

Lessard-Sams Outdoor Heritage Council

Fiscal Year 2021 / ML 2020 Request for Funding

FRE 02



Date: May 31, 2019

Program or Project Title: Southeast Forest Habitat Enhancement Phase II

Funds Requested: \$2,524,700

Manager's Name: Bryan Lueth
Title: Forest Wildlife Habitat Leader
Organization: MN DNR Wildlife
Address: 500 Lafayette Rd
Address 2: Box 20
City: St. Paul, MN 55155-4020
Office Number: 651-259-5190
Mobile Number: 651-468-9853
Fax Number: 651-297-4961
Email: bryan.lueth@state.mn.us
Website: dnr.state.mn.us

County Locations: Fillmore, Goodhue, Houston, Olmsted, Wabasha, and Winona.

Eco regions in which work will take place:

- Southeast Forest

Activity types:

- Restore
- Enhance

Priority resources addressed by activity:

- Forest
- Habitat

Abstract:

Blufflands oak forest regeneration is threatened by invasive species, lack of fire, and subsequent succession to less desirable northern hardwood trees, such as maple and basswood. This proposal combines invasive species treatments, increased use of fire in fire-dependent forests, and mast tree planting on sites being converted from ag land to forest as well as existing stands identified for harvest by the Subsection Forest Resource Management Plan (SFRMP) and the Sustainable Timber Analysis. This work supports goals identified in the SFRMP as well as the State Wildlife Action Plan and the MFRC Southeast Forest Landscape Plan.

Design and scope of work:

Bluffland oak forests in SE Minnesota are changing to less desirable northern hardwood species. This change is due to several factors, including lack of regular fire in fire-dependent forests, which allows fire-intolerant species (maple/basswood) to dominate; and, the increasing threat of invasive species, which impacts natural regeneration and understory diversity. This change is compounded by the high percentage (65%) of oak stands that are beyond normal rotation age. Oaks and other mast-producing species are difficult to regenerate naturally, especially as they age because they don't resprout; thus, harvested older stands require underplanting to ensure oak dominated forests are regenerated. Many of our forests are succumbing to the impacts of invasive species such as buckthorn, honeysuckle, barberry and oriental bittersweet. These aggressive non-native plants impede natural regeneration as well as significantly limit the success of underplanting/direct seeding, and reduce overall forest diversity and quality. Because these species are more aggressive and bloom earlier than native species, they have a competitive edge over our native understory herbaceous plants, woody shrubs, small and large trees. If left unchecked/untreated, especially after a harvest, the invasive species outcompete native species, completely changing the type, quality and diversity of our forests. The ripple effect associated with invasive species includes a decrease in the forest's ability to support a larger diversity of wildlife. To counteract the impact of invasive species on forest regeneration and establishment, this proposal includes several invasive species management practices including direct treatment of invasive species (herbicide application), prescribed burning in fire-dependent forest communities, and stand improvement to reduce

competition by northern hardwoods (maple/basswood). By combining a variety of management practices, we will be able to support a timber harvest program that results in a contribution to the wood fiber industry while also maintaining high quality, diverse, resilient forest habitat that supports a wide array of common and rare plant and animal species, and forest-related recreation.

Stands that will receive treatment under this proposal will be selected from the annual stand exam lists identified by the Blufflands/Rochester Plateau Subsection Forest Resource Management Plan and Sustainable Timber Harvest Analysis. These stands are located on the Whitewater and Rochester Area Wildlife Management Areas, and Richard J. Dorer Memorial Hardwood State Forest. Stands selected for release will be identified from regeneration checks of stands harvested within the past 10-15 years. This proposal will build on work completed under the Southeast Forest Enhancement Phase I award, which impacted over 2,000 acres. It is also consistent with the Council's FY21 goal of protection from long-term/permanent endangerment from invasive species, and support healthy populations of listed and common species. It also supports the State Wildlife Action Plan's goals of maintaining and enhancing the resilience of habitats upon which Species in Greatest Conservation Need (SGCN) depend, and maintain or enhance habitat in Conservation Focus Areas (Whitewater, Root River, and Vermillion).

