

Main Request for Funding Form

**Lessard-Sams Outdoor Heritage Council
Fiscal Year 2012**

Program or Project Title: DNR Accelerated Forest Habitat Enhancement

Funds Requested (\$000s)	Funding Request	OHF Out-Year Projections of Needs		
	FY 2012	FY 2013	FY 2014	FY 2015
Outdoor Heritage Fund	\$ 2,640,030	3,000,000	3,000,000	3,000,000

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Organization Web Site:

County Location: *[Only need to enter on web form.]*

Ecological Planning Regions: *[check all that apply – to]*

Northern Forest Forest/Prairie Transition Southeast Forest

Prairie Metro/Urban

Activity Type: *[check all that apply]*

Protect Restore Enhance

Priority Resources addressed by activity: *[check all that apply]*

Wetlands Forests Prairie Habitat

Project Abstract

This program of on-the-ground conservation projects will amplify wildlife and ecological values of forest communities on Minnesota's public forestlands. Our restoration and enhancement management will treat 14,940 ac at \$175/ac.

Project Narrative

Design and scope of work

Problem to be addressed: Forests face a formidable array of challenges: fragmentation, invasive species, climate change, disease, and changes in forest-based economics and recreation. While Minnesota's 16.2 million ac of forest are diverse, the acreage and composition of forests have changed significantly. The forest acreage is about half of what it was (31.5 million ac) in the mid 1800s.

Just over half of the forestland in Minnesota is publicly owned; the State of Minnesota administers about 24%. Minnesota's forests help maintain the state's environmental and economic health. They are habitat for fish and wildlife, and a source of biodiversity, clean water, watershed protection, carbon sequestration, recreational opportunities, and many other benefits.

Urgency and opportunity: Habitat loss and degradation are identified as the primary challenge facing wildlife. Almost one-third of the state's 292 Species in Greatest Conservation Need (SGCN) inhabit forests. The management objectives in this program parallel the forest management options outlined in Minnesota's State Wildlife Action Plan, Tomorrow's Habitat for the Wild and Rare (Tomorrow's Habitat Plan). Implementation of these objectives in key habitats identified in the Plan will maintain and enhance native forest communities supporting game and non-game wildlife populations. Tomorrow's Habitat Plan also calls for the purchase and protection of key habitats as another tool to address the conservation needs of these species.

Setting of priorities: Subsection forest resource management plans (SFRMP) are vegetation management plans for forest lands administered by the Division of Forestry and Section of Wildlife. Ecological Classification System (ECS) subsections, not administrative boundaries, are the basic units of delineation. The focus of these plans is identifying long-term desired future forest composition goals within a subsection. Accomplishing SFRMP goals was the primary priority used by Regional and Area DNR staff selecting and ranking forest projects for inclusion in this program.

Scope of our program: The 63 projects in our program are organized by priority management objectives:

1. Enhance forest community by altering the plant species composition and/or structure;

Example - On Breman WMA conduct a hand release to enhance the growth of Northern red oak saplings and trees to increase mast available for wildlife, and meet SFRMP goal to “improve the regeneration and increase the presence of oak and pine across the MLU Subsection”.

2. Enhance the brushland habitat by altering the plant species structure and/or composition;

Example - On Roseau River WMA shear 460 ac of lowland brush to set back succession in mature willow stands to improve cover and forage for deer and moose, enhance nesting and brood rearing habitat for a variety of both game and non-game brushland dependant avian species. Perpetuate the brushland component of the Aspen Parklands landscape and predispose these stands to future management with prescribed fire.

3. Contribute to adaptive forest management;

Example - The goal is to enhance the species and structural diversity of red pine plantations through thinning treatments and adaptive management. Sites on the Beltrami Island State Forest sites are being thinned to a low basal area and half of each site was set up for a variable density thinning with $\frac{1}{4}$ and $\frac{1}{2}$ acre skips and gaps. Pre-treatment monitoring data is currently being gathered from species-area plots, regeneration/basal area plots, and coarse woody debris transect sampling. This funding request is for post-treatment, 1 year after treatment, and 3 years after treatment monitoring. This is a long-term interdisciplinary project that will require funding in the future for the 5 and 10 year monitoring cycles. Monitoring information will be analyzed and evaluated during the project to determine if management should be altered to meet objectives (i.e. redesign treatments, supplemental planting, start prescribed burning, etc).

4. Protect from deer browse as a component of stand regeneration;

Example - On the Straight River AMA fence an area planted with jack pine to protect from extreme deer browsing. Pine Moraines and Outwash Plains SFRMP identified site as priority to maintain in jack pine. Fence will remain for 5 – 8 years, until seedlings are established and no longer in need of browse protection.

5. Create and/or maintain forest openings as a desired forest wildlife habitat component.

Example - On the Fond du lac State Forest mow, hand cut, burn, or chemical release to prevent encroachment of trees, shrubs and invasive species on 40 sites (approx. 200 ac). Many species of wildlife require forest openings during some part of their life cycle such as deer, bear, and grassland songbirds. The permanent openings require periodic maintenance such as brush mowing to set back brush and maintain the desired qualities of a forest opening.

Habitat to be affected: Our program affects a range of forest habitats:

- Upland forests and woodlands (incl. fire-dependent forests, mesic hardwoods)
- Wetland forests forest systems (incl. floodplain forests)
- Upland brush
- Wetland brush

Our program will enhance oak and create a mix of young hardwood forest with more open meadow/brush lands to benefit grouse, elk, and deer. Enhancement of conifer stands and mixed hardwood/conifer forests will provide habitat for fisher and marten, and thermal cover for deer and moose. Forest opening creation/enhancement will increase nut and berry production, provide roosting/display areas, and create feeding areas for moose, deer, ruffed grouse, woodcock, and bear. Shearing of trees and brush in large open landscape priority areas will benefit sharp-tailed grouse. Shearing and mowing of hardwoods and brush in smaller patches will benefit woodcock and deer.

