



## Lessard-Sams Outdoor Heritage Council

Moose Habitat Collaborative, Phase V- NE MN Forest Habitat Enhancement  
ML 2025 Request for Funding

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### General Information

**Date:** 06/03/2024

**Proposal Title:** Moose Habitat Collaborative, Phase V- NE MN Forest Habitat Enhancement

**Funds Requested:** \$3,851,300

**Confirmed Leverage Funds:** -

**Is this proposal Scalable?:** Yes

### Manager Information

**Manager's Name:** Scott Johnson

**Title:** Forest Conservation Coordinator

**Organization:** The Ruffed Grouse Society/ American Woodcock Society

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### Location Information

**County Location(s):** St. Louis, Lake and Cook.

**Eco regions in which work will take place:**

- Northern Forest

**Activity types:**

- Enhance

**Priority resources addressed by activity:**

- Habitat

## Narrative

### Abstract

The Ruffed Grouse Society (RGS), in collaboration with federal, state, county, tribal, university and non-governmental organizational (NGO) partners, seeks to continue the successful work of previous Moose Habitat Collaborative (MHC) grants to stabilize/sustain Minnesota's moose population by enhancing ~6,000 acres of cover/forage habitat for moose. The project builds on the Collaborative's Phase I-IV efforts to improve degraded forest habitats by increasing stand complexity through mixed density/cover type recruitment and maintenance methods which, applied in conjunction with other planned forest management activities enhances overall moose habitat across the landscape.

### Design and Scope of Work

Moose have an iconic status and are a critical component of the cultural identity, heritage and recreational economy of northern Minnesota. In recent decades Minnesota's moose population has fallen from an estimated 8,840 in 2006 to 3,470 in 2024. Due to growing concerns of population decline, the following actions have been undertaken:

- Multiple agency listings of moose as a species of concern, state hunting season closure in 2013
- Minnesota Legislature directed MNDNR to establish a Moose Advisory Committee (MAC; 2009 report). It recommended that management focus on increasing stand complexity, promoting browse production and thermal cover mimicking natural disturbance patterns.
- Primarily based on recommendations in MAC report, DNR completed a Minnesota Moose Research and Management Plan (Moose Plan; 2011). It includes objectives for research, quality habitat, social science considerations, and dissemination of plan information.
- To address research objectives: an adult moose mortality study (2013-16), moose calf mortality study (2013-17), and a winter nutrition study (2016-2020).
- To address habitat objectives, habitat management efforts have been accomplished through the Moose Habitat Collaborative through LSOHC MHC grants: Phase I (2,049 acres), Phase II (5,164 acres), Phase III (10,227 acres), currently funded Phase IV (8,000 proposed acres).

With the success of MHC Phase I-IV grants, collaborative partners would like to continue efforts through this ML2025 LSOHC proposal. This effort will again be steered by a broad range of partners that make up the Moose Habitat Collaborative. Current partners and roles are:

- NGOs: Ruffed Grouse Society (grant sponsor, program manager duties, fiscal agent), The Nature Conservancy, (site, project, and public land administrator coordination), MN Deer Hunters Association.
- Public land administrators: Superior National Forest; MNDNR – Divisions of Forestry and Fish and Wildlife; Cook, Lake; St. Louis Counties (site/land manager and technical)
- Tribal authorities: 1854 Treaty Authority, Fond du Lac, Bois Forte and Grand Portage Bands of Lake Superior Chippewa (research/technical).

- Habitat research: University of Minnesota Duluth, Natural Resources Research Institute (UMD, NRRI, research/technical).
- America The Beautiful Moose Habitat Planning grant and initiative. This initiative and the current OHF MHC are well integrated and complimentary with shared participants, goals and objectives. The ATB grant is in core planning stages and endeavors to produce plans for implementation of large-scale moose habitat restoration and enhancement efforts on three selected landscape locations within the NE moose range. The ATB grant differs from the MHC only in it's concentrated nature and specific focal areas. These efforts are complimentary and are an opportunity for further impact in shared moose habitat objectives. Application of OHF funds within sites currently being evaluated by the ATB grant have been extensively discussed and are included in portions of this proposal.

Collaborative partners will work together to choose forested stands where enhancement actions will benefit moose. This process is guided by the initial designation of priority moose landscapes and project areas through modeling and professional knowledge, and the use of site level guidelines with accompanying project documentation forms and ongoing monitoring.

