

Lessard-Sams Outdoor Heritage Council

Fiscal Year 2022 / ML 2021 Request for Funding



Date: May 28, 2020

Program or Project Title: Moose Habitat Collaborative, Phase IV - NE MN Forest Habitat Enhancement (FRE03)

Funds Requested: \$5,624,000

Manager's Name: Brent Rudolph
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County Locations: Cook, Lake, and St. Louis.

Eco regions in which work will take place:

- Northern Forest

Activity types:

- Enhance

Priority resources addressed by activity:

- Habitat

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 (Collaborative) grants to stabilize/sustain Minnesota's moose population by enhancing ~20,500 acres of cover/forage habitat for moose. The project builds on the Collaborative's Phase I-III efforts to improve degraded forest habitats by increasing stand complexity through mixed density/cover type planting methods which enhances overall moose habitat across the landscape. Also, non-grant timber harvests planned in coordination with this grant increase the occurrence of early successional/forage

Design and scope of work:

Moose have an iconic status in Minnesota and are a critical component of the cultural identity, hunting heritage and recreational economy of northern Minnesota. Over the past two decades Minnesota's moose population has dramatically fallen, from an estimated 8,840 in 2006 to this year's (2020) estimate of 3,150. Due to a growing public concern and state listing in 2013, the following actions have been undertaken to date:

- the Minnesota Legislature directed the Minnesota Department of Natural Resources (DNR) to establish a Moose Advisory Committee (MAC; August 2009 report).
- primarily based on recommendations in MAC report, the DNR completed a Minnesota Moose Research and Management Plan (Moose Plan; December 2011). The strategic vision for this plan is: "Moose have intrinsic value and are recognized for their importance to Minnesota. To the greatest extent possible, moose shall be managed for ecological sustainability, hunting, and viewing opportunities." This plan includes objectives for research, high quality habitat, social science considerations, and dissemination and use of plan information.
- to address research objectives, significant efforts/projects have been undertaken to date: an adult moose mortality study (2013-16), moose calf mortality study (2013-17), and a winter nutrition study (2016-2020).
- to address habitat objectives, significant habitat management efforts have been accomplished through the Moose Habitat Collaborative and related LSOHC Moose Habitat Collaborative grants they have received for Phase I (2,049 acres, \$914,100 in grant

funds), Phase II (5,164 acres, \$1,996,400 grant funds), as well as currently funded Phase III (proposed 10,000 affected acres, \$1,938,000 in grant funds).

Due to the success of Moose Habitat Collaborative Phase I-III grants, Collaborative partners would like to build on this success through a FY22 LSOHC grant proposal to target another ~20,500 acres at a grant request of ~\$5,629,000.

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 (new for Phase IV - 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; MN DNR – Division of Forestry and Division of Fish and Wildlife; Cook, Lake; St. Louis Counties (site/land manager)
- Tribal authorities: 1854 Treaty Authority, Fond du Lac Band of Lake Superior Chippewa (research/technical)
- Habitat research: University of Minnesota Duluth, Natural Resources Research Institute (UMD, NRRRI, research/technical)

Collaborative partners will again work together to choose sites with forest stands that are either partially harvested, 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 the initial designation of priority moose project/landscape areas, the use of a site level checklist/project documentation form to ensure habitat enhancements are properly vetted, and the use of ongoing site monitoring/validation efforts that serve as a final check/adaptive management step.

How does the proposal address habitats that have significant value for wildlife species of greatest conservation need, and/or threatened or endangered species, and list targeted species:

As noted in previous sections of this grant application, since 2009 Minnesota has undertaken a series of moose assessments, plans, research, monitoring and habitat enhancement efforts which has included the listing of moose as a species of special concern in 2013, it's notation as such in the Minnesota's current Wildlife Action Plan (MN WAP), and the use of a moose as a cover image and wildlife population indicator in DNR's Conservation Agenda, 10-year Strategic Plan. While moose habitat 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: 1) various prescribed fire, brush removal, and selective restoration planting techniques being proposed in this grant, and 2) additional non-grant timber harvest that are planned/implemented in conjunction with this grant.

From a "If we build it, they will come" perspective, the following lists SGCN species by two of the primary habitats/native plant communities enhanced by this grant's efforts (White Pine – Red Pine Forest/FDn43a, and, Aspen – Birch Forest /FDn43b).

- Mammals: moose (winter/summer cover and forage), Canada lynx, smoky shrew, northern long-eared bat, and eastern heather vole.
- Birds: Evening Grosbeak, Olive-sided Flycatcher, Spruce Grouse, Purple Finch, Connecticut Warbler, Black-backed Woodpecker, American woodcock, Winter Wren, and the Boreal Owl.

Ultimately, this project will encourage a heterogeneous forest habitat matrix 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.