Our program will benefit a number of nongame species, including yellow rails, sandhill cranes, northern harriers, bobolinks, and sandpipers. Activities that create/enhance forest openings will provide habitat for nongame species, including least chipmunks, northern flickers, cooper's hawks, and song sparrows. The less intensive timber management in our program will help protect rare native plant communities and a number of nongame species through retention and enhancement of plant species diversity and structure.

Actions planned: DNR staff will administer the program, engage contractors or MCC to conduct field work, and supervise activities in the field to assure effectiveness. Requested funds are for contracting with private vendors and MCC, supplies/small equipment, and related fleet expenses. Funds are not being requested for personnel. Overall, treatment costs per acre are approximately \$175.

These projects are not conducted as part of the DNR's commercial timber operations. Projects included in this program are beyond what we are currently able to accomplish.

With few exceptions, forest stand improvements will be implemented on state administered lands, (WMAs, state forests, and one Aquatic Management Area). The exceptions are a small number of projects that cross ownership boundaries with other public lands owners (County Tax Forfeit Lands, County Forests, and U.S Forest Service National Forests).

Restoration and enhancement activities on 14,940 ac of forestland will include:

- prescribed burning;
- mowing or shearing of woody vegetation;
- planting, seeding or encouraging natural regeneration;
- selective cutting and thinning;
- seedling protection;
- herbicide treatments; and others.

The project list does not include contingency projects. If unforeseen circumstances make it impossible to implement a listed project, effort and funds will be transferred to another approved project with the capacity to expand. Such a transfer will not exceed 15% overall acreage and total budget.

Site selection and scoring process: Projects were submitted by regional and area staff in DNR Divisions of Fish and Wildlife, Forestry, and Ecological Resources, from the DNR Central, Northeast, and

Northwest Regions. Interdisciplinary DNR teams screened and ranked projects that were then forwarded for inclusion in this proposal.

Stakeholder involvement: The SFRMP process, the source for our proposal goals, includes a fairly extensive stakeholder input process. We are not aware of stakeholder opposition to work included in this proposal.

Planning

“The mission of the Outdoor Heritage Fund, as specified in the state Constitution, is to protect, restore, and enhance wetlands, prairies, forests and habitat for fish, game and wildlife.”

Statewide Priority Criteria

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

Priority Actions for the Northern Forest Section

1. Protect shoreland and restore or enhance critical habitat on wild rice lakes, shallow lakes, cold water lakes, streams and rivers, and spawning areas.
 2. Protect forest land through acquisition or easement, to prevent parcelization and fragmentation and to provide the ability to access and manage landlocked public properties.
 3. 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.
 4. Restore forest-based wildlife habitat that has experienced substantial decline in aerial extent in recent decades.
1. Northern Forest Section Vision
 2. The Council’s future for the Forest/Prairie Transition Section envisions diverse and productive remnant tracts of native prairie, forests grasslands, wetlands, lakes and rivers, and their associated fish and wildlife habitat.

3. The Council sees a future when ample grasses and other vegetation on shorelands and higher in the watershed keeps water on the land. This will yield clean lakes and streams, steady lake and stream levels, and improved aquatic vegetation, providing a plentiful supply of habitat for fish, game and wildlife in the Section, especially habitat for waterfowl and upland birds.
4. These rivers and streams and their surrounding vegetation will provide corridors of habitat including intact areas of forest cover in the eastern reaches of the Section, and large wetland/upland complexes in the more westerly areas. These wetland/upland complexes will consist of native prairies, restored prairies, quality grasslands and restored shallow lakes and wetlands.

Priority Actions for the Forest/Prairie Transition Section

1. Protect, enhance and restore wild rice wetlands, shallow lakes, wetland/grassland complexes, aspen parklands, and shoreland that provide critical habitat for game and non-game wildlife.
2. Protect, enhance and restore rare native remnant prairie.
3. Protect, enhance and restore migratory habitat for waterfowl and related species, so as to increase migratory and breeding success.
1. The Council's vision for the Metropolitan Urbanizing Section is a network of natural lands in the Section providing wildlife habitat, quality fisheries, especially cold-water fisheries and a forest land base that contributes to the habitat picture.
2. These natural lands in the Metropolitan Urbanizing Section include complexes of restored and perpetually protected wetlands, prairies, and forests, providing habitat benefits and access. These will have core areas with protected highly biologically diverse wetlands and plant communities including native prairies. Where possible, the habitats will connect, making corridors for wildlife and species in greatest need of conservation, and hold wetlands and shallow lakes open to public recreation and hunting. The Section's game lakes will be significant contributors of waterfowl, due to efforts to protect uplands adjacent to game lakes. In the corridors, the streams, rivers and lakes will be protected by vegetative buffers along riparian areas. Remnant oak savanna will be protected and its health restored, as will forests contributing to quality fisheries. As a result cold-water streams and lakes will provide high quality fisheries within an hour's drive of the majority of the state's population. Where possible, invasive species will have been permanently eradicated.

Priority Actions for the Southeast Forest Section

1. Protect forest habitat through acquisition in fee or easement, to prevent parcelization and fragmentation and to provide the ability to access and manage landlocked public properties.
2. Protect, enhance and restore habitat for fish, game and non-game wildlife in rivers, cold water streams and associated upland habitat.
3. Protect, enhance and restore remnant goat prairies.
4. Restore forest-based wildlife habitat that has experienced substantial decline in aerial extent in recent decades.

Priority Actions for the Prairie Section

1. Protect, enhance, or restore existing wetland/upland complexes, or convert agricultural lands to new wetland/upland habitat complexes.
2. Protect, enhance and restore remnant native prairie, Big Woods forests and oak savanna.

3. Convert agricultural land to wetland/upland to protect, enhance, or restore existing habitat complexes, such as existing WMA's.
4. Restore or enhance habitat on public lands.
5. Protect, restore and enhance shallow lakes.
6. Protect expiring Conservations Reserve Program (CRP) lands.
7. Protect, enhance and restore migratory habitat for waterfowl and related species, so as to increase migratory and breeding success.