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

As noted in previous sections of this proposal, since 2009 Minnesota has undertaken a series of moose assessments, plans, research, monitoring and habitat enhancement efforts which includes the listing of moose as a species of special concern in 2013, it's notation as such in Minnesota's current Wildlife Action Plan (WAP), and the use of moose as a wildlife habitat indicator in DNR's Conservation Agenda, 10-year Strategic Plan. While enhancement actions described in this proposal reflect a primary goal of managing northern forests with an emphasis on moose habitat, numerous other wildlife populations and species of greatest conservation need (SGCN) are also benefited through the enhancement of forest vegetation species and spacing diversity and interspersation at large patch scale through: site preparation including prescribed fire, mechanical preparation of brush, trees and soils, tree planting, release and browse protection.

In addition to moose, restoration of ecologically appropriate conditions in two of the primary affected native plant communities (FDn43a and b) will also positively affect habitat for many associated SGCN at some portion of their life stage and habitat succession. This project will encourage a heterogeneous forest habitat matrix at large patch scale resulting in a landscape that is more resilient, providing for an ecologically diverse and balanced landscape condition with greater benefit to moose, SGCN species, and wildlife as a whole. Degraded habitat is identified as stress concern for moose in the WAP and MN Moose Plan. Further, climate related impacts to these habitats are projected to increase into the future. Restoring ecologically appropriate and diverse forest vegetation is both a direct management strategy to enhance present habitat for moose and to provide climate related resilience to these forest habitats. Large landscapes of habitat which include moose browse in large patches through young, early successional woody vegetation while recruiting an interspersation of variable density and mixed conifer species along with retention and restoration of escape and thermal cover patches of mature deciduous stands with a clumped conifer component have been identified as a vision for quality moose habitat (MHC professional partner expertise, ATB group interpretations, MN Moose Management

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

While there are numerous issues in this moose population decline (i.e. climate change, parasites, predation,), a key observation and recommendation in all of the plans referenced in this proposal is to promptly provide resilient, high quality cover and forage habitat across moose range. This Phase V proposal seeks to continue the excellent landscape and site level documentation/vetting process the Collaborative has utilized to enhance ~25,000 acres of

moose habitat under previous Phase I-IV grants.

Timber harvest/management activities have and will continue to be a primary driver of forest change, including disturbance that can positively affect forest composition, pattern and structure in moose range. However, they are not always financially feasible nor do they ideally provide moose habitat where/when needed. Requested grant funds will support, engage with and build on this ongoing work and are an incentive to public land administrators to ensure consideration for moose habitat.

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

Collaborative biologists, foresters, ecologists and GIS specialists engage in a collaborative process utilizing local expertise and field knowledge, GIS modeling and spatial analysis of landscapes to select priority enhancement areas that will compliment and expand on current habitat conditions to achieve moose and associated wildlife species habitat objectives at significant scale. Connecting and relating moose habitat attributes at landscape scale with an enhanced or restored mosaic of large patches of deciduous browse and variably spaced regenerating conifer and patches of mature conifer dominated escape and thermal cover are explicitly part of this proposal's accomplishment strategy. Working to compliment or directly support other forest management activities such as timber harvesting that can ensure landscape significance of moose habitat enhancement is also a core strategy of the MHC when determining when and where to place enhancement efforts. At a landscape scale this will involve use of moose habitat focused modeling, USFS moose project management areas, pending DNR moose management opportunity areas as well as complimentary partner America The Beautiful moose habitat concentrated management focal areas. At the site and project level this is vetted through the use of a Moose Habitat Project Documentation and Guidelines form that includes: 1) Site Level Current Conditions, Native Plant Community dynamics and a Landscape Context, 2) Short-term desired future condition, 3) Long-term desired future condition, 4) Methods (treatment), 5) Biologist comments, and 6) moose habitat guidelines or best management practices.

Collaborative partners will also continue to assess and utilize the outcomes of different treatment methods and their effectiveness in regard to vegetative response, use by moose and other wildlife species. This analysis has been ongoing since Phase I, includes:

- Site Verification of Moose Habitat Restoration Report (NRRI, UMD, 2017),
- Monitoring of Moose Habitat Restoration Site Reports (annual 2017-2022) by the 1854 Treaty Authority, and,
- Moose Habitat Survey Reports (annual) by the Fond du Lac Band of Lake Superior Chippewa.

### **Which top 2 Conservation Plans referenced in MS97A.056, subd. 3a are most applicable to this project?**

- Moose Advisory Committee Report to the Minnesota DNR
- Other : Other: MN Moose Research and Management Plan(MRMP); MN Forest Resources Council - NE Forest Resources Plan(MFRC); MN Wildlife Action Plan, 2010-2025(WAP); Superior National Forest Land and Resource Management Plan; Fond du Lac Band of Lake Superior Chippewa; Grand Portage Band of Lake Superior Chippewa; DNR's Ruffed Grouse in MN:Long-Range Plan for Management.