What is the degree of timing/opportunistic urgency and why it is necessary to spend public money for this work as soon as possible:

While there are numerous issues in this moose population decline (i.e. climate change, disease, predation, etc.), a key observation and recommendation in all of the plans referenced in this proposal is to provide high quality cover and forage habitat across the moose range. This Phase IV proposal seeks to continue the excellent landscape and site level documentation/vetting process the Collaborative has utilized to enhance ~19,400 acres of moose habitat under previous Phase I-III grants.

Commercial timber harvest/management activities have and will continue to be the primary driver of forest change (composition, pattern, structure) in the moose range. However they do not always occur or provide moose habitat where needed. Requested grant funds provide are an incentive to public land administrators to ensure that moose habitat across their range is assessed and enhanced.

Describe how the proposal uses science-based targeting that leverages or expands corridors and complexes, reduces fragmentation or protects areas identified in the MN County Biological Survey:

Collaborative biologists, foresters, ecologists and GIS specialists utilize GIS modeling analysis as well as their expertise and field knowledge to select priority landscapes and parcels/sites that have the best potential to achieve project goals to enhance forest habitats for moose as well as other wildlife species that share an affinity to these enhanced moose habitats. At a landscape scale this involves use of USFS moose project management areas and pending DNR moose management opportunity areas. At the site level this is

vetted through the use of a Moose Habitat Project Documentation form that lists: 1) 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) a listing of moose habitat guidelines.

Also, Collaborative partners will continue to assess 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 (2017, 2018, and 2019) by the 1854 Treaty Authority, and,
- Moose Habitat Survey Reports (annual) by the Fond du Lac Band of Lake Superior Chippewa.

Which sections of the Minnesota Statewide Conservation and Preservation Plan are applicable to this project:

- H1 Protect priority land habitats
- LU10 Support and expand sustainable practices on working forested lands

Which other plans are addressed in this proposal:

- Moose Advisory Committee Report to the Minnesota DNR
- Other: MN Moose Research and Management Plan; MN Forest Resources Council - NE Forest Resources Plan; MN Wildlife Action Plan, 2010-2025; 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.

Describe how your program will advance the indicators identified in the plans selected:

There are no specific moose population/related habitat indicators noted any of the plans cited. However, they all express a strong concern with the decline/degradation of moose habitat. The MAC report and Moose Plan strongly recommend mitigating that decline through moose habitat enhancement activities. The broader FRC NE Landscape Plan notes how to accomplish those enhancements through work in fire-dependent, northern mesic mixed, and mesic hardwood native plant communities which serve to mimic/preserve their ecological integrity (i.e. grants use of mixed forest types, variable density cover plantings, etc.). The DNR Grouse Plan reference just serves to note that young cover and forage habitats are also good ruffed grouse habitat.

Collaborative teamwork ensures that mixed ownership and management jurisdictional issues are solved through a process to assess, implement, and create effective and efficient habitat enhancement activities across all of the moose range regardless of jurisdictional constraints.

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 your program will produce and demonstrate a significant and permanent conservation legacy and/or outcomes for fish, game, and wildlife as indicated in the LSOHC priorities:

As noted in other Sections of this proposal, Minnesota's moose population decline cannot be traced to a single issue. Through the removal of natural disturbances (i.e. fire) and an unintended lack of effort/funding to adequately regenerate and ensure future ecological integrity of timber harvest sites, a substantial amount of Minnesota moose cover and forage habitat has been degraded and/or has seen a decline in area (acres). Enhancement efforts undertaken under this grant will directly affect a prominent species of special concern in Minnesota (moose) and ensure that affected forest stands and acres will meet a long-term commitment to moose habitat and populations.

Relationship to other funds:

- Not Listed

Describe the relationship of the funds:

Not Listed

Does this program include leverage in funds:

Yes

This Moose Habitat Collaborative Phase IV proposal will build on the excellent habitat work that has been accomplished under Phase I-III (~22,500 acres). Collaborative partners have learned a lot over the previous three grants and now are more efficient and effective in the delivery of moose habitat benefits through improved landscape and site-level tools. The Collaborative will continue to leverage grant dollars through the use of a significant level of in-kind support by its partners.

Per MS 97A.056, Subd. 24, Any state agency or organization requesting a direct appropriation from the OHF must inform the LSOHC at the time of the request for funding is made, 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 (rxfire and cover/forage establishment) that have typically not been met by traditional commercial timber harvest and forest management practices, truly provide and incentive/supplement to public land forest management efforts.

Describe the source and amount of non-OHF money spent for this work in the past:

Not Listed

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

All affected moose habitat enhancement acres to be completed under this grant are on public lands managed by Collaborative partners. Goal of this and previous grants has been to establish enhanced cover/forage areas through a process that can take from 1-5 years (i.e. grants supplemental use for prescribed fire, site prep, planting, bud capping, and release efforts). Once these moose habitat/forest stands are established they typically have a 80-100 year stand life, managed by their respective public land administrator.

