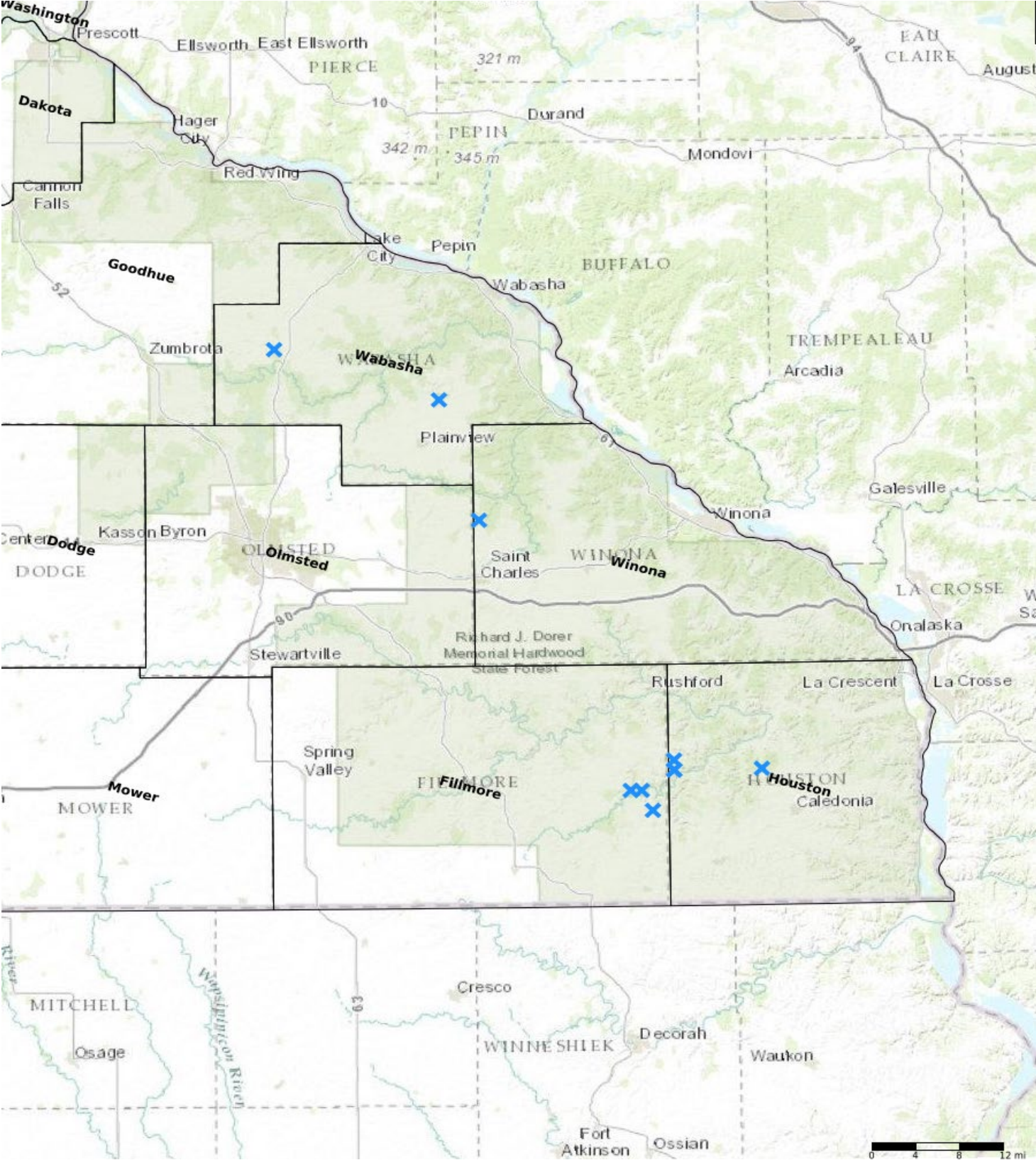
TNC - Restoration and Enhancement parcels will be selected based on expected benefit to watershed health and hydrology. Riparian and floodplain areas and gullies will be the top priority, followed by projects that slow water at the top of bluffs, preventing gully formation and encouraging infiltration of runoff.