The **Minnesota Statewide Conservation and Preservation Plan** identifies habitat loss and degradation as the number one driver of change for wildlife in Minnesota. The *Plan* addresses key issues of land and habitat fragmentation, degradation, loss and conversion, and land use practices. Recommended key strategies to positively impact habitat include: integrated planning, land and water restoration and protection, and sustainable practices. Our program addresses these key issues and incorporates many of the key strategies.

The *State Wildlife Actions Plan, Tomorrow's Habitat for the Wild & Rare*, calls for focused efforts to address the conservation needs of rare game and nongame wildlife species. Habitat loss and degradation are identified as the primary challenge facing wildlife. Almost one-third of the state's 292 Species in Greatest Conservation Need (SGCN) inhabit forests. The management objectives in our program parallel the forest management options outlined in *Tomorrow's Habitat Plan*. Implementation of these objective in key habitats identified in the *Plan* will maintain and enhance native forest communities supporting game and non-game wildlife populations. *Tomorrow's Habitat Plan* also calls for the purchase and protection of key habitats as another tool to address the conservation needs of these species.

Our program makes significant progress towards accomplishing goals of the multiple DNR landscape level forest management plans (**Subsection Forest Resources Management Plans**) ([://www.dnr.state.mn.us/forestry/subsection/index](http://www.dnr.state.mn.us/forestry/subsection/index).)

Our program directly achieves the **DNR's Strategic Conservation Agenda 2009-2013** indicators and targets under Integrated Public & Private Land Management.

Appendix J (Sensitive Native Plant Communities) of The MN Forest Resources Council's **Voluntary Site-Level Forest Management Guidelines for Landowners, Loggers, and Resource Managers** lists Sensitive Native Plant Communities. Our program works in at least 12 of the 40 listed communities.

Our program implements the goals of the **DNR A Vision for Wildlife and Its Use - Goals and Outcomes, 2006-2012** (FAW core functions, MN Statute 84.941): wildlife resource goals, population and habitat strategies, brushlands and prescribed burning, Ecological Subsection regional challenges.

Our program meets the goals of several MN Forest Resources Council landscape plans ([://www.frc.state.mn.us/Landscp/Landscape](http://www.frc.state.mn.us/Landscp/Landscape)).

Science based - This program builds on the best available science from the fields of wildlife management, ecological silviculture, and systems restoration. Success has been demonstrated through decades of sound wildlife and land management by DNR. Our program is one of several that implement the DNR's Subsection Forest Resource Management Plans (SFRMPs). These are long-term (50 plus years) plans with short-term (10 years) vegetation management directions. SFRMPs are based on scientific principles inherent in the Ecological Classification System. The Plans articulate the mix of ecological and social values and economic products that will be sustained through forest management. A small percentage of projects in our program are geographically outside the range of an SFRMP. In these instances, management is consistent with the sustainability principles evident in the SFRMPs.

DNR's ecologically-based silviculture approach to forest management uses native plant community information to prescribe and support stand-level management. As a result, stand-level treatments take into account natural disturbance regimes, dynamics, growth stages, tree behaviors, and seasonal operability.

Of the 63 projects in this proposal, 3 (\$72,000, 390 ac) are specially designed as Adaptive Forest Management Projects. The aim of these projects is to find ways to improve sustainable forest management in the face of emerging challenges such as climate change, invasive species, changing demographics, and an expanding global economy. Each effort includes a core set of sustainability questions along with management and monitoring actions designed to answer those questions. This approach is designed to provide focused, on-the-ground forums for cooperation and coordination among DNR disciplines and staff at all levels.

Overarching tasks include:

- Testing and refining new and existing silviculture techniques to meet multiple objectives;
- Using and refining "Sustainable Forest Management Principles";
- Systematic monitoring, along with documenting and disseminating results.
- Demonstrating how the Native Plant Community Classification can be used to identify and evaluate different site-level management options.
- Testing and selecting management approaches for sustaining MCBS sites of high or outstanding biodiversity significance.
- Finding ways to increase management efficiency while meeting multiple objectives (optimization).
- Learning how to more effectively link landscape and stand-level goals.

Relationship to Other Constitutional Funds

We believe the work being proposed is most appropriate for Outdoor Heritage funding rather than other Constitutional funding. However, DNR will consult and coordinate with other partners that receive constitutional funding to ensure all funding sources complement each other and provide the greatest natural resource outcomes.

Relationship to Current Organizational Budget

These activities are not conducted as part of the DNR's commercial timber operations. Projects included in this program are beyond what we are currently able to accomplish.

FY2009

DNR	\$200 mil
Division of Fish & Wildlife	\$33.1 mil
Division of Forestry	\$25.5 mil
Division of Ecological Resources	\$11.6 mil
Our program	\$2.64 mil

Sustainability and Maintenance

Area land managers will monitor project sites and take any necessary actions to sustain the habitat improvements as part of their public land management responsibilities. Maintenance work will be carried out by existing staff, MCC crews, temporary project staffing or through vendor contracting. Periodic enhancements (beyond routine management) will be funded through annual funding requests from a variety of funding sources, including Game and Fish Fund, Bonding, Gifts, Federal Sources, Environmental Trust, and Outdoor Heritage Fund.

Types of Projects

Fee Acquisition Projects

Will local government approval be sought prior to acquisition?

Yes **No, please explain** x **not applicable**

If no, please explain here:

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

Yes **No, please explain** x **not applicable**

If no, please explain here:

Easement Acquisition Projects

Will the eased land be open for public use?

Yes **No, please explain** x **not applicable**

If no, please explain here:

Will the conservation easement be permanent?