Explain the things you will do in the future to maintain project outcomes:

| Year | Source of Funds | Step 1 | Step 2 | Step 3 |
|-----------------|------------------------------|--|--------|--------|
| 2024 and beyond | Governmental partners budget | Manage and monitor lands consistent with grant objectives. | | |

Identify indicator species and associated quantities this habitat will typically support:

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 10,000 acres of moose cover/forage habitat enhancements is therefore estimated to enhance/support/sustain 7.8 to 11 moose/year.

Black-backed woodpecker: Associated with boreal forests, especially in areas with standing dead trees such as burns, bogs, and windfalls, highly responsive to forest fire. Has undergone population decline over the twentieth century due to fire suppression, cutting of snags, and loss of mature and old-growth forests. In northeastern and north-central forests, territory size estimated at 30 hectares and maximum density 3.3 pairs per 100 hectares. This grant's 20,500 enhanced acres (8,296 hectares) would therefore support 2,735 pairs.

Ruffed grouse: All of Minnesota's moose range is also ruffed grouse range. The cover and forage habitat enhancements proposed in this grant will contributed 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).

Activity Details

Requirements:

If funded, this proposal will meet all applicable criteria set forth in MS 97A.056 - **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 - **Yes (County/Municipal, State Forests, Superior National Forest)**

Do you anticipate federal funds as a match for this program - **No**

Land Use:

Will there be planting of corn or any crop on OHF land purchased or restored in this program - **No**

Land Use:

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

Past appropriations and spending to date:

| Apprp Year | Approp Amount Received | Approp Amount Spent to Date | Leverage as Reported in AP/th> | Leverage Realized to Date | Total Acres Affected in AP | Total Acres Affected to Date | Program Complete and Final Report Approved? |
|------------|------------------------|-----------------------------|--------------------------------|---------------------------|----------------------------|------------------------------|---|
| 13 | 960000 | 914100 | 462600 | 77200 | 3569 | 2049 | Yes, FR dated 11/18/17 |
| 14 | 2000000 | 1996400 | 340400 | 115300 | 5164 | 7349 | Yes, FR dated 4/21/19 |
| 19 | 1938000 | 1076600 | 154000 | 0 | 10000 | 8918 | Active grant, 1/24/20 status report, grant ends 6/30/21 |

Accomplishment Timeline

| Activity | Approximate Date Completed |
|---|--------------------------------|
| Funding available, secure contracts | July-August, 2021 |
| Summer/fall habitat enhancements (i.e. rxfire, cover protection efforts, forage enhancements, etc.) | 2/1/22 (6 month status update) |
| Winter/spring habitat enhancements (i.e. site prep, cover planting, etc.) | 8/1/22 (6 month status update) |
| Summer/fall habitat enhancements (i.e. rxfire, cover protection efforts, forage enhancements, etc.) | 2/1/23 (6 month status update) |
| Winter/spring habitat enhancements (i.e. site prep, cover planting, etc.) | 8/1/23 (6 month status update) |
| Summer/fall habitat enhancements (i.e. rxfire, cover protection efforts, forage enhancements, etc.) | 2/1/24 (6 month status update) |
| Winter/spring habitat ehancements (i.e. site prep, cover planting, etc.) | 8/1/24 (final report) |

Budget Spreadsheet

Total Amount of Request: \$5,624,000

Budget and Cash Leverage

| BudgetName | LSOHC Request | Anticipated Leverage | Leverage Source | Total |
|----------------------------|---------------|----------------------|-----------------|-------------|
| Personnel | \$36,000 | \$10,000 | RGS | \$46,000 |
| Contracts | \$5,584,000 | \$150,000 | Partners | \$5,734,000 |
| Fee Acquisition w/ PILT | \$0 | \$0 | | \$0 |
| Fee Acquisition w/o PILT | \$0 | \$0 | | \$0 |
| Easement Acquisition | \$0 | \$0 | | \$0 |
| Easement Stewardship | \$0 | \$0 | | \$0 |
| Travel | \$4,000 | \$0 | | \$4,000 |
| Professional Services | \$0 | \$0 | | \$0 |
| Direct Support Services | \$0 | \$0 | | \$0 |
| DNR Land Acquisition Costs | \$0 | \$0 | | \$0 |
| Capital Equipment | \$0 | \$0 | | \$0 |
| Other Equipment/Tools | \$0 | \$0 | | \$0 |
| Supplies/Materials | \$0 | \$0 | | \$0 |
| DNR IDP | \$0 | \$0 | | \$0 |
| Total | \$5,624,000 | \$160,000 | - | \$5,784,000 |

Personnel

| Position | FTE | Over # of years | LSOHC Request | Anticipated Leverage | Leverage Source | Total |
|--|------|-----------------|---------------|----------------------|-----------------|----------|
| Ruffed Grouse Society multiple positions | 0.25 | 3.00 | \$36,000 | \$10,000 | RGS | \$46,000 |
| Total | 0.25 | 3.00 | \$36,000 | \$10,000 | - | \$46,000 |

Amount of Request: \$5,624,000
 Amount of Leverage: \$160,000
 Leverage as a percent of the Request: 2.84%
 DSS + Personnel: \$36,000
 As a % of the total request: 0.64%
 Easement Stewardship: \$0
 As a % of the Easement Acquisition: -%

What is included in the contracts line?