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:

- Minnesota Forest Resource Council Landscape Plans
- Minnesota's Wildlife Action Plan 2015-2025

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

MnWAP identifies Conservation Focus Areas (CFA) as priority areas to conduct habitat management. This proposal will impact forested habitat in three identified CFAs: Whitewater, Vermillion, and Root River. Work conducted under this proposal will support SWAP goals: maintaining and enhancing the resilience of habitats upon which SGCN depend, and maintain or enhance habitat in CFAs.

This proposal supports the MFRC Southeast Forest Landscape Plan Outcome #1 Increase Forest Land by implementing identified on-the-ground strategies: increase forest land by 3% (direct seeded sites will add forested land to the landscape), use prescribed fire to support oak regeneration, remove invasive species, and promote oak, hickory and walnut.

Which LSOHC section priorities are addressed in this proposal:

Southeast Forest:

- Restore forest-based wildlife habitat that has experienced substantial decline in area in recent decades

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:

In Phase I of the Southeast Forest Habitat Enhancement effort, we accomplished over 2,000 acres of oak forest habitat management that is providing diverse habitat for game species, common wildlife species, and SGCN.

Phase II will accomplish approximately 6,000 acres of oak forest management that will contribute to large complexes of biologically diverse wildlife habitat typical of the unglaciated region of Minnesota. It will also contribute to healthy populations of listed species and SGCN as well as game species. This will be demonstrated by meeting the following proposal goals:

- * underplanting a minimum of 1,000 acres of oak forest,
- * direct seeding 520 acres,
- * invasive species management through pre/post sale treatment on 1500 acres,
- * mast tree release on 800 acres,
- * reintroduce fire to 3,000 acres of fire-dependent oak forest communities.

(sum of the above totals more than 6,000 acres because regeneration of harvested stands takes several of the above treatments to achieve success)

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:

This proposal is using several strategic plans to help target landscape-level complexes for oak forest enhancement. The Blufflands/Rochester Plateau SFRMP has assessed forest conditions, developed strategic direction and desired future conditions on DNR lands, which will be implemented if this proposal is awarded. This plan puts a heavy emphasis on oak, which is (or should be) the dominant forest species of many southeastern forests. Many forest complexes included in this proposal have High Biodiversity Plans developed for them based on the Minnesota Biological Survey data. These plans will be used to inform stand selection and native plant community complexes. The Minnesota Wildlife Action Plan (MnWAP) has identified the Wildlife Action Network, which identifies areas of species significance, and Conservation Focus Areas for targeting on-the-ground habitat work that will benefit the most species, especially SGCN. Habitat complexes and stands under this proposal fall into three Conservation Focus Areas (Whitewater, Vermillion, and Root River) and are within high- and medium-ranked areas of the Wildlife Action Network. The MFRC Southeast Forest Landscape Plan identifies on-the-ground strategies for achieving increased forest habitat and higher quality forests. Management actions identified in the SWAP and SE Forest Plan will be implemented if this proposal is awarded. All of these plans used science-based inputs including inventory, surveys, monitoring, habitat assessments, and computer modeling and analysis to set priorities. By combining the common priorities of these plans, and continuing with inter/intra agency and organization cooperation to allow for adaptive management, this proposal will accomplish landscape-scale forest enhancement in SE Minnesota.

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:

The forests of SE MN are unique in that they are largely untouched by recent glaciers that covered most of MN. This history has left a legacy of hardwood forests and striking topographic relief that provides habitat worthy of protection. To add to its significance, southeast Minnesota has the highest number of Species in Greatest Conservation Need (SGCN) in the state, the most state-listed species, the highest diversity of habitats, and a significant proportion of the state's population. These combined features make SE forests highly used by hunters, anglers, birders, and other recreational users during all seasons of the year, contributing significantly to local, regional and state economies. A key component to SE forests are oak and other mast producing trees. Oak dominated forests have graced SE Minnesota since settlement. The value of hard mast for wildlife is significant, supporting a healthy population of game animals included deer, turkey, woodcock, squirrels, foxes, wood ducks, and raccoons. Additionally, these forests provide critical habitat for 39 special concern, threatened, endangered and SGCN, such as northern long-eared bats, timber rattlesnakes, Acadian flycatchers, Veerys, Whip-por-wills, Brown Thrashers, and five-lined skinks, to name a few. The uniqueness and diversity of Southeast oak forests, means they often have other habitat types nested within them. SE oak forests, including sites covered under this proposal, often have grassland components that provide the forest/grassland transition necessary for such species as the federally-endangered rusty patched bumble bee and the monarch butterfly (federal candidate species). These forests also support an array of rare plants, including goldenseal, tubercled rein orchid, and dwarf trout lily. This proposal will directly benefit SGCN by enhancing and increasing forested habitat, reducing invasive species, and bringing a younger oak forest component to the region, adding to forest structure diversity.

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

Wild Turkey: direct seeding 520 acres of un-forested land to oak forest species along with 1,000 acres of underplanting could produce up to 200 additional turkeys once these stands reach maturity.

Woodcock: improving oak forests by reducing invasive species on over 6,000 acres and maintaining the grassland components nested within oak forests could produce an additional 50 woodcock in 5 years.

Timber Rattlesnakes: Maintaining native diversity by controlling invasive species, and planting to ensure regeneration of oak forests on over 6,000 acres could produce an additional 10 rattlesnakes over 5 years, and one viable den in 10 years.

Forest Interior Birds: Maintaining native diversity by controlling invasive species, and planting to ensure regeneration of oak forests on over 6,000 acres could produce an upward trend in breeding birds including tufted titmice, brown thrashers, whip-por-wills and black-billed cuckoos.

Outcomes:

Programs in southeast forest region:

- Healthier populations of endangered, threatened, and special concern species as well as more common species *Southeast Minnesota forests will be enhanced to provide diverse wildlife habitat for desirable game species, listed species and species of greatest conservation need. providing multiple conservation benefits in the face of climate change, invasive species, and other major stressors, and increased satisfaction from hunters and other recreational users.*

Outcomes will be measured/evaluated by conducting regeneration checks using forestry regen forms, Ecological Classification System evaluations, pre/post management invasive species site checks. Wildlife will be monitored using existing DNR surveys (ex. ruffed grouse drumming count). Hunter satisfaction measured by user surveys.

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

Planted stands will be monitored for success with regular regeneration surveys at year 1, 5, and 10, and will receive additional silvicultural treatment as necessary. Released stands 10-15 years post harvest should be "free to grow." Sites with recurring invasive species concerns will be monitored and treated using a variety of methods, including prescribed burning, herbicide application, and possibly rotational goat grazing on highly problematic sites.

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

Year	Source of Funds	Step 1	Step 2	Step 3
2022-2025	DNR Funding	regeneration checks of first year plantings	follow-up treatment as need and funding allows	
2025-2030	DNR Funding	5-year regeneration checks of plantings	follow-up treatment as need and funding allows	
2026-2030	DNR Funding	10-year regeneration checks of plantings	follow-up treatment as need and funding allows	

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

SE MN forests are losing their oak, hickory and walnut component, and regeneration is difficult due to the rapidly increasing impact of invasive species, prolonged lack of fire, and advanced age of oak stands. All of these factors make restoration and enhancement of native oak forests increasingly expensive. The Blufflands/Rochester Plateau SFRMP and the Sustainable Timber Harvest Analysis provides the opportunity to identify oak stands that need management to ensure successful regeneration of oak forests and associated understory, and significantly or permanently set back invasive species that impact forest diversity. This proposal will also allow us to capitalize on 2,000+ acres of forest management completed under Southeast Forest Habitat Enhancement Phase I.

Does this program include leverage in funds:

No

Relationship to other funds:

- Not Listed

Describe the relationship of the funds:

Not Listed

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:

These funds are not being used to supplant any forest-related activity on State Wildlife Lands, and will be used to augment funds used on State Forest Lands for improved invasive species management and prescribed burning.