Yes **No, please explain** x **not applicable**

If no, please explain here:

Restoration and Enhancement Projects

Is the activity on permanently protected land and/or public waters?

x **Yes** **No, please explain** **not applicable**

If no, please explain here:

Does the activity take place on an Aquatic Management Area (AMA), Scientific and Natural Area (SNA), Wildlife Management Area (WMA), or State Forests?

x **Yes, which ones** **No, please explain** **not applicable**

If so, please indicate which ones:

Accomplishment Timeline

Activity	Milestone	Date
Forest stand	6,000 ac	6/30/2012
improvement site preparation	6,000 ac	6/30/2013
(such as weed removal, fire	3,000 ac	6/30/2014
breaks, soil preparation, etc.)	1,000 ac	6/30/2015
Forest stand	4,000 ac	6/30/2012
treatment/implementation (such	6,000 ac	6/30/2013
as planting, burning, shearing,	2,500 ac	6/30/2014
thinning, etc.)	1,500 ac	6/30/2015
Forest stand	0	6/30/2012
Post-treatment (evaluation,	4,000 ac	6/30/2013
release, browse protection, etc.)	6,000 ac	6/30/2014
	4,000 ac	6/30/2015

Attachments: [Attach these documents to the web application form.]

A. Budget

B. Proposed Outcome Tables 1-5

C. Map

D. Parcel List

Attachment A. Budget Spreadsheet

[Link Here to definitions of the budget items below.](#)

Total Amount of Request \$ 2,640,030 *From page 1 on the funding form.*

Personnel

Position breakdown here	FTE	Over # of years	LSOHC Request	Anticipated Cash Leverage	Cash Leverage Source	Total
<i>Manager of Programs</i>						\$ -
<i>Admin Asst</i>						\$ -
<i>position 3</i>						\$ -
<i>position 4</i>						\$ -
<i>position 5</i>						\$ -
<i>position 6</i>						\$ -
<i>position 7</i>						\$ -
Total			\$ -	\$ -	\$ -	\$ -

Budget and Cash Leverage *(All your LSOHC Request Funds must be direct to and necessary for program outcomes.)*

Please describe how you intend to spend the requested funds.

Budget Item	LSOHC Request	Anticipated Cash Leverage	Cash Leverage Source	Total
Personnel - auto entered from above	\$ -	\$ -	\$ -	\$ -
Contracts	\$ 2,486,369			\$ 2,486,369
Fee Acquisition w/ PILT (breakout in table 6 & 7)				\$ -
Fee Acquisition w/o PILT (breakout in table 6 & 7)				\$ -
Easement Acquisition				\$ -
Easement Stewardship				\$ -
Travel (in-state)	\$ 33,620			\$ 33,620
Professional Services	\$ 32,581			\$ 32,581
DNR Land Acquisition Costs				\$ -
Other				\$ 87,460
Capital Equipment				\$ -
Other Equipment/Tools	\$ 21,660			\$ 21,660
Supplies/Materials	\$ 65,800			\$ 65,800
	\$ 2,640,030	\$ -	\$ -	\$ 2,640,030

Attachment B. Proposed Outcome Tables

Only enter data in the outlined cells

Table 1 and Table 3 column totals should be the same AND Table 2 and Table 4 column totals should be the same

If your project has lakes or shoreline miles instead of land acres, convert miles to acres for Tables 1 and 3 using the following conversion:

Lakeshore = 6 acres per lakeshore mile / Stream & River Shore = 12 acres per linear mile, if both sides

Table 1. Acres by Resource Type

Describe the scope of the project in acres (use conversion above if needed)

	Wetlands	Prairies	Forest	Habitats	Total
Restore			25		25
Protect					0
Enhance			14915		14915
Total	0	0	14940	0	

Total Acres (sum of Total column)

14940

These two cells should be the same figure.

Total Acres (sum of Total row)

14940

Table 2. Total Requested Funding by Resource Type

	Wetlands	Prairies	Forest	Habitats	Total
Restore			\$ 18,889		\$ 18,889
Protect					\$ -
Enhance			\$ 2,621,141		\$ 2,621,141
Total	\$ -	\$ -	\$ 2,640,030	\$ -	

Total Dollars (sum of Total column)

\$ 2,640,030

These two cells should be the same figure.

Total Dollars (sum of Total row)

\$ 2,640,030

Check to make sure this amount is the same

as the Funding Request Amount on page 1 of Main Funding Form.

Table 3. Acres within each Ecological Section

	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	0	0	25	0	0	25
Protect	0	0	0	0	0	0
Enhance	0	2185	959	5	11766	14915
Total	0	2185	984	5	11766	

Total Acres (sum of Total column)

14940

These three cells should be the same figure.

Total Acres (sum of Total row)

14940

Total Acres from Table 1.

14940

Attachment B. Proposed Outcome Tables

Table 4. Total Requested Funding within each Ecological Section

	Metro/Urban	Forest/Prairie	SE Forest	Prairie	Northern Forest	Total
Restore	\$ -	\$ -	\$ 18,889	\$ -	\$ -	\$ 18,889
Protect	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Enhance	\$ -	\$ 294,048	\$ 291,853	\$ 7,000	\$ 2,028,093	\$ 2,620,994
Total	\$ -	\$ 294,048	\$ 310,742	\$ 7,000	\$ 2,028,093	

Total Dollars (sum of Total column)

\$ 2,639,883

These two cells should be the same figure.

Total Dollars (sum of Total row)

\$ 2,639,883

Check to make sure these amounts are the same

as the Funding Request Amount on page 1 of Main Funding Form.