\$5,474,000 is for contracts (public land administrator bid/contract process) to hire private contractors for moose habitat enhancement efforts; \$110,000 is for GIS support, assessment/monitoring needs, and grant management.

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

Describe and explain leverage source and confirmation of funds:

Leverage is expected to primarily come from public land administrators through site contracting support (staff salaries, travel, assessments, etc.) that are the underpinning of a successful project. RGS will also leverage a portion of their DSS cost and field staff time to monitor the grant.

Does this proposal have the ability to be scalable? - Yes

Tell us how this project would be scaled and how administrative costs are affected, describe the "economy of scale" and how outputs would change with reduced funding, if applicable:

All budget items can be reduced, Collaborative would review and prioritize most effective and efficient moose habitat enhancement methods to meet a reduced budget allotment.

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?

MN Deer Hunters Association has been the grant sponsor, manager, and fiscal agent for Phase I-III grants. For this Phase IV grant the Ruffed Grouse Society will be the grant sponsor, manager, and fiscal agent. While MDHA undertook all of those duties through their internal staff, RGS proposes for this grant to: 1) utilize their existing admin personnel (\$36,000) to perform fiscal agent duties of this grant (i.e. public land administrator invoices, partner contracts, and compile related information for 6-month status reports and a final grant report), and, 2) through a consultant contract (\$40,000), hire a MN based grant manager to perform grant manager duties (i.e. coordinate overall grant needs with Collaborative partners; see to LSOHC grant admin needs; process invoices for RGS payment; assess, track, document grant progress; compile 6 month status reports and a final report). TNC will continue to play a critical role in providing overall landscape/site assessment needs and contracting support to public land administrators.

Output Tables

Table 1a. Acres by Resource Type

| Type | Wetlands | Prairies | Forest | Habitats | Total |
|--|----------|----------|--------|----------|--------|
| Restore | 0 | 0 | 0 | 0 | 0 |
| Protect in Fee with State PILT Liability | 0 | 0 | 0 | 0 | 0 |
| Protect in Fee W/O State PILT Liability | 0 | 0 | 0 | 0 | 0 |
| Protect in Easement | 0 | 0 | 0 | 0 | 0 |
| Enhance | 0 | 0 | 0 | 20,500 | 20,500 |
| Total | 0 | 0 | 0 | 20,500 | 20,500 |

Table 2. Total Requested Funding by Resource Type

| Type | Wetlands | Prairies | Forest | Habitats | Total |
|--|----------|----------|--------|-------------|-------------|
| Restore | \$0 | \$0 | \$0 | \$0 | \$0 |
| Protect in Fee with State PILT Liability | \$0 | \$0 | \$0 | \$0 | \$0 |
| Protect in Fee W/O State PILT Liability | \$0 | \$0 | \$0 | \$0 | \$0 |
| Protect in Easement | \$0 | \$0 | \$0 | \$0 | \$0 |
| Enhance | \$0 | \$0 | \$0 | \$5,624,000 | \$5,624,000 |
| Total | \$0 | \$0 | \$0 | \$5,624,000 | \$5,624,000 |

Table 3. Acres within each Ecological Section

| Type | Metro/Urban | Forest/Prairie | SE Forest | Prairie | Northern Forest | Total |
|--|-------------|----------------|-----------|---------|-----------------|--------|
| Restore | 0 | 0 | 0 | 0 | 0 | 0 |
| Protect in Fee with State PILT Liability | 0 | 0 | 0 | 0 | 0 | 0 |
| Protect in Fee W/O State PILT Liability | 0 | 0 | 0 | 0 | 0 | 0 |
| Protect in Easement | 0 | 0 | 0 | 0 | 0 | 0 |
| Enhance | 0 | 0 | 0 | 0 | 20,500 | 20,500 |
| Total | 0 | 0 | 0 | 0 | 20,500 | 20,500 |

Table 4. Total Requested Funding within each Ecological Section

| Type | Metro/Urban | Forest/Prairie | SE Forest | Prairie | Northern Forest | Total |
|--|-------------|----------------|-----------|---------|-----------------|-------------|
| Restore | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Protect in Fee with State PILT Liability | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Protect in Fee W/O State PILT Liability | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Protect in Easement | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Enhance | \$0 | \$0 | \$0 | \$0 | \$5,624,000 | \$5,624,000 |
| Total | \$0 | \$0 | \$0 | \$0 | \$5,624,000 | \$5,624,000 |

Table 5. Average Cost per Acre by Resource Type

| Type | Wetlands | Prairies | Forest | Habitats |
|--|----------|----------|--------|----------|
| Restore | \$0 | \$0 | \$0 | \$0 |
| Protect in Fee with State PILT Liability | \$0 | \$0 | \$0 | \$0 |
| Protect in Fee W/O State PILT Liability | \$0 | \$0 | \$0 | \$0 |
| Protect in Easement | \$0 | \$0 | \$0 | \$0 |
| Enhance | \$0 | \$0 | \$0 | \$274 |