## **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 MFRC NE Plan and NIACS's Climate Change Impacts project significant warming and changed precipitation patterns with subsequent increased stress and decline of boreal vegetation species in northern Minnesota, including many of those important for moose habitat attributes. Similarly, in addition to habitat degradation, the MRMP anticipates increased direct climate related stress to moose. NIACS's Climate Adaptation Strategies and Approaches and MFRC Plan list enhancing vegetation species/structural diversity as a primary means of adaptation to climate change. Similarly, MAC habitat recommendations suggest maintaining high quality habitat through diversity and ecological silviculture as primary moose habitat considerations. Fortunately, enhancement for short term moose habitat needs and longer term climate related forest vegetation adaptation strategies are complimentary and are integrated in the work indicated in this proposal. Implementing ecologically guided vegetation diversity with an emphasis on appropriate distribution of moose habitat needs is the core objective of this proposal.

## **Which LSOHC section priorities are addressed in this proposal?**

### **Northern Forest**

- Restore and enhance habitat on existing protected properties, with preference to habitat for rare, endangered, or threatened species identified by the Minnesota County Biological Survey

## **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:**

As noted in other sections of this proposal, Minnesota's moose population decline cannot be traced to a single issue. With the decline of natural disturbance (i.e. fire) and the lack of funding or inability to adequately regenerate and ensure ecological integrity of timber harvest sites for the future, a large amount of moose cover and forage habitat has been degraded over time. Done correctly, restoration of habitat will both benefit moose now and also significantly improve ecological diversity and climate resilience of the forest vegetation for the long-term. It is important to undertake these habitat enhancements now, before potential further moose population decline, so that the population is large enough to positively impact and respond. Establishment of habitats with immediate benefits to moose while simultaneously preparing ecologically appropriate, diverse and climate resilient forest vegetation conditions demonstrate the current and persistent significant benefits of this work. Enhancement efforts undertaken under this grant will directly affect a prominent species of special concern in Minnesota (moose) as well as habitat associates and ensure that affected forest stands and acres will meet a long-term commitment to moose habitat and populations.

## **Outcomes**

### **Programs in the northern forest region:**

- Healthy populations of endangered, threatened, and special concern species as well as more common species ~ *Moose are an iconic species of special conservation concern in Minnesota, important to the region's economy, ecology and cultural heritage values. The habitat enhancement proposed aims to help sustain at least the current moose population of ~3,500 animals. Our primary metric for measuring enhancement of moose habitat will be acres of treatments which achieve our best management practices and habitat guidelines. Treatments are monitored continuously during implementation through professional assessments*

*and the Collaborative process, and post-treatment monitoring of a subset of sites for moose use will be conducted by the 1854 Treaty Authority with support by Collaborative members.*

### 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.

Grant funds requested are for moose habitat enhancement efforts (site preparation, RXfire and diverse variable density cover and forage establishment and protection) that have typically not been met by traditional commercial timber harvest and forest management practices, which truly provide and incentivize or supplement public- land forest management efforts.

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

The primary goal of this project proposal is to enhance moose habitat. The broad objectives include enhancing winter and summer thermal and escape cover with an interspersed quality browse in an appropriate distribution and quantity in consideration of current landscape scale forest conditions. All affected moose habitat enhancement acres to be completed under this grant are on public lands managed by Collaborative partners. Site or project level objectives of this and previous grants have been to establish enhanced cover and forage areas through a process that can take from 1-5 years (i.e. grants supplemental use for prescribed fire, mechanical or hand site preparation, planting, bud capping, and release efforts). Once these moose habitat/forest stands are established they typically have a 80-100 year stand life, and are sustainably managed by their respective public land administrator. Additionally, past and proposed monitoring protocols of site level best habitat treatment practices have been developed by NRRI and 1854 Treaty Authority in conjunction with the MHC and will be employed under this proposal as in-kind contributions. This will guide adaptive management during proposal implementation and maintenance into the future.

### Actions to Maintain Project Outcomes

Year	Source of Funds	Step 1	Step 2	Step 3
2029 and beyond	Governmental partners budget	Manage and monitor lands consistent with grant objectives.	-	-

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

Diverse stakeholder communities are participants in the regular Moose Habitat Collaborative meetings and processes. Deliberately welcoming and including diverse communities' perspectives by seeking and embracing their involvement when opportunities to do so arise and consulting them through existing and newly developed channels of communication will be utilized as a part of all aspects of this effort. Furthermore, in the spirit of collaboration, this Collaborative will endeavor to offer engagement opportunity and produce outreach and shareable content through invitations to field tours and media outlets.