MNTU - MNTU focuses habitat enhancement efforts in watersheds likely to support viable, fishable populations of Heritage Brook Trout for decades into the future. Work is done only where degraded habitat is a limiting factor for the fishery. Priority locations are determined through consultations with MNDNR professionals, surveys, and conservation planning efforts. Specific segments are selected based on the greatest sustained benefits to the overall fishery.

Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection
MNTU - Maple Creek	Fillmore	10208204	0	\$0	Yes
MNTU - Maple Creek	Fillmore	10208203	0	\$0	Yes
TNC - Vesta Creek	Fillmore	10208214	20	\$20,000	Yes
MNTU - Girl Scout Camp Creek	Houston	10307219	0	\$0	Yes
MNTU Girl Scout Camp Creek	Houston	10307230	0	\$0	Yes
TNC - Badger Creek	Houston	10306228	20	\$20,000	Yes
TNC - Yucatan WMA	Houston	10307230	30	\$25,000	Yes
MNTU - Cold Spring Brook	Wabasha	11014225	0	\$0	Yes
TNC - West Indian Creek	Wabasha	10911221	20	\$25,000	Yes
TNC - Middle Fork Whitewater	Winona	10710219	15	\$20,000	Yes

Parcel Map



- Protect in Easement
- ▲ Protect in Fee with PILT
- Protect in Fee W/O PILT
- ★ Restore
- ✕ Enhance
- ⊕ Other

Resilient Habitat for Heritage Brook Trout

Phase 2

The Nature Conservancy



Request **\$5,464,000**

Leverage **\$380,000**

Acres protected **1,150**

Acres restored **204**

For more information:

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Minnesota Trout Unlimited, the Minnesota Land Trust, and The Nature Conservancy will combine their expertise in 12 targeted watersheds to increase the resilience of remnant populations of brook trout unique to Southeast Minnesota.

We will protect and enhance habitat in floodplains, along gullies, above steep slopes, and on bluffs to slow runoff, increase infiltration, and keep aquatic habitat productive. This holistic watershed approach, combined with in-stream enhancements designed for Heritage Brook Trout, will protect the long term health of these unique coldwater communities and amplify the impact of past stream habitat and protection efforts.

How Does the Program Support State Goals?

The selected watersheds contain areas identified by the MN County Biological Survey and corridors that score highly on the Wildlife Action Network. Protection, restoration, and enhancement in these watersheds will expand and connect existing public land areas and stream easements held by MN DNR Department of Fisheries to develop and strengthen corridors and complexes of habitat. This will provide multiple benefits for the game and non-game wildlife of these areas while protecting watershed health.

What Are the Outcomes?

- Protect, enhance, and restore habitat for fish, game, and nongame wildlife in rivers, cold-water streams, and associated upland habitat.
- Focus on watershed health within priority subwatersheds.
- Enhance the numerous prior State investments made in these watersheds.

What has Been Accomplished to Date in the Program?