Table 6. Average Cost per Acre by Ecological Section

| Type | Metro/Urban | Forest/Prairie | SE Forest | Prairie | Northern Forest |
|--|-------------|----------------|-----------|---------|-----------------|
| 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 | \$0 | \$274 |

Automatic system calculation / not entered by managers

Target Lake/Stream/River Feet or Miles

0

I have read and understand Section 15 of the Constitution of the State of Minnesota, Minnesota Statute 97A.056, and the Call for Funding Request. I certify I am authorized to submit this proposal and to the best of my knowledge the information provided is true and accurate.

Outcomes

Programs in the northern forest region:

- Healthy populations of endangered, threatened, and special concern species as well as more common species *As has been noted, moose are iconic to NE Minnesota's forests and a key representative of healthy forest ecosystems; are important to the region's recreational economy; and provide a tribal heritage, cultural link. To sustain these desirable outcomes, this grant proposes to enhance 20,500 acres (from the parcel list of ~48,000 treatment acres) of moose cover and forage habitat enhancement so as to sustain at least the current moose population level of ~3,500 animals. The Collaborative will continue to work with its Tribal and University partners to assess and evaluate effectiveness of its enhancement efforts.*

Parcel List

Explain the process used to select, rank and prioritize the parcels:

Parcel list notes potential treatment acres by County by Township (TRDS). Potential treatment acres typically are 2-3 times higher than actual/final affected acres due to the fact that treatment acres are method/step in the process to enhance moose habitat (i.e. site prep, plant, bud cap, release). Grant request and budget numbers reflect estimated final/affected acres that will be accomplished if the treatment steps are completed. Affected acres reflect a final product made possible by a series of treatments.

Section 1 - Restore / Enhance Parcel List

Cook

| Name | TRDS | Acres | Est Cost | Existing Protection? |
|--------------------------------|----------|--------|-----------|----------------------|
| Various treatments within Twp. | 06005201 | 1,000 | \$250,000 | Yes |
| Various treatments within Twp. | 06008201 | 400 | \$50,000 | Yes |
| Various treatments within Twp. | 06205201 | 510 | \$200,000 | Yes |
| Various treatments within Twp. | 06205201 | 1,880 | \$282,000 | Yes |
| Various treatments within Twp. | 06301201 | 205 | \$100,000 | Yes |
| Various treatments within Twp. | 06301201 | 750 | \$187,500 | Yes |
| Various treatments within Twp. | 06302201 | 15,000 | \$50,000 | Yes |
| Various treatments within Twp. | 06303201 | 750 | \$187,500 | Yes |
| Various treatments within Twp. | 06304101 | 1,500 | \$50,000 | Yes |
| Various treatments within Twp. | 06401201 | 3,300 | \$100,000 | Yes |
| Various treatments within Twp. | 06402201 | 2,000 | \$30,000 | Yes |

Lake

| Name | TRDS | Acres | Est Cost | Existing Protection? |
|--------------------------------|----------|-------|-----------|----------------------|
| Various treatments within Twp. | 05311201 | 28 | \$14,000 | Yes |
| Various treatments within Twp. | 05410201 | 89 | \$41,000 | Yes |
| Various treatments within Twp. | 05411201 | 664 | \$320,000 | Yes |
| Various treatments within Twp. | 05508201 | 500 | \$60,000 | Yes |
| Various treatments within Twp. | 05509201 | 88 | \$45,000 | Yes |
| Various treatments within Twp. | 05510201 | 559 | \$260,000 | Yes |
| Various treatments within Twp. | 05511201 | 376 | \$175,000 | Yes |
| Various treatments within Twp. | 05608201 | 244 | \$120,000 | Yes |
| Various treatments within Twp. | 05609201 | 175 | \$80,000 | Yes |
| Various treatments within Twp. | 05610201 | 750 | \$390,000 | Yes |
| Various treatments within Twp. | 05707201 | 320 | \$150,000 | Yes |
| Various treatments within Twp. | 05708201 | 85 | \$39,000 | Yes |
| Various treatments within Twp. | 05709201 | 1,400 | \$700,000 | Yes |
| Various treatments within Twp. | 05710201 | 48 | \$21,844 | Yes |
| Various treatments within Twp. | 05710201 | 1,000 | \$150,000 | Yes |
| Various treatments within Twp. | 05806201 | 113 | \$53,000 | Yes |
| Various treatments within Twp. | 05807201 | 282 | \$130,000 | Yes |
| Various treatments within Twp. | 05809201 | 21 | \$9,355 | Yes |
| Various treatments within Twp. | 05811201 | 80 | \$36,622 | Yes |
| Various treatments within Twp. | 05907201 | 200 | \$58,000 | Yes |
| Various treatments within Twp. | 05909201 | 50 | \$22,792 | Yes |
| Various treatments within Twp. | 06008201 | 200 | \$60,000 | Yes |
| Various treatments within Twp. | 06010201 | 200 | \$150,000 | Yes |
| Various treatments within Twp. | 06106201 | 1,568 | \$520,000 | Yes |
| Various treatments within Twp. | 06111201 | 100 | \$40,000 | Yes |
| Various treatments within Twp. | 06211201 | 189 | \$75,000 | Yes |
| Various treatments within Twp. | 06310201 | 38 | \$17,480 | Yes |
| Various treatments within Twp. | 06408201 | 1,917 | \$75,000 | Yes |
| Various treatments within Twp. | 06409201 | 1,680 | \$75,000 | Yes |