## Activity Details

### Requirements

**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?**

- County/Municipal
- State Forests
- Other : Superior National Forest

### Land Use

**Will there be planting of any crop on OHF land purchased or restored in this program, either by the proposer or the end owner of the property, outside of the initial restoration of the land?**

No

**Will insecticides or fungicides (including neonicotinoid and fungicide treated seed) be used within any activities of this proposal either in the process of restoration or use as food plots?**

No

### Other OHF Appropriation Awards

**Have you received OHF dollars through LSOHC in the past?**

Yes

**Are any of these past appropriations still OPEN?**

Yes

Approp Year	Funding Amount Received	Amount Spent to Date	Funding Remaining	% Spent to Date
2023	\$1,046,000	\$3,000	\$1,043,000	0.29%
2021	\$1,809,000	\$1,187,424	\$621,576	65.64%
Totals	\$2,855,000	\$1,190,424	\$1,664,576	41.7%

## Timeline

Activity Name	Estimated Completion Date
Funding available, secure contracts with TNC, USFS. Initiate specific Collaborative engagement.	august 2025
Summer/fall habitat enhancements (i.e. rx fire, cover protection efforts, forage enhancements, etc.)	2/1/26 (6 month status update)
Winter/spring habitat enhancements (i.e. site prep, cover planting, etc.)	8/1/26 (6 month status update)
Summer/fall habitat enhancements (i.e. rxfire, cover protection efforts, forage enhancements, etc.)	2/1/27 (6 month status update)
Winter/spring habitat enhancements (i.e. site prep, cover planting, etc.)	8/1/27 (6 month status update)
Summer/fall habitat enhancements (i.e. rxfire, cover protection efforts, forage enhancements, etc.)	2/1/28 (6 month status update)
Winter/spring habitat enhancements (i.e. site prep, cover planting, etc.)	8/1/28 (6 month status update)
Summer/fall habitat enhancements (i.e. rxfire, cover protection efforts, forage enhancements, etc.)	2/1/29 (6 month status update)
Winter/spring habitat enhancements (i.e. site prep, cover planting, etc.)	8/1/29 (Final Report)



**Budget****Totals**

Item	Funding Request	Total Leverage	Leverage Source	Total
Personnel	\$292,900	\$5,000	RGS	\$297,900
Contracts	\$3,495,000	\$105,000	Partners In Kind and \$5,000 RGS	\$3,600,000
Fee Acquisition w/ PILT	-	-	-	-
Fee Acquisition w/o PILT	-	-	-	-
Easement Acquisition	-	-	-	-
Easement Stewardship	-	-	-	-
Travel	\$4,000	-	-	\$4,000
Professional Services	-	-	-	-
Direct Support Services	\$59,400	\$36,800	RGS waived indirect	\$96,200
DNR Land Acquisition Costs	-	-	-	-
Capital Equipment	-	-	-	-
Other Equipment/Tools	-	-	-	-
Supplies/Materials	-	-	-	-
DNR IDP	-	-	-	-
<b>Grand Total</b>	<b>\$3,851,300</b>	<b>\$146,800</b>	-	<b>\$3,998,100</b>

**Personnel**

Position	Annual FTE	Years Working	Funding Request	Total Leverage	Leverage Source	Total
Multiple RGS positions accounting, contract specialist, administrative and conservation staff	0.75	4.0	\$292,900	\$5,000	RGS	\$297,900

**Amount of Request: \$3,851,300****Amount of Leverage: \$146,800****Leverage as a percent of the Request: 3.81%****DSS + Personnel: \$352,300****As a % of the total request: 9.15%****Easement Stewardship: -****As a % of the Easement Acquisition: -**

Total Leverage (from above)	Amount Confirmed	% of Total Leverage	Amount Anticipated	% of Total Leverage
\$146,800	-	0.0%	\$146,800	100.0%

**Detail leverage sources and confirmation of funds:**

Leverage from public land and 1854 Treaty Authority staff in -kind for site reconnaissance, contract administration inspection, project review and monitoring (\$100,000), 12.38% waived federal indirect (.3238) and \$5,000 RGS In-Kind, \$5,000 RGS contracts

**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?**

Acreage accomplishment would be approximately proportionately reduced. Sites with lower prioritization would simply not be included for enhancement treatment.

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

Personnel and DSS would be reduced by about 40% because about \$30,000 of personnel accounting and administration costs would be stagnant for process development.

**If the project received 30% of the requested funding**

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

Acreage accomplishment would be approximately proportionately reduced. Sites with lower prioritization would simply not be included for enhancement treatment.

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

Personnel and DSS would be reduced by about 60% because about \$30,000 of personnel accounting and administration costs would be stagnant for process development.