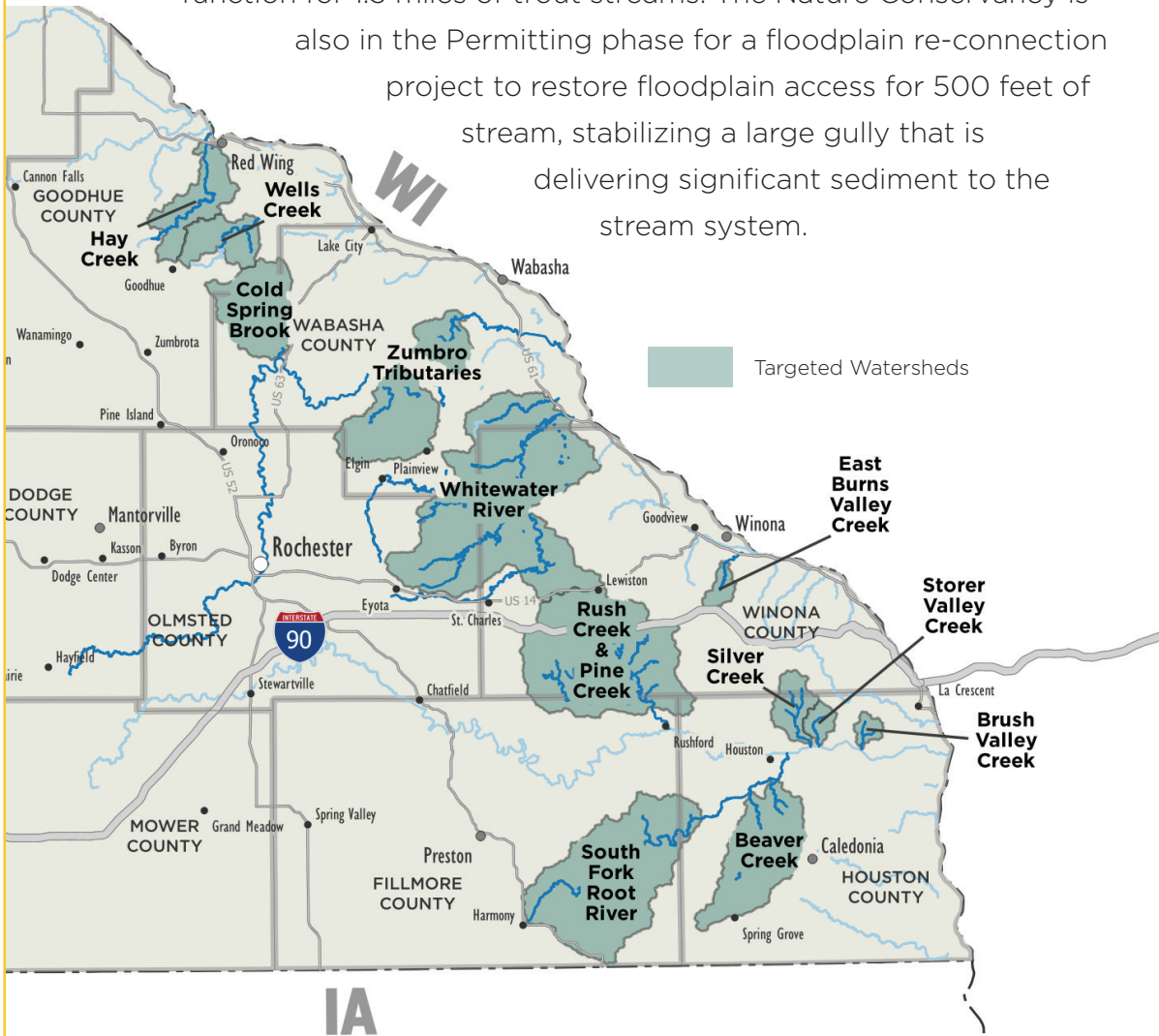
Phase 1 of this program came online in 2020, with the following results:

Minnesota Land Trust has conservation easement options on two properties totaling 271 acres in the East Indian Creek watershed and protecting 1.5 miles of shoreline.

Minnesota Trout Unlimited enhanced 3 acres of habitat along East Indian Creek. Design and permitting of a 3,000' segment of Maple Creek is well underway and construction is set for summer 2024.

The Nature Conservancy initiated or completed 19 acres of floodplain restoration through the planting of trees, shrubs, and prairie, improving floodplain and riparian area

function for 1.5 miles of trout streams. The Nature Conservancy is also in the Permitting phase for a floodplain re-connection project to restore floodplain access for 500 feet of stream, stabilizing a large gully that is delivering significant sediment to the stream system.