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

Appropriation Year	Source	Amount
FY2017	Forestry Bonding, Forest Management Account, General Fund, Heritage Enhancement Fund, Game & Fish Fund, Eco/Waters ENRTF	\$1,935,632
FY2018	Forestry Bonding, Forest Management Account, General Fund, Heritage Enhancement Fund, Game & Fish Fund, Eco/Waters ENRTF	\$3,047,930
FY2019	Forest Management Account, General Fund, Heritage Enhancement Fund, Game & Fish Fund	\$889,135

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 (WMA, State Forests)**

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**

Accomplishment Timeline

Activity	Approximate Date Completed
Inter-disciplinary review of stands on annual exam list, stands are site-visited, and appropriate stands for supplemental planting and/or invasives removal are selected.	2019, 2020, 2021, 2022, 2023
Trees are ordered and planted	2020, 2021, 2022, 2023, 2024
Sites are prepped for direct seeding, seed ordered, and direct seeded	2020, 2021, 2022, 2023, 2024
Pre-sale invasive species removal	2020, 2021, 2022, 2023, 2024
Prescribed burning to set back invasive species and assist with mast tree regeneration	2020, 2021, 2022, 2023, 2024
Site checks for evaluating pre-harvest invasive species	2020, 2021, 2022, 2023, 2024
Regeneration harvest	2020, 2021, 2022, 2023, 2024
Release of mast trees 10--15 years after previous regeneration efforts	2020, 2021, 2022, 2023, 2024
1-year regeneration checks of planted sites	2021, 2022, 2023, 2024
Post-sale invasive species treatment, if needed	2021, 2022, 2023, 2024
Post-sale release of planted sites	2020, 2021, 2022, 2023, 2024

Budget Spreadsheet

Total Amount of Request: \$2,524,700

Budget and Cash Leverage

Budget Name	LSOHC Request	Anticipated Leverage	Leverage Source	Total
Personnel	\$0	\$0		\$0
Contracts	\$2,240,200	\$0		\$2,240,200
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	\$0	\$0		\$0
Professional Services	\$0	\$0		\$0
Direct Support Services	\$32,300	\$0		\$32,300
DNR Land Acquisition Costs	\$0	\$0		\$0
Capital Equipment	\$0	\$0		\$0
Other Equipment/Tools	\$0	\$0		\$0
Supplies/Materials	\$252,200	\$0		\$252,200
DNR IDP	\$0	\$0		\$0
Total	\$2,524,700	\$0	-	\$2,524,700

Amount of Request: \$2,524,700
 Amount of Leverage: \$0
 Leverage as a percent of the Request: 0.00%
 DSS + Personnel: \$32,300
 As a % of the total request: 1.28%
 Easement Stewardship: \$0
 As a % of the Easement Acquisition: -%

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

The DNR's Direct and Necessary (D&N) calculator was used. It was created for LSOHC/OHF and LCCMR/ENRTF proposals.

What is included in the contracts line?

Contracts include: contracted labor for pre-sale underplanting, direct seeding, pre/post sale invasive species treatment, mast tree release, and prescribed burning.

Describe and explain leverage source and confirmation of funds:

Not Listed

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:

Scaling would result in fewer acres being enhanced, and on wildlife land, would also result in less timber harvested since funds from this grant are being used to ensure proper pre/post management is conducted, facilitating quality regeneration of harvested stands.

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	6,000	0	6,000
Total	0	0	6,000	0	6,000

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	\$2,524,700	\$0	\$2,524,700
Total	\$0	\$0	\$2,524,700	\$0	\$2,524,700

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	6,000	0	0	6,000
Total	0	0	6,000	0	0	6,000

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	\$2,524,700	\$0	\$0	\$2,524,700
Total	\$0	\$0	\$2,524,700	\$0	\$0	\$2,524,700

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	\$421	\$0

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	\$421	\$0	\$0

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.