**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?**

The Ruffed Grouse Society is the current sponsor of LSOHC phase IV Moose Habitat Collaborative as well as an LSOHC Strategic Land Acquisition grant. There will be personnel overlap between this new proposal and these existing awarded grants; however, MHC phase IV anticipates only a short timeframe of overlap prior to it's completion. RGS staff engaged in this project include accounting and administrative personnel and forest conservation personnel, primarily facilitating fiscal agent, invoice tracking, reporting, facilitating partner collaboration, contract review and field project spot checks. Additionally, from a personnel capacity standpoint, RGS will again sign formal contracts supported by this proposal with The Nature Conservancy and Superior National Forest to facilitate the majority of landscape and site level assessments and project implementation tracking and contracting support.

**Contracts**

**What is included in the contracts line?**

3,6000,000 for contracts (agency administrator bid/contract process) and private contractors for moose habitat enhancement efforts(site preparation-mechanical with timber utilization and non- harvest, RXfire and supplies,

trees and tree planting, release, budcapping, GIS support, assessment/monitoring needs, and grant management including support agreement with TNC and SNF.

## **Travel**

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

No

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

NA

**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?**

RGS has a federally predetermined NICRA rate of 32.38%. We reduced that NICRA to 20% and applied to our personnel and travel costs. The remaining 12.38% was waived as in-kind contribution.

## **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	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	6,000	6,000
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,000</b>	<b>6,000</b>

**Total Requested Funding by Resource Type (Table 2)**

Type	Wetland	Prairie	Forest	Habitat	Total Funding
Restore	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	-	\$3,851,300	\$3,851,300
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$3,851,300</b>	<b>\$3,851,300</b>

**Acres within each Ecological Section (Table 3)**

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Acres
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	0	0	0	0	6,000	6,000
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,000</b>	<b>6,000</b>

**Total Requested Funding within each Ecological Section (Table 4)**

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest	Total Funding
Restore	-	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-	-
Protect in Easement	-	-	-	-	-	-
Enhance	-	-	-	-	\$3,851,300	\$3,851,300
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$3,851,300</b>	<b>\$3,851,300</b>

**Average Cost per Acre by Resource Type (Table 5)**

Type	Wetland	Prairie	Forest	Habitat
Restore	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-
Protect in Easement	-	-	-	-
Enhance	-	-	-	\$641

Average Cost per Acre by Ecological Section (Table 6)

Type	Metro/Urban	Forest/Prairie	SE Forest	Prairie	N. Forest
Restore	-	-	-	-	-
Protect in Fee with State PILT Liability	-	-	-	-	-
Protect in Fee w/o State PILT Liability	-	-	-	-	-
Protect in Easement	-	-	-	-	-
Enhance	-	-	-	-	\$641

Target Lake/Stream/River Feet or Miles

0

## Parcels

### Sign-up Criteria?

No

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

This parcel list notes potential enhancement sites by approximate legal description for identified opportunity or focused effort areas proposed by Collaborative participants. Exact placement of enhancement work, quantity of acres treated and regime of treatments used must be flexible to allow application of enhancement treatment efforts with opportunistic and efficient timing. Listed potential parcels and acres are also much greater than the quantity actually proposed for enhancement completion under this grant proposal in order to further allow this flexibility in implementation- especially in consideration of the complex and weather dependent limitations inherent in prescribed fire, timber removal and other mechanical site preparation treatments.