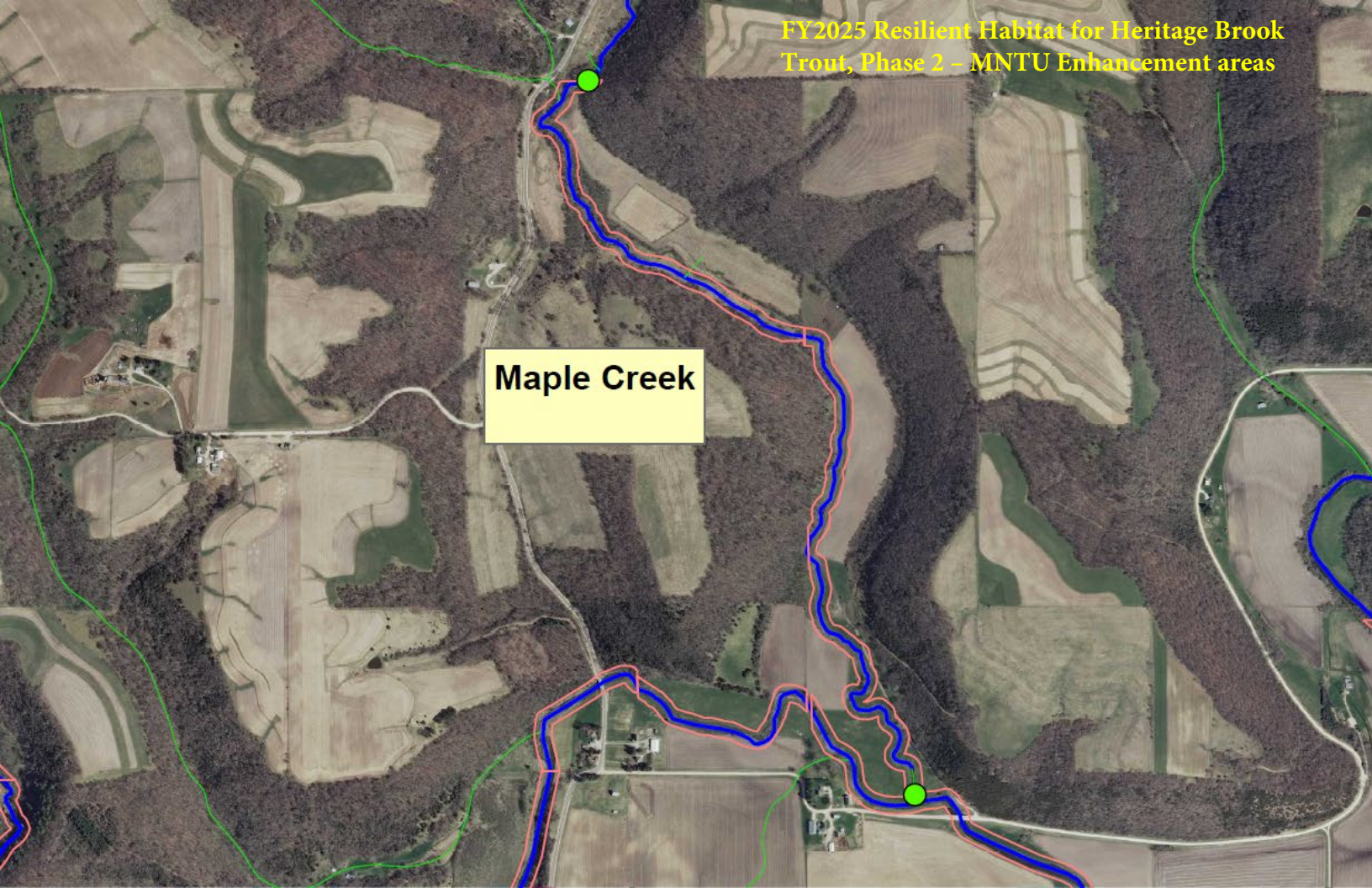
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Maple Creek



**Girl Scout Camp
Creek**



MINNESOTA LAND TRUST

A Decision Support Tool for Prioritizing Conservation Easement Opportunities

The Minnesota Land Trust often employs within its conservation program areas an RFP (Request for Proposals) model to both identify high-quality projects and introduce a level of competition into the easement acquisition process. Below, we briefly discuss how the system works and the framework put in place to sort the varied opportunities that come before us.

How the Ranking System Works

The parcel ranking framework employed through the Minnesota Land Trust's RFP process is intended as a **decision support tool** to aid in identifying, among the slate of landowners submitting bids for conservation easements, the most ecologically significant opportunities for the price. Using this framework, the Land Trust and its partners use an array of weighted data sets tailored to the specific circumstances inherent in a program area to identify those worthy of consideration.