Parcel List

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

Parcels for this Phase II project were discussed during the annual interdisciplinary forest coordination meeting, which includes MNDNR staff from Forestry, Wildlife and Ecological and Water Resources. The Blufflands/Rochester Plateau Subsection Forest Resource Management Plan and the Sustainable Timber Harvest Analysis were also used to help set priorities. Parcels prioritized for this grant include those with stands selected for harvest in FY21-FY24.

Section 1 - Restore / Enhance Parcel List

Fillmore

Name	TRDS	Acres	Est Cost	Existing Protection?
Richard J Dorer Memorial Forest	10309221	0	\$0	Yes
Rochester Area Wildlife Management Areas	10212221	0	\$0	Yes

Goodhue

Name	TRDS	Acres	Est Cost	Existing Protection?
Richard J Dorer Memorial Forest	11214207	0	\$0	Yes
Rochester Area Wildlife Management Areas	11215208	0	\$0	Yes

Houston

Name	TRDS	Acres	Est Cost	Existing Protection?
Richard J Dorer Memorial Forest	10407227	0	\$0	Yes
Rochester Area Wildlife Management Areas	10407232	0	\$0	Yes

Olmsted

Name	TRDS	Acres	Est Cost	Existing Protection?
Richard J Dorer Memorial Forest	10513217	0	\$0	Yes
Rochester Area Wildlife Management Areas	10713226	0	\$0	Yes
Whitewater Wildlife Management Area	10711201	0	\$0	Yes

Wabasha

Name	TRDS	Acres	Est Cost	Existing Protection?
Richard J Dorer Memorial Forest	10910215	0	\$0	Yes
Rochester Area Wildlife Management Areas	10910201	0	\$0	Yes
Whitewater Wildlife Management Area	10910235	0	\$0	Yes

Winona

Name	TRDS	Acres	Est Cost	Existing Protection?
Richard J Dorer Memorial Forest	10809204	0	\$0	Yes
Rochester Area Wildlife Management Areas	10808221	0	\$0	Yes
Whitewater Wildlife Management Area	10810201	0	\$0	Yes

Section 2 - Protect Parcel List

No parcels with an activity type protect.