St. Louis

| Name | TRDS | Acres | Est Cost | Existing Protection? |
|--------------------------------|----------|-------|-----------|----------------------|
| Various treatments within Twp. | 05712201 | 27 | \$7,000 | Yes |
| Various treatments within Twp. | 05713201 | 112 | \$29,000 | Yes |
| Various treatments within Twp. | 05812201 | 242 | \$65,000 | Yes |
| Various treatments within Twp. | 05813201 | 125 | \$32,000 | Yes |
| Various treatments within Twp. | 05912201 | 28 | \$7,215 | Yes |
| Various treatments within Twp. | 05913201 | 152 | \$39,000 | Yes |
| Various treatments within Twp. | 06012201 | 82 | \$32,800 | Yes |
| Various treatments within Twp. | 06111201 | 300 | \$120,000 | Yes |
| Various treatments within Twp. | 06313201 | 40 | \$16,000 | Yes |
| Various treatments within Twp. | 06314201 | 2,400 | \$100,000 | Yes |
| Various treatments within Twp. | 06516201 | 300 | \$75,000 | Yes |
| Various treatments within Twp. | 06614201 | 600 | \$150,000 | Yes |

Section 2 - Protect Parcel List

No parcels with an activity type protect.

Section 2a - Protect Parcel with Bldgs

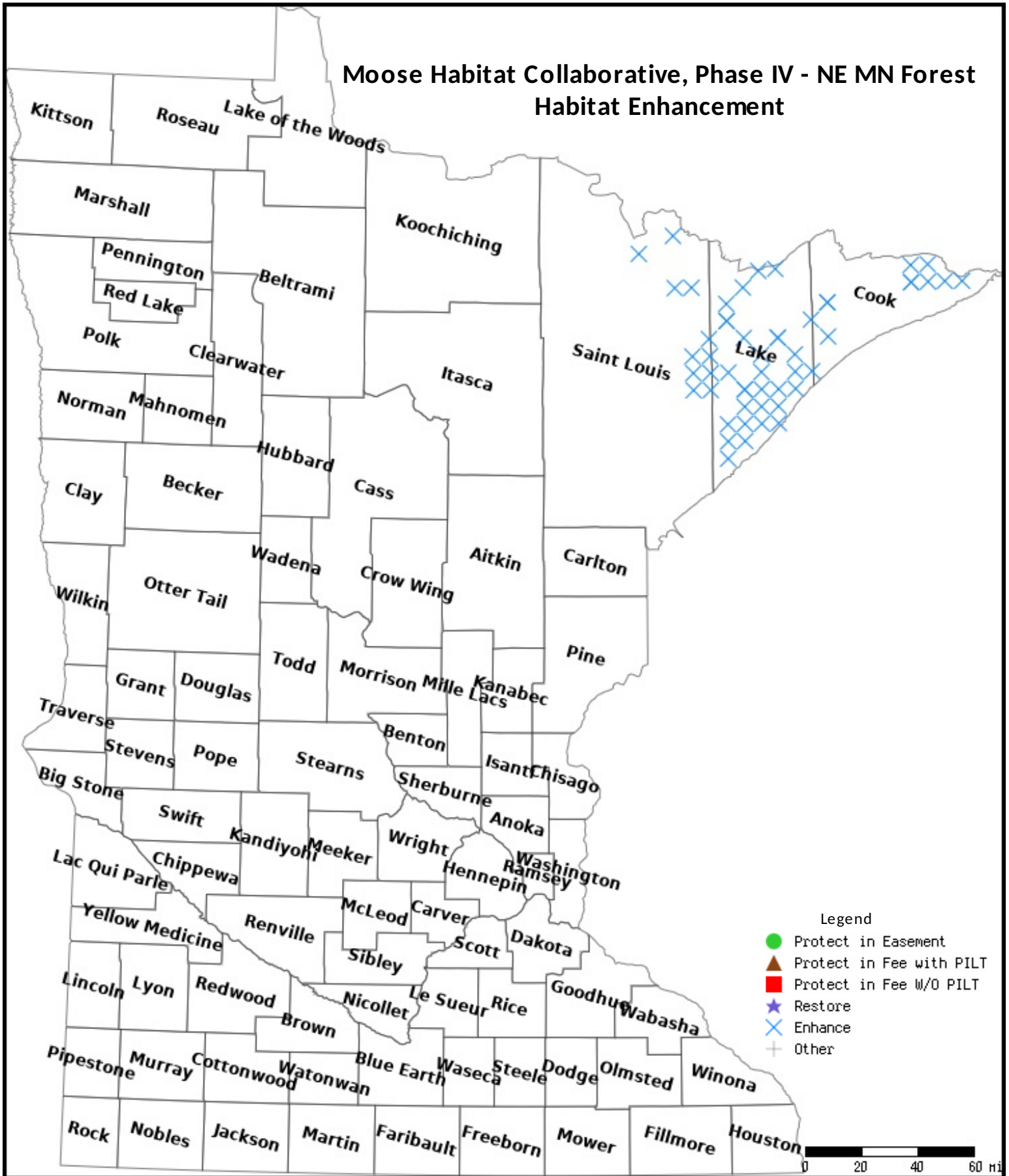
No parcels with an activity type protect and has buildings.