It is important to note that this parcel ranking framework enables the Land Trust to rank projects *relative* to one another. That's important to do, but it's also important to understand how a project (or suite of projects) relates to the ideal situation (i.e., a project that is of exceptional size, condition and superb landscape context). If, for example, an RFP generated 20 proposals in a program area, the framework would effectively sift among them and identify the relatively good from those relatively bad. However, this information alone would not determine whether any of those parcels were of sufficient quality to pursue for protection (all may be of insufficient quality to warrant expenditure of funds). To solve this problem and make sure ranked projects are high priorities for conservation, we step back and evaluate them relative to the ideal - i.e., is each project among the best opportunities for conservation we can expect to find in the program area?

As part of its proposals to LSOHC, the Land Trust included easement sign-up criteria that laid out at a general level the framework utilized by the organization. Below is a more detailed description of the process the Land Trust utilizes in ranking potential parcels relative to one another, and identifying those with which a conservation easement will be pursued. We also include a ranking form illustrating the representative weighting applied to each criteria. These weightings will be refined as we move forward in applying this approach in each program area.

The Framework

We evaluate potential projects based on two primary factors: ecological significance and cost. Both are assessed independent of one another.

Factor 1: Ecological Significance

The Ecological Significance score is determined by looking at 3 subfactors, each weighted equally (as a default). Each of these constitutes 1/3 of the total ecological significance score.

Subfactors:

- **Size or Quantity** – the area of the parcel to be protected (how big is it?), length of shoreline, etc. The bigger the better.
- **Condition or Quality** – the condition of the natural communities and/or target species found on a parcel. The higher quality the better.
- **Landscape Context** – what’s around the parcel, both ecologically and from a protected status standpoint. The more ecologically intact the surrounding landscape the better; the extent to which a parcel builds off of other protected lands to form complexes or corridors, the better.

Note that we have the ability to emphasize one subfactor over another if the specific circumstances warrant it, but we begin with a default standard at the onset. At present, all of our geographies are using the default standard.

Indicators:

A suite of weighted indicators is used to score each parcel relative to each of the above subfactors. Indicators are selected based on their ability to effectively inform the scoring of parcels relative to each of the respective subfactors. Weightings for each criterion are assessed and vetted to ensure that a set of indicators for each subfactor produces meaningful results, then applied across each of the proposed parcels. Finally, we vet and make improvements to the scoring matrix when we identify issues or circumstances where results seem erroneous.

Data sets used for this purpose must offer wall-to-wall coverage across the program area to ensure that bias for or against parcels does not creep into the equation. Where gaps in such coverages exist, we attempt to fill them in to the extent feasible (via field inventory, etc.). Finally, we vet and make improvements to the scoring matrix when we identify issues or circumstances where results seem erroneous.

Factor 2: Cost

Cost is a second major factor used in our consideration of parcels. Although ecological significance is *the* primary factor in determining the merits of a project, our RFP programs also strive to make the greatest conservation impact with the most efficient use of State funds. As such, we look at the overall cost of each project relative to its ecological significance; we also ask landowners to consider donating all or some of their easement value to the cause and to better position their proposals. Many landowners participate in that fashion.

Cost, as a primary factor, is assessed independently of the ecological factors. Given equal ecological significance, a project of lower cost will be elevated over those of higher cost in the ranking. That said, exceptionally high quality projects are likely to be pursued even if no or modest landowner donation is put forward. Alternatively, there are projects offered as full donations that are not moved forward because their ecological significance is not acceptable. The degree to which cost factors into the ranking of parcels relative to one another is made on a case-by-case basis.