Table 5. Target Lake/Stream/River Miles

miles of Lakes / Streams / Rivers Shoreline

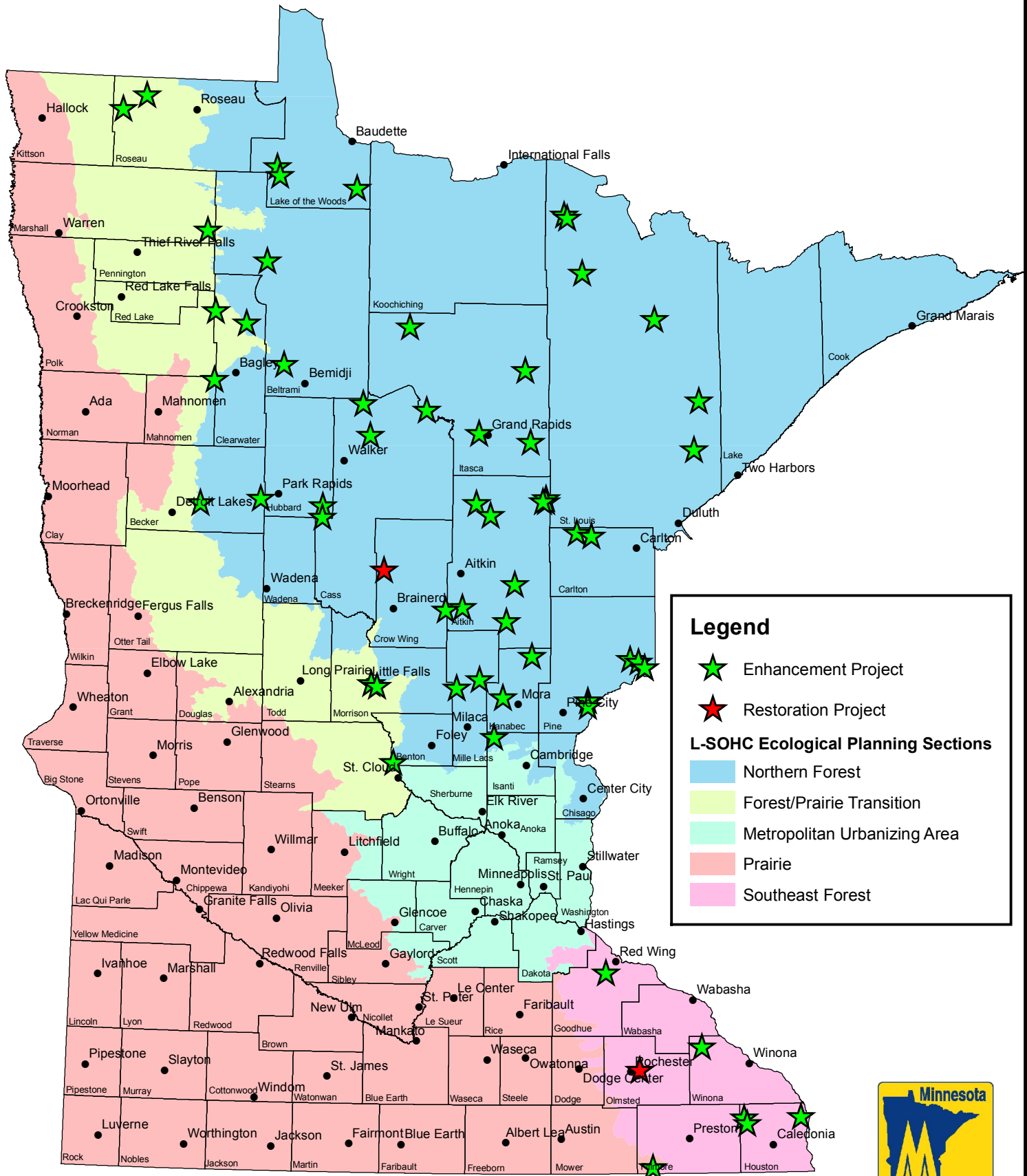
Table 6. Acquisition by PILT Status (enter information in acres)

	Wetlands	Prairies	Forests	Habitats	Total
Acquired in Fee with State PILT Liability					0
Acquired in Fee without State PILT Liability					0
Permanent Easement NO State PILT Liability					0

Table 7. Estimated Value of Acquisition by PILT Status (enter information in dollars)

	Wetlands	Prairies	Forests	Habitats	Total
Acquired in Fee with State PILT Liability					\$ -
Acquired in Fee without State PILT Liability					\$ -
Permanent Easement NO State PILT Liability					\$ -

L-SOHC FY12 DNR Proposed Forest Projects



Attachment D. Parcel List

Program Title: DNR FY2012 Accelerated Forest Habitat Enhancement											
When a project is beyond one section, legal descriptions are for the projects central											
Parcel Name	Area Name	County	Township	Range	Direction	Section	TRDS	# of acres	Estimated Cost to OHF	Description	Activity
Dalbo Lowland Forest Buckthorn Treatment	Cambridge	Isanti	37	25	2	09		50	\$11,000	Rejuvenate lowland deciduous and conifer forest type by removal of smooth brome through hydroaxing followed by aerial herbicide treatment.	E
Sandstone Area Supplemental Planting of Selected Tree Species Into Selected Stands	Cloquet	Pine	39	20	2	01		300	\$84,200	To increase both stand, plant diversity. This will not be a typical planting. Objectives: 1) Reintroduce species into stands that have been severely reduced or eliminated due to past practices (example: white pine in northern hardwood stands) 2) Augment or assist the entry of species into the stand during the MPCA's transition periods; 3) Increase the diversity and resiliency of our forests. Planting would be at a very low tree/acre rate (25 to 70 trees/acre) when compared to plantation or cover type plantings. Some species may be planted using techniques such as auger planting of large transplant stock in order to reduce the number of years the trees are exposed to deer browse.	E
Sandstone Area Pre-Harvest Site Preparation-Salmon Blade	Cloquet	Pine	39	20	2	13		1000	\$112,500	Salmon Blade Site Preparation Purpose: Use a Salmon Blade to accomplish pre-harvest site preparation in stands where natural regeneration will occur. Standard & Non-standard Regeneration Surveys will be part of the monitoring process. 250 acres/year prior x 4 yrs. total 1000 acres. Estimated cost \$ 150.00/acre.	E
Cambridge Area Woodcock and Grouse Alder Management	Cambridge	Kanabec	40	25	2	36		25	\$4,000	Regenerate and rejuvenate old decadent alder stands via hydroaxing to enhance habitat for woodcock and grouse.	E