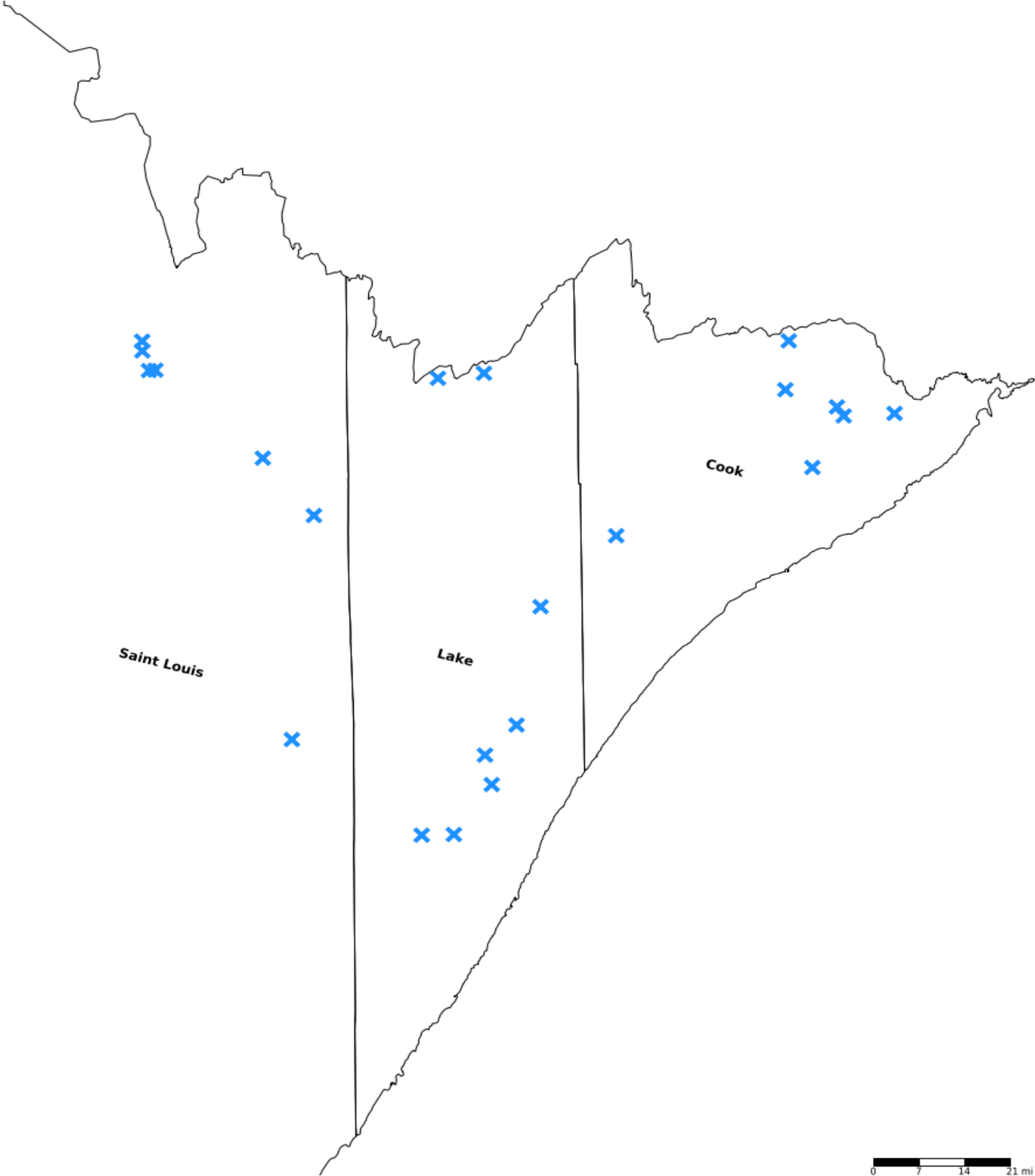
Additionally, the treatment regime indicated for proposed enhancement sites must be adaptable to habitat vegetation conditions documented at the time of implementation. Some sites will require a full suite of treatments from site preparation to planting to release to browse protection because of heavy vegetation competition conditions, while others will not. This determination must be made at the time of implementation and will be guided and documented with the Moose Habitat Project Documentation Form. Ultimately treatment acres will be greater than final completed acres because of the frequent need for multiple steps utilized to achieve full enhancement objectives.

### Restore / Enhance Parcels

Name	County	TRDS	Acres	Est Cost	Existing Protection	Description
Blueberry Hill Burn SNF	Cook	06302231	15,000	\$50,000	Yes	Prep and supplies in support of Rx burn
Sunfish Burn SNF	Cook	06402235	2,000	\$30,000	Yes	Prep and supplies in support of Rx burn
RACR Burn SNF	Cook	06205236	1,880	\$100,000	Yes	Prep and supplies in support of Rx burn
Swamp River Burn SNF	Cook	06304205	1,500	\$50,000	Yes	Prep and supplies in support of Rx burn
LUX BWCA Burn- SNF	Cook	06401221	3,300	\$50,000	Yes	Prep and supplies in support of Rx burn
Duncan BWCA Burn- SNF	Cook	06501227	2,800	\$50,000	Yes	Prep and supplies in support of Rx burn
Twin Green and other EA project sites- SNF	Cook	06302201	500	\$300,000	Yes	Diversification Treatments in ATB Focal Area
Trident Burn- SNF	Lake	06408203	1,817	\$50,000	Yes	Prep and supplies in support of Rx burn
Two Harbors SBW Projects- STL	Lake	05808221	454	\$272,400	Yes	Site Prep with utilization and or diversification treatments
Two Harbors Diversification STL	Lake	05708203	401	\$240,600	Yes	Diversification Treatments
Beaver River Road- Lake	Lake	05709234	500	\$300,000	Yes	Site Prep with utilization and or diversification treatments
Claire Nelson- Lake	Lake	05807205	500	\$300,000	Yes	Site Preparation with utilization and or diversification treatments in ATB Focal Area
Kangas Burn SNF	Lake	06212218	200	\$50,000	Yes	Prep and supplies in support of Rx burn