SOUTHEAST BLUFFLANDS PROTECTION PROGRAM Conservation Easement Selection Worksheet		SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	SITE 10	SITE 11	SITE 12	Notes
COUNTY														
100 Pts	ECOLOGICAL SIGNIFICANCE													
Weighting Factor	Size/Abundance of Habitat (33 points)													
	a) Size (33 pts): Acres of Habitat to be Protected by an Easement													
	SUBTOTAL:	0	0	0	0	0	0	0	0	0	0	0	0	0
Weighting Factor	Quality of Natural Resources to be Protected by the Easement (33 points)													
	a) Habitat Quality (28 pts): Quality of Existing Ecological Systems (Terrestrial & Aquatic)													
	b) Imperiled Species (5 pts): Occurrence of Documented Rare Species on Parcel													
	SUBTOTAL:	0	0	0	0	0	0	0	0	0	0	0	0	0
Weighting Factor	Landscape Context (34 points)													
	Current Status (30 points)													
	a) Protection Context (15 points)													
	i. Size of Contiguous Protected Lands (8 pts)													
	ii. Amount of Protected Lands within 3 miles of Property													
	: Protected Land within 0.5 miles of Property (4 pts)													
	: Protected Land 0.5-3 miles from Property (3 pts)													
	b) Ecological Context (15 points)													
	i. Size of Contiguous Ecological Habitat (8 pts)													
	ii. Amount of Ecological Habitat within 3 miles of Property													
	: Ecological Habitat within 0.5 miles of Property (4 pts)													
	: Ecological Habitat 0.5-3 miles from Property (3 pts)													
	Future Potential (4 points)													
	a) Conservation Plan Context (2 pts)													
	b) Amount of Existing Activity (2 pts)													
	SUBTOTAL:	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL ECOLOGICAL VALUE POINTS	0	0	0	0	0	0	0	0	0	0	0	0	0
COST														
	i. Bid amount (\$)/acre	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	ii. Estimated donative value (\$)/acre	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	TOTAL ACQUISITION COST (\$)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

KEY	
	Priority
	Possible
	Out

SOUTHEAST BLUFFLANDS PROTECTION PROGRAM

Conservation Easement Selection Worksheet – Scoring and Criteria

Three primary factors when taken together provide a good estimate of long-term viability for biodiversity: 1) **Size** of the occurrence (species population or example of natural community), 2) **Condition** of the occurrence, and 3) its **Landscape context**. This framework is used widely across the world by a large number of conservation organizations and agencies and here in Minnesota by the Minnesota DNR, The Nature Conservancy and others. The Minnesota Land Trust has adopted this practice as well.

In this summary document, we provide an overview of the framework used by the Land Trust in assessing and prioritizing land protection opportunities before the organization.

- 1. Habitat Size (33 points):** Parcels are scored based on acres of habitat to be protected through the easement relative to the largest parcels available for protection in the program area. Although size can pertain to species populations, the size of such populations is often constrained by available habitat. In addition, very little information pertaining to the size of species populations on a given property typically exists, making any determination suspect. Habitat size is a valid indicator in these circumstances.

Scoring: Parcels are scored by how they fall relative to twelve size classes of habitat:

0 pt	1-40 acres
3 pts	41-50 acres
6 pts	51-75 acres
9 pts	76-108 acres
12 pts	109-152 acres
15 pts	153-224 acres
18 pts	225-320 acres
21 pts	321-460 acres
24 pts	461-660 acres
27 pts	661-960 acres
30 pts	961-1380 acres
33 pts	>1380 acres

- 2. Quality of Natural Resources (33 points):** Parcels are scored based on the quality or condition of occurrences of ecological communities (habitat) and imperiled species if known. As with Habitat Size above, population data for imperiled species is often minimal on private lands. As such, the condition of score is heavily influenced by the condition of natural communities on a property. However, we do allocate a modest level of points to the presence of imperiled species if they have been documented on a property.

Scoring: Parcels are scored based on the condition of focal ecological community targets – both terrestrial and freshwater – and presence of imperiled species on the property, as such:

- a) Habitat Quality (28 points)** – The Minnesota Biological Survey natural community element occurrence ranking framework (for terrestrial systems) and Minnesota Pollution Control Agency fish and insect indices of biotic integrity are used to score habitat quality on parcels, as such:

- 0 pts Absence of natural communities; fish/insect IBI = 0-10.
- 4 pts Natural communities averaging D rank; fish/insect IBI = 10-20.
- 8 pts Natural communities averaging CD rank; fish/insect IBI = 20-40.
- 12 pts Natural communities averaging C rank; fish/insect IBI = 50-59.
- 16 pts Natural communities averaging BC rank; fish/insect IBI = 60-69.
- 20 pts Natural communities averaging B rank; fish/insect IBI = 70-79.
- 24 pts Natural communities averaging AB rank; IBI = 80-89.
- 28 pts Natural communities averaging A rank; IBI > 90.

b) Imperiled Species (5 points) – Scoring of the parcel is based on species abundance, as follows:

- 1 pt 1 occurrence
- 2 pts 2 occurrences
- 3 pts 3 occurrences
- 5 pts 4 or more occurrences

3. Landscape Context (34 points): Parcels are scored based current ecological context of the property and protected lands surrounding it; in addition, points are also allocated based on the likelihood that lands around a parcel will be protected going forward based on the identification of these adjacent lands in respective conservation lands.