Attachment D. Parcel List

Rum River Daily Oak Protection	Cambridge	Mille Lacs	40	27	2	17	10	\$12,500	Seedlings were planted in April 2010 under a shelter wood cut that was completed in 2008. Managers anticipate problems with deer browse. Balloon capping as method used for deer protection is planned but it may not be effective to protect planted seedlings and also promote natural regeneration of native stocks. Managers would like to install a deer enclosure fence around 10 acres of the 23 acre site. Site is on the Daily Unit of the Rum River State Forest (Mille Lacs Uplands SFRMP).	E
Forest Stand Improvement	Little Falls	Morrison	40	32	2	08	300	\$41,200	Subcontracting with MCC or TNC for 4-person crew to accomplish timber stand improvements on area wide WMA through oak understory prescribed burning (5 sites for 200 acres), and buckthorn removal (10 sites for 100 acres) with herbicide and power hand tools.	E
Popple Lake Buckthorn Control	Little Falls	Morrison	40	32	2	15	81	\$162,000	Popple Lake WMA was inventoried in May and June 2010. Remainder of upland forested habitats also contain similar infestations based upon observations from wildlife field staff and will be inventoried in June 2010. This proposal is to treat buckthorn in all upland oak and hardwood forested habitats on the WMA, which total approximately 81 acres. Goals is to treat all buckthorn stems found, with priority on treating stems equal or greater to 3/4 inch in diameter which would comprise the bulk if not all seed-bearing stems.	E
St. Croix State Forest Stand Improvement-Release White Pine	Cloquet	Pine	41	16	2	04	5	\$1,000	Release and enhance the growth of white pine seedlings, saplings, and trees naturally occurring in the stand. Maintain and improve the chance of successful regeneration of white pine. Primary action is to release white pine from aspen competition.	E

Attachment D. Parcel List

Hardwood Stand Improvement-Breman	Cloquet	Pine
Mille Lacs and Four Brooks Brushland Burns	Mille Lacs WMA	Mille Lacs
Deer Exclosure - Sandstone (Hay Creek, S30)	Cloquet	Pine
Deer Exclosure - Sandstone (S22)	Cloquet	Pine

	41	16	2 04		23	\$4,600	Release and enhance the growth of Northern red oak saplings, and trees, in the stand, important for wildlife species who utilize mast for food. Crop tree Crown Release of Northern Red Oak & other desirable species.	E
	41	26	2 25		3500	\$27,000	This project will use helicopter ignition to burn one decadent stand of lowland willow/alder brush encroaching on large wetland complexes within the Mille lacs WMA. Additional complexes will utilize ground ignition and available resources from other offices. A four person CCM crew will also be used by other areas to support their prescribed burn activities.	E
	42	16	2 30		20	\$30,300	To protect regenerating oak stands by constructing barrier deer fences around selected oak stands. The project will promote the establishment of oak seedlings through natural regeneration methods which may reduce the use of heavier mechanical and chemical site preparation. And will help us improve the regeneration and increase the presence of oak and pine across the MLU Subsection.	E
	42	17	2 22		20	\$32,300	To protect regenerating oak stands by constructing barrier deer fences around selected oak stands. To protect regenerating oak stands by constructing barrier deer fences around selected oak stands	E

Attachment D. Parcel List

Snake River Deer Protection	Cambridge	Kanabec	42	23	2	13	5	\$10,500	Site has been planted multiple times and even with bud capping, seedling establishment has been difficult due to heavy deer browsing. We would like to install a deer enclosure fence around 5 acres. An existing Deer enclosure fence nearby has shown to be very effective. Area WMA manager indicated that all possible alternative deer management strategies to increased deer harvest in DPA 157 and bring deer population down to sustainable management goal have been used but population remains slightly higher. Deer enclosure Fence will be very effective method to protect seedlings until they are free to grow (in 5 to 6 years). Currently, there are approximately 567 planted trees per acres.	E
Hardwood Stand Improvement - Solona	Aitkin	Aitkin	44	24	2	16	54	\$5,400	Enhance the growth and form of the red oak, tamarack and paper birch on this site. Hand release by removing adjacent competing vegetation and retaining the diversity in the remainder of the stand as per Mille Lacs Uplands SFRMP goals. Work best accomplished leaf-off in fall or early spring. T44R24S16	E
Hardwood Stand Improvement - Aitkin (S24)	Aitkin	Aitkin	45	27	2	24	7	\$840	Enhance the growth and form of the red oak, yellow birch, butternut and paper birch on this rich hardwood site. Hand release by removing adjacent competing vegetation and retaining the diversity in the remainder of the stand as per Mille Lacs Uplands SFRMP goals. Work best accomplished leaf-off in fall or early spring.	E
Hardwood Stand Improvement - Aitkin (S25)	Brainerd	Crow Wing	45	28	2	25	30	\$3,600	Enhance the growth and form of the red oak and paper birch on this rich hardwood site. Hand release by removing adjacent competing vegetation and retaining the diversity in the remainder of the stand as per Mille Lacs Uplands SFRMP goals. Work best accomplished leaf-off in fall or early spring.	E

Attachment D. Parcel List

Oak and White Pine Planting - Aitkin	Aitkin	Aitkin
Forest Opening Management-Cloquet	Cloquet	Carlton
Cross Lake East/Hasty Brook Mow	Cloquet	Carlton
Willowissippi Ponds Brush	Aitkin	Aitkin
Hand Release - Aitkin (S11)	Aitkin	Aitkin
Hand Release - Aitkin (S14)	Aitkin	Aitkin