Tofte Landscape Project Sites- SNF	Lake	06007201	500	\$300,000	Yes	Diversification Treatments in ATB Focal Area
Beaver River Burn SNF	Lake	05710235	1,000	\$20,000	Yes	Prep and supplies in support of Rx burn
Basswood Burn- SNF	Lake	06409204	1,680	\$50,000	Yes	Prep and supplies in support of Rx burn
Finkus SNF	St. Louis	06517223	300	\$180,000	Yes	Site Prep with utilization and or Diversification Treatments in ATB Focal Area
North Hilda Complex SNF	St. Louis	06516231	500	\$300,000	Yes	Diversification Treatments in ATB Focal Area
Crab Lake- BWCA Burn- SNF	St. Louis	06314214	2,400	\$50,000	Yes	Prep and supplies in support of Rx burn
Partridge River and Colvin Creek- SNF and SLC	St. Louis	05813209	1,000	\$600,000	Yes	Site Prep with utilization and or diversification treatments
BO15897- State	St. Louis	06517236	500	\$300,000	Yes	Site Prep with utilization and or Diversification Treatments in ATB Focal Area
Big Nugget- SLC	St. Louis	06517214	100	\$60,000	Yes	Site prep with utilization and or diversification treatments

Parcel Map



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

0 7 14 21 mi

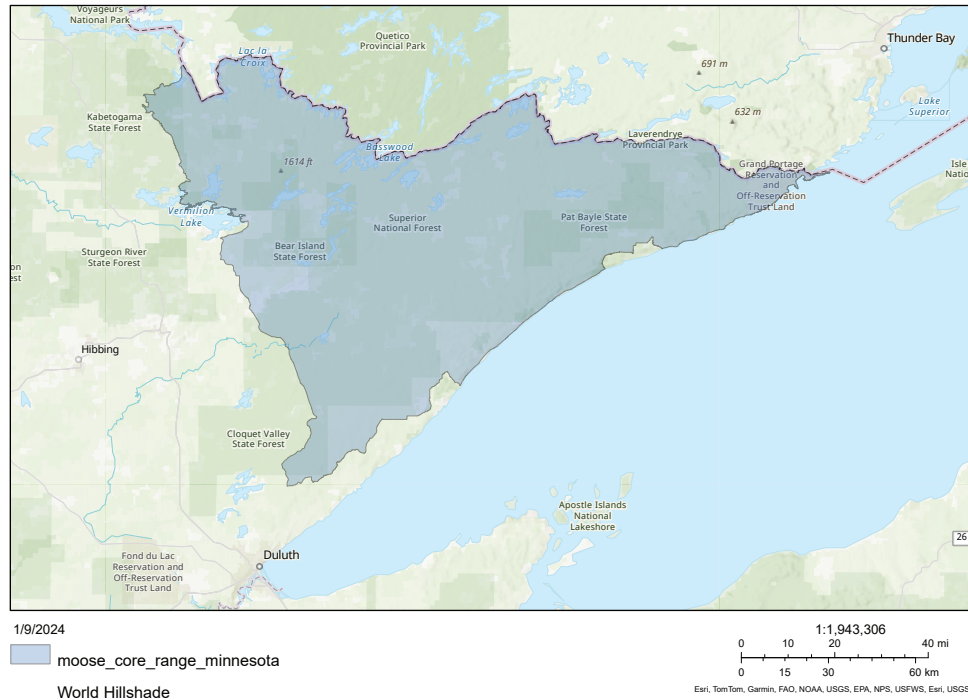


# Moose Habitat Collaborative

PHASE V - NE MN FOREST HABITAT ENHANCEMENT



Minnesota Core Moose Range



## Minnesota's Moose Population and Need for Habitat Enhancement

Populations of northeastern Minnesota moose have fallen dramatically in the recent two decades, from an estimated 8,840 animals in 2006 to 3,470 in the most recent survey (2024). With growing concern for this decline in moose population, a Minnesota Moose Advisory Committee was established by Minnesota DNR following direction from the Minnesota Legislature and a subsequent Moose Research and Management Plan was produced in 2011. Among the many issues identified in this and other plans as negatively impacting moose populations (climate change, parasites, predation, habitat), providing high quality habitat has been proposed as one of the primary responses to stabilize populations. The subsequent development and refinement of best management practices to restore quality moose habitat have then largely been implemented by the Moose Habitat Collaborative with support from the LSOHC and OHF.