Section 3 - Other Parcel Activity

No parcels with an other activity type.

Parcel Map

Moose Habitat Collaborative, Phase IV - NE MN Forest Habitat Enhancement



Data Generated From Parcel List



Ruffed Grouse Society and American Woodcock Society
National Headquarters
451 McCormick Road
Coraopolis, PA 15108-9377
412-262-4044 • Fax 412-262-9207 • Toll Free 888-564-6747
www.ruffedgrousesociety.org

May 28, 2020

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: FY22 Moose Habitat Collaborative Phase IV 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 pleased to seek, in collaboration with federal, state, county, tribal, university and non-governmental organizational (NGO) partners, to continue the successful work of previous Moose Habitat Collaborative (Collaborative) grants to stabilize/sustain Minnesota's moose population by enhancing ~20,500 acres of cover/forage habitat for moose. Our Moose Habitat Collaborative Phase IV Application project builds on the Collaborative's Phase I-III efforts to improve degraded forest habitats by increasing stand complexity through mixed density/cover type planting methods which enhances overall moose habitat across the landscape. Also, non-grant timber harvests planned in coordination with this grant increase the occurrence of early successional/forage patches for moose, other wildlife.

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 (new for Phase IV - grant sponsor, program manager duties, fiscal agent), The Nature Conservancy (TNC; site, project, and public land administrator coordination), Minnesota Deer Hunters Association (MDHA).
- Public land administrators: Superior National Forest; MN DNR – Division of Forestry and Division of Fish and Wildlife; Cook, Lake; St. Louis Counties (site/land manager)
- Tribal authorities: 1854 Treaty Authority, 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 either partially harvested, 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 the initial designation of priority moose project/landscape areas, the use of a site level checklist/project



documentation form to ensure habitat enhancements are properly vetted, and 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 10,000 acres of moose cover/forage habitat enhancements is therefore estimated to enhance/support/sustain 7.8 to 11 moose/year.

Black-backed woodpecker: Associated with boreal forests, especially in areas with standing dead trees such as burns, bogs, and windfalls, highly responsive to forest fire. Has undergone population decline over the twentieth century due to fire suppression, cutting of snags, and loss of mature and old-growth forests. In northeastern and north-central forests, territory size estimated at 30 hectares and maximum density 3.3 pairs per 100 hectares. This grant's 20,500 enhanced acres (8,296 hectares) would therefore support 2,735 pairs.

Ruffed grouse: All of Minnesota's moose range is also ruffed grouse range. The cover and forage habitat enhancements proposed in this grant will contributed 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).

MDHA has been the grant sponsor, manager, and fiscal agent for Phase I-III grants. For this Phase IV grant the Ruffed Grouse Society will be the grant sponsor, manager, and fiscal agent. While MDHA undertook all of those duties through their internal staff, RGS proposes for this grant to: 1) utilize their existing admin personnel (\$36,000) to perform fiscal agent duties of this grant (i.e. public land administrator invoices, partner contracts, and compile related information for 6-month status reports and a final grant report), and, 2) through a consultant contract (\$40,000), hire a MN based grant manager to perform grant manager duties (i.e. coordinate overall grant needs with Collaborative partners; see to LSOHC grant administrative needs; process invoices for RGS payment; assess, track, document grant progress; compile 6 month status reports and a final report). TNC 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,