46	24	2	12	44	\$28,575	Replant this site that was harvested in the winter of 2009-2010. Disk trench the site to prepare for auger planting of red oak and white pine, then protect the planted seedlings from deer browse damage until they grow out of the reach of the deer.	E
49	19	2	16	193	\$20,500	Improve and maintain existing wildlife openings in the Fond du Lac State Forest. Most of these opening are very overgrown and have not been treated for 8 or more years.	E
49	20	2	10	230	\$34,900	This project will involve mowing of 246 acres of stagnant bog conifers (230 acres of public land,)in 2 adjacent Brushland Management Areas. Most sites had been mechanically treated in 1990, and have had periodic prescribed burn attempts since. These bog areas have not burned well and bog conifers, especially tamarack, have grown to the point where treatment is needed to improve open landscape habitats for brushland wildlife species. Mowing is proposed in sphagnum bog areas because it is less disruptive to the ground layer vegetation.	E
50	25	2	10	230	\$10,900	Shear brush to enhance habitat for open land wildlife species, including sharp-tailed grouse.	E
51	22	2	11	7	\$700	Hand release white pine that were planted several years ago. Contract to remove competing vegetation immediately adjacent to the pine, retaining diversity on the remainder of the site. Perform work leaf-off in spring or fall.	E
51	22	2	14	14	\$1,400	Hand release white pine that were planted several years ago. Contract to remove competing vegetation immediately adjacent to the pine, retaining diversity on the remainder of the site. Perform work leaf-off in spring or fall.	E

Attachment D. Parcel List

Hand Release - Aitkin (S14 and 15)	Aitkin	Aitkin
Hardwood Stand Improvement - Aitkin (S23)	Aitkin	Aitkin
Cloquet River Conifer Release in Wood Turtle Habitat	Cloquet	St. Louis
Freeley Oak Seeding	Grand Rapids	Itasca
Bass Brook Brush Removal and Oak Planting	Grand Rapids	Itasca

51	22	2	15	6	\$600	Hand release white pine that were planted several years ago. Contract to remove competing vegetation immediately adjacent to the pine, retaining diversity on the remainder of the site. Perform work leaf-off in spring or fall.	E
51	26	2	23	7	\$840	Enhance the growth and form of the red oak and paper birch growing on this rich hardwood site. Selecting crop trees and releasing by hand cutting adjacent competing vegetation, maintaining stand diversity as per Mille Lacs Uplands SFRMP. Work best done leaf off in fall or early spring.	E
54	13	2	16	348	\$154,720	Hand release jack pine and long lived conifer species by cutting competing species such as aspen and balsam fir twice over 3 growing season. project sites are within MCBS sites of outstanding or high biodiversity significance ranked for their significance for wood turtle.	E
55	23	2	36	39	\$1,700	Oak trees will be directly seeded on 28 acres to provide and enhance wildlife habitat and increase forest diversity. The future acorn mast crop produced by these trees will provide food for wildlife. This planting will also restore oak that was lost from a past outbreak of the two-lined chestnut borer insect.	E
55	26	2	13	4	\$11,600	Oak trees provide hard mast for a variety of wildlife species as well as contributing to forest diversity. Oaks also provide wildlife nesting and denning sites. This project area is an oak stand in the Bass Brook WMA. Seven gaps in the forest canopy were identified for a total of 4 acres. These gaps contain dense stands of beaked hazelnut. Brush saws will be used to hand cut the hazelnut to create an open habitat free of competition for oak production during summer of 2011. A total of 1000 bur oak and 1000 pin oak will be planted in the forest gaps in the spring of 2012.	E

Attachment D. Parcel List

SNF/DNR Coop Blueberry Oak Habitat Enhancement	Tower	St. Louis
Itasca County Forest Oak Planting Project	Grand Rapids	Itasca
St. Louis Co Coop Forest Stand Improvement	Tower	St. Louis
Forest Opening - Orr	International Falls	St. Louis

57	13	2	23	3000	\$600,000	Manage oak outcrop forest habitats to enhance oak and fruiting shrub components. Treatment will consist of hand release of oaks and fruiting shrubs. Follow-up treatment (not requested in this proposal) will be the reintroduction of low intensity fire.	E
59	23	2	27	7	\$9,070	Oak trees provide hard mast for a variety of wildlife species as well as contributing to forest diversity. Oaks also provide wildlife nesting and denning sites. This project's sites are in recently harvested Jack Pine stands and bur oak and red oak will be planted in 1/2 to 1 acre areas in the stands being planted to Jack Pine. A total of 2800 mixed oak species will be planted. 2000 will be planted in the spring of 2011. 800 will be planted in 2012. Balloons will be used as bud caps on the oaks and will be applied in the fall of 2011 and several years thereafter.	E
62	15	2	29	80	\$8,560	Establish conifer by hand planting & seeding to established conifer & provide conifer cover within appropriate plant communities. Project areas are within the Border Lakes SFRMP. The SFRMP and General Direction document call for an increase in conifer in these areas. Camp Eight is to seed site that was previously burned. Pike Wild Fire is for aerial seeding a young JP site that was burned over in a wild fire in the spring of 2010. Five Mile Lake is a Jack Pine restoration site	E
64	19	2	06	100	\$21,400	Wildlife openings throughout the work area need mowing, hand cutting, burning or chemical release to prevent encroachment of trees, shrubs or noxious weeds.	E

Attachment D. Parcel List

Frontier Brushland Shear	International Falls	St. Louis
East Camp 90 White Spruce Enhancement	International Falls	St. Louis
Nosek Hardwood Planting	Rochester	Fillmore
Chisholm Hardwood Improvement	Rochester	Houston
Winnebago Creek Hardwood Improvement	Rochester	Houston