## The Moose Habitat Collaborative Work

The Moose Habitat Collaborative, consisting of an extensive and interdisciplinary group of experts and stakeholders seeks to continue the successful work to sustain Minnesota's moose population by enhancing 6,000 acres of habitat. Restoring and enhancing an ecologically appropriate mosaic of diverse forest vegetation to improve browse production and thermal and escape cover is the primary objective of this proposal. The Moose Habitat Collaborative utilizes a collaborative process which captures the strengths and knowledge of the many participants, to identify priority landscapes and treatment methods to enhance moose habitat. Improved moose browse and future escape and thermal cover through strategically applied treatments including site preparation, tree planting and brush sawing and done in conjunction with other land management activities are included in this proposal to enhance moose habitat at significant landscape scale.



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May 20, 2024

Lessard-Sams Outdoor Heritage Council  
The State of Minnesota  
State Office Building Room G95  
100 Dr. Rev. Martin Luther King Jr. Blvd.  
Saint Paul, MN 55155  
(SUBMITTED ONLINE)

RE: FY25 Moose Habitat Collaborative Phase V Application

Ladies and Gentlemen of the Council,

Founded in 1961, the Ruffed Grouse Society is a leading proponent of science-based forest and wildlife management. Together with the American Woodcock Society (founded in 2014), RGS & AWS unites conservationists to improve wildlife habitat and forest health. With that mission at the core of our organization, we are eager to continue, in collaboration with federal, state, county, tribal, university and non-governmental organizational (NGO) partners, the successful work of previous Moose Habitat Collaborative (Collaborative) grants to stabilize/sustain Minnesota's moose population by enhancing ~6,000 acres of cover/forage habitat for moose and other forest wildlife. Our Moose Habitat Collaborative Phase V Application project builds on the Collaborative's Phase I-IV efforts to improve degraded forest habitats by increasing stand complexity through mixed density and cover type tree recruitment methods which enhances important moose habitat elements of browse, escape and thermal cover across the landscape. This work is conducted strategically to compliment other forest land management practices, to expand early successional forage patch size and ensure large landscape scale significance to overall moose habitat .

This effort will again be steered by a broad range of partners that make up the Moose Habitat Collaborative. Current partners and roles are:

- NGOs: Ruffed Grouse Society (grant sponsor, program manager duties, fiscal agent) and The Nature Conservancy (TNC; site, project, and public land administrator coordination) and Minnesota Deer Hunters Association (MDHA; collaborative participant and past sponsor).
- Public land administrators: Superior National Forest(SNF:site/ land manager and technical assistance); MN DNR – Division of Forestry and Division of Fish and Wildlife(site/ land manager, technical assistance); Cook, Lake; St. Louis Counties (site/land manager)
- Tribal authorities: 1854 Treaty Authority, Bois Forte and Fond du Lac Band of Lake Superior Chippewa (research/technical)
- Habitat research: University of Minnesota Duluth, Natural Resources Research Institute (UMD, NRRI, research/technical)

Collaborative partners will again work together to choose sites with forest stands that are degraded, decadent, poorly stocked with trees, or provide such poor forage conditions that they are of little or no benefit to moose. This process is guided by an initial designation of priority moose project/landscape areas, the use of a site level guidelines and best management practices checklist/project documentation





form to ensure habitat enhancements are properly vetted, followed by the use of ongoing site monitoring/validation efforts that serve as a final check/adaptive management step.

We anticipate this habitat will typically support the following indicator species:

**Moose:** Winter DNR moose population survey data has estimated the moose population from a high of 8,160 in 2005, to a low of 2,760 in 2013. The population has averaged 3-4,000 since 2013. Based on the 5,985 sq. mile moose survey area, this equates to a winter moose density of 1.4/sq. mile in 2005, .45/sq. mile in 2013, and .5 to .7/sq. mile since 2013. This grants 6,000 acres of moose cover/forage habitat enhancements is therefore estimated to enhance/support/sustain 4.7 to 6.6 moose/year.

**Ruffed grouse:** All of Minnesota's moose range is also ruffed grouse range. The cover and forage habitat enhancements proposed in this grant will contribute to the vision of Minnesota's Long-Range Ruffed Grouse Plan which is to: "sustain quantity, quality, and spatial distribution of habitat to support robust grouse populations" (i.e. ~500,000 bird harvest, ~80,000 hunters, spring drumming survey 1.5-2.0 drums/stop).

Again for Phase V of this grant, the Ruffed Grouse Society will be the grant sponsor, manager, and fiscal agent with existing accounting, administrative and forest conservation staff. TNC and SNF will continue to play a critical role in providing overall landscape/site assessment needs and contracting support to public land administrators.

On behalf of the Collaborative, we look forward to addressing all of your questions and for continuing this work that is critical to wildlife habitat and forest health in Minnesota!

Respectfully submitted,

Jon Steigerwaldt

Great Lakes Region Forest Conservation Director  
Ruffed Grouse Society & American Woodcock Society