Scoring: Parcels are scored based as follows:

a) Protection Context (15 points) – Is calculated based on two subfactors, including size of contiguous protected land (if any) and amount of protected land within 3 miles of the property. Here, we look at two subfactors:

i) Amount of protected land (acres) contiguous with the parcel. Scoring of the parcel is based on the amount of protected land contiguous to the parcel (8 points), as follows:

- 1 pt 0-80 acres of contiguous protected lands
- 2 pts 81-320 acres
- 3 pts 321-640 acres
- 4 pts 641-960 acres
- 5 pts 961-1920 acres
- 6 pts 1921-3840 acres
- 7 pts 3841-7680 acres
- 8 pts >7680 acres

ii) Amount of protected lands within a 3-mile radius of the parcel, whether contiguous or not (7 points). Blocks of habitat nearby but not contiguous can also play a very significant role in the maintenance of biodiversity over the long term. In this assessment, we weight protected lands within ½ mile of the parcel higher than those farther removed, and score them separately.

(a) Amount (acres) of protected land within ½ mile of protected property (4 points) – The amount of protected land within ½ mile of the parcel, scored as follows:

- 1 pt 0-80 acres of protected land

- 2 pts 81-360 acres
- 3 pts 361-640 acres
- 4 pts >640 acres

Amount (acres) of protected land ½-3 miles of the protected property (3 points) –

- 1 pt 0-640 acres of protected land
- 2 pts 641-2560 acres
- 3 pts >2561 acres

b) Ecological Context (15 points) – As with Protection context, ecological context is calculated based on two subfactors, including size of contiguous ecological habitat (if any) and amount of ecological habitat within 3 miles of the property.

i) Amount of ecological habitat (acres) contiguous with the parcel, providing species with direct access to larger blocks of permanent habitat (8 points). Scoring of the parcel is based on the amount of natural ecological habitat contiguous to the parcel, as follows:

- 1 pt 0-80 acres of contiguous ecological habitat
- 2 pts 81-320 acres
- 3 pts 321-640 acres
- 4 pts 641-960 acres
- 5 pts 961-1920 acres
- 6 pts 1921-3840 acres
- 7 pts 3841-7680 acres
- 8 pts >7680 acres

ii) Amount of protected lands within a 3-mile radius of the parcel, whether contiguous or not (7 points). Blocks of habitat nearby, whether contiguous or not play a very significant role in the maintenance of biodiversity over the long term. In this assessment, we weight ecological habitat within ½ mile of the parcel higher than that farther removed, and score them separately.

Amount (acres) of protected land within ½ mile of protected property (4 points) – The amount of protected land within ½ mile of the parcel, scored as follows:

- 1 pt 0-80 acres of protected land
- 2 pts 81-360 acres
- 3 pts 361-640 acres
- 4 pts >640 acres

Amount (acres) of protected land ½-3 miles of the protected property (3 points) –

- 1 pt 0-640 acres of protected land
- 2 pts 641-2560 acres
- 3 pts >2561 acres

c) Future Potential (4 points) – The degree to which the area within which a parcel lies has been identified as a priority for conservation action and the degree to which action is being

implemented in that area is a direct indicator of the long-term potential for maintenance of biodiversity associated with a parcel. Lands affiliated with priority areas are more likely to be complemented with additional levels of nearby protected lands than those outside of priority areas. In areas experiencing high levels of development, this factor may carry a significant amount of weight in setting protection priorities.

Scoring: Parcels are scored based on two subfactors: 1) their position relative to priority areas identified in statewide or local planning efforts, and 2) the degree to which action is being implemented within a priority area.

- 0 pts Parcel not within priority area
- 1 pt Parcel within priority area; minimal activity occurring
- 2 pts Parcel within priority area; modest activity occurring
- 3 pts Parcel within priority area; good levels of activity occurring
- 4 pts Parcel within priority area; high levels of activity occurring