Section 2a - Protect Parcel with Bldgs

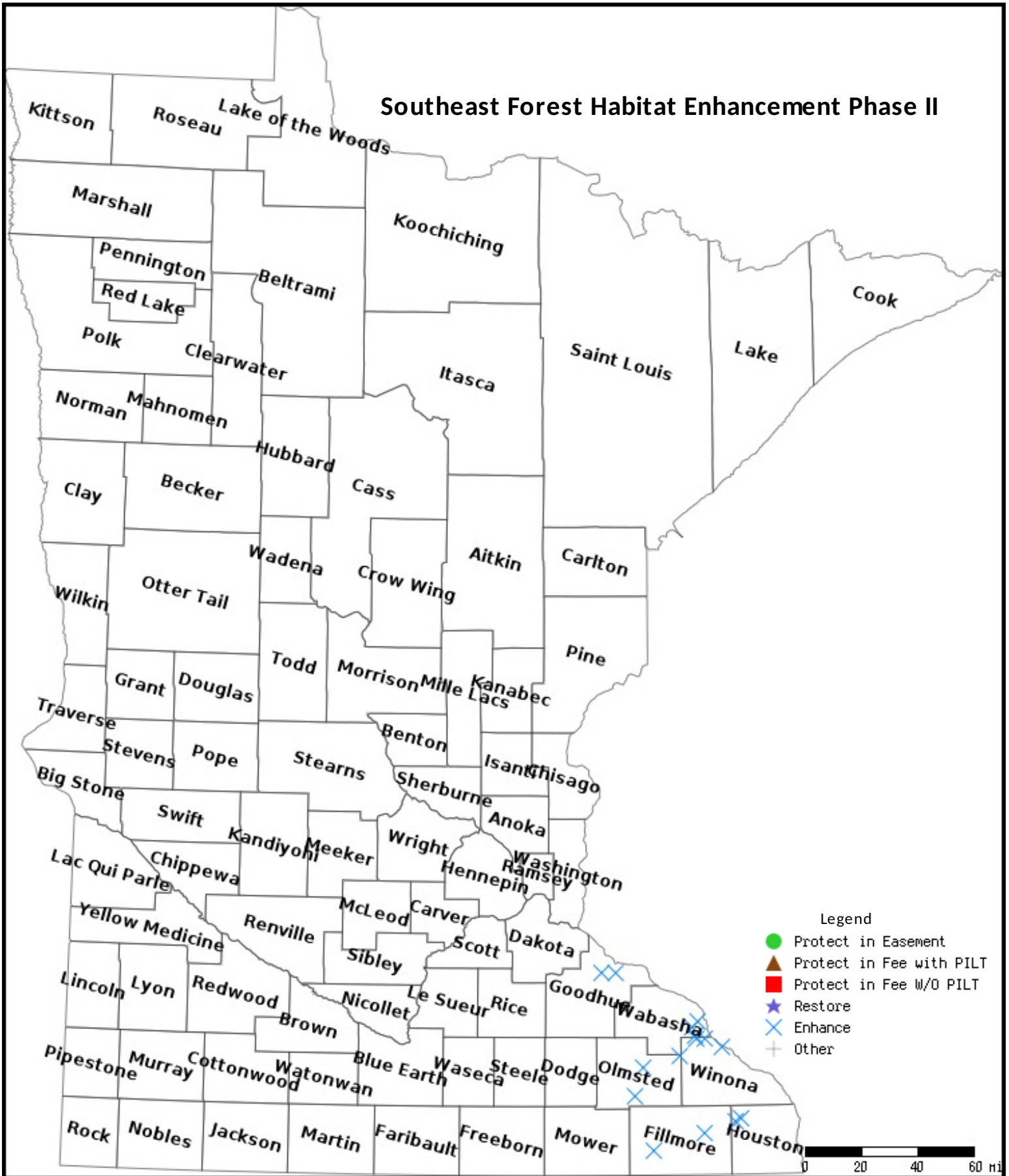
No parcels with an activity type protect and has buildings.

Section 3 - Other Parcel Activity

No parcels with an other activity type.

Parcel Map

Southeast Forest Habitat Enhancement Phase II



Data Generated From Parcel List

Southeast Forest Habitat Enhancement Phase II

Oak forest regeneration in the Southeastern Blufflands is threatened by invasive species and succession to less desirable northern hardwood species, such as maple and basswood.

This proposal will enhance 6,000 acres of SE oak forests.



SE Oak Forests are fire-dependent native plant communities, meaning fire is necessary to keep them healthy and diverse. Without fire, these communities transform to less desirable fire-intolerant species such as maple and basswood.

This proposal will put 3,000 acres of oak forest into a prescribed fire rotation.

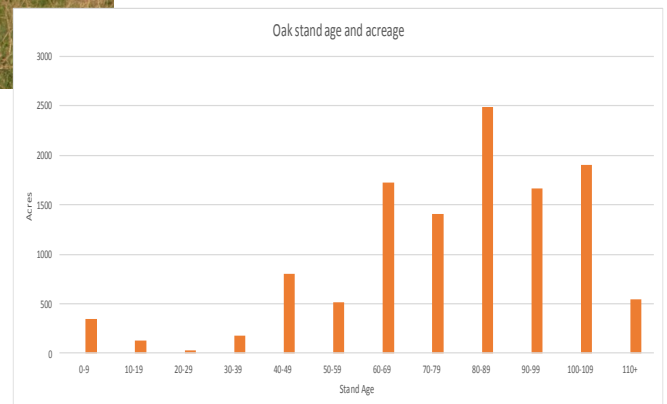


Southeast Forest Habitat Enhancement Phase II



A large percentage of oak in SE MN is over normal rotation age. Older oak stands do not regenerate once cut, and require underplanting.

Under this proposal, 1,000 acres of oak forest will be underplanted.



520 acres will be restored to oak forest habitat through direct seeding.



Additional practices

- Mast tree release on 800 acres
- Invasive species management on 1,500 acres