Brent A. Rudolph, Ph.D.
Chief Conservation and Legislative Officer

Minnesota Moose Habitat Collaborative

LSOHC - FY22 Phase IV grant proposal

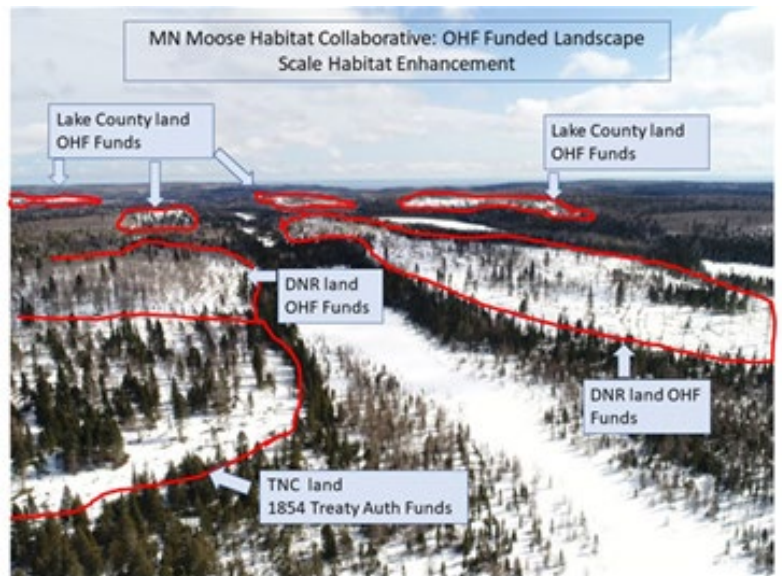


Summary

As a result of the Minnesota Moose Advisory Committee Report (2009) and related Minnesota Moose Research and Management Plan (Moose Plan, 2011), a group of federal, state, and county land administrators as well as tribal, university, and, non-governmental organizations formed a Moose Habitat Collaborative in 2012. Primary purpose of that effort has been to coordinate the planning, assessment, and management of moose

habitat in NE Minnesota on a landscape/site scale, and to seek additional funding sources for that effort. That has led to the Collaborative successfully securing Outdoor Heritage Funds through LSOHC's grant process for a Phase I grant (FY13, 2,049 acres, \$914,100), Phase II grant (FY14, 5,164 acres, \$1,996,400), and Phase III grant (FY19, 10,000 acres proposed, \$1,938,000)

While there are several factors that may be contributing to the recent decline in Minnesota's moose population, adequate habitat is the primary base that serves to sustain and hopefully increase that population. To build on the ~17,213 acres of enhanced moose habitat that has been completed to date under Phase I-III grants, Moose Habitat Collaborative partners are proposing a Phase IV grant to enhance/treat an additional ~20,500 acres of moose winter/summer cover and foraging habitats in northeast Minnesota. As with previous Phase I-III grants, this efforts goal is to increase forest stand complexity and production while also maintaining thermal (moose cover) components of the landscape with variable density planting methods. The back side of this handout notes photo examples of decadent moose habitat; grant use of prescribed fire as a method to naturally regenerate moose cover and forage habitat; and grant use to establish mixed forest stands, enhance moose habitat when/where prescribed fire is not an option (i.e. site prep, hand planting, browse protection, and release efforts). These methods will be used in conjunction with non-grant timber sales to increase occurrence and size of early successional forest patches for moose and other wildlife.



Collaborative Partners

Federal: Superior National Forest (SNF)

State: Minnesota Department of Natural Resources (DNR), Division of Forestry & Division of Fish and Wildlife

Counties: Cook, Lake; St. Louis

Tribal: 1854 Treaty Authority; Fond du Lac Band of Lake Superior Chippewa

University: University of Minnesota Duluth, Natural Resources Research Institute (UMD, NRR)

Non-government organizations (NGOs): Ruffed Grouse Society, The Nature Conservancy, Minnesota Deer Hunters Association

If we build it, they will come!

Old, decadent stands of upland brush, sparse conifers are poor moose cover and forage habitat.



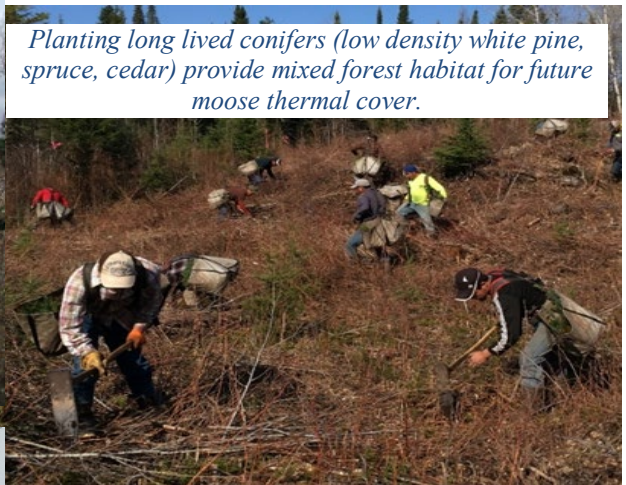
Prescribed fire provides a natural mix of moose cover and forage.



Site prep through brush mowing, winter shearing regenerate high quality browse; site for mixed conifer establishment.



Planting long lived conifers (low density white pine, spruce, cedar) provide mixed forest habitat for future moose thermal cover.



Bud capping provides deer browse protection.



Brush saw release provides an additional flush of browse regeneration, increases conifer survival.