	68	20	2	30		169	\$21,525	Lowland brush and offsite conifer will be sheared to set back succession and prepare for burning. The site is in a priority open land management area, and is adjacent to an existing brushland management complex that has been previously been sheared and burned. Sharp-tailed grouse and other open land species will benefit from this project. There are several active leks nearby.	E
	68	20	2	32		40	\$5,000	This project will hand release white spruce seedlings planted within a regenerating aspen stand. It will result in an ecologically mixed aspen/white spruce stand that contributes to the goal of increasing late-successional conifer as described in the Border Lakes SFRMP. Once contracted, the project will take several days to complete and no potential problems expected.	E
	101	01	2	24		5	\$7,000	Re-establish hardwood forest on the Nosek WMA in Fillmore County. Site is currently old pasture taken over by box elder. Will under plant with hardwoods and then girdle and chemically treat. Will be don in halves over two year period.	E
	103	00	2	04		73	\$22,500	Basal treatment of all invasives 3' tall and taller with Garlon 4 within the forested portion of the Chisholm Valley WMA. Control of invasives is needed to maintain, improve, and prep the forested natural community for future timber management.	E
	104	00	2	27		122	\$37,600	Basal treatment of all invasives 3' tall and taller with Garlon 4 within the forested portion of the Winnebago Creek WMA. Control of invasive's is needed to maintain, improve, and prep the forested natural community for future timber management.	E

Attachment D. Parcel List

Ferndale Ridge WMA Hardwood Improvement	Rochester	Houston
Hoffman Hardwood Seeding	Rochester	Olmsted
Yeager Direct Seeding	Rochester	Olmsted
Whitewater Hardwood Planting and Post Sale Treatment	Whitewater	Winona
Hoffman Hardwood Improvement	Rochester	Goodhue

104	00	2 29	200	\$61,000	Basal treatment of all invasives 3' tall and taller with Garlon 4 within the forested portion of the Ferndale Ridge WMA. Control of invasive's is needed to maintain, improve and prep the forested natural community for future timber management.	E
107	01	2 31	10	\$7,500	Establish floodplain forest on the WMA that is currently cropped. No longer need crops on this land and establishing forest would improve habitat for deer, turkey, and song birds. A lowland forest mix will be used.	R
107	01	2 31	15	\$11,000	Establish floodplain forest on field currently being farmed. No longer need crops on this WMA land and establishing forest would improve habitat for deer turkeys and song birds. A lowland forest mix will be used.	R
108	01	2 23	489	\$134,250	Estimated 350 acres to purchase trees and contract plant about 60% of 612 acres of oak stands to be examined for FY12 would actually be harvested and thus needing forest development funding. Also about 139 acres of past timber sales would need post-sale treatment at \$150/ac. Likely post-sale areas: west headquarter (29ac); Swanson's (57ac) Demonstration farm area (21ac) and Hollywood (32ac)	E
112	01	2 07	75	\$30,500	Local contractors will be hired to move through both of the priority areas cutting all buckthorn and honeysuckle stems. Cut stumps will be treated with a 25% Garlon4/bark oil mixture. Stems will either be left scattered on the ground or piled, depending on density. Additional spot treatments of herbicide may be needed in the future for seeding control, but the goal is to control seedlings in the future with prescribed burn.	E

Attachment D. Parcel List

Sauk Rapids Brushland Management	Sauk Rapids	Stearns
Mixed pine release - Aitkin (S36)	Brainerd	Crow Wing
Jack Pine Regeneration Adaptive Forest Management	Park Rapids	Hubbard
Badoura Woodcock Brushland Project	Park Rapids	Hubbard
Hubbel Pond Pine Regeneration	Park Rapids	Becker

124	02	2 03	20	\$10,500	Project will consist of rejuvenation of block area of native brushlands. Focus of this project will include planting native willow, alder, dogwood, plum and others. Brushland burning may be used to invigorate and restore brushlands.	E
136	02	2 36	10	\$1,000	Hand release jack and red pine that were planted several years ago. Contract to remove competing vegetation immediately adjacent to the pine, retaining diversity on the remainder of the site as per Chippewa Plains SFRMP. Perform work leaf-off in spring or fall.	E
139	03	2 09	118	\$15,000	The goal is to enhance natural regeneration of jack pine stands through the retention of live seed sources after harvest and adaptive management. These sites will be harvested in different patterns leaving younger jack pine seed trees in strips or clumps or by conducting patch clear cuts in a younger jack pine stand. Pre-treatment monitoring data will be collected from species-area plots, regeneration plots, and coarse woody debris transect sampling.	E
139	03	2 33	400	\$46,000	Regeneration of brushland habitat for the enhancement of woodcock, sandhill crane and for various other brushland habitat community species. Project timeline will include both summer rotary ax and winter shearing to evaluate impacts of enhancement opportunities.	E
139	03	2 08	5	\$4,850	Aspen site with scattered oak & pine. Aspen & poor quality oak harvested 2011. Site a to be prepped and under planted with jack, red and white pines with protectors.	E

Attachment D. Parcel List

Straight River Jack Pine Deer Browse Protection	Park Rapids	Becker
Building Site-Level Resiliency in Lowland Black Ash Forest in the Face of the EAB Threat	Park Rapids	Cass
AFMP Rx Burn Monitoring	Grand Rapids	Itasca

140	03	2 35		27	\$21,168	Fence area planted with jack pine to protect from extreme deer browsing. Pine Moraines and Outwash Plains SFRMP identified site as priority to maintain jack pine. Fence details and installation described in explanation below. Install fence prior to this Fall. Fence will remain for 5-8 years, until seedlings are established and no longer need browse protection. Access to Straight River will be maintained.	E
143	02	2 06		100	\$22,200	Enhancement of forest resiliency in WFn64 (wet black ash) NPC HCVF sites. 100 acres of WFn64 have been identified for enhancement in Cass county. The goal of the project is to enhance the resistance of these stands to decreased transpiration and increased water levels in the event that EAB causes total mortality to the ash component. All of the sites are within MCBS sites of Outstanding biodiversity significance, and two sites are within Old Growth SMZ and are high priority for protection.	E
145	02	2 21		100	\$36,000	Adaptive Forest Management Project east of Lake Winnibigoshish involves repeated prescribed burning on a series of fire dependent sites, with goals of establishing natural regeneration (primarily white pine) improving wildlife habitat and enhancing the native plant community.	E

Attachment D. Parcel List

Moon Project Area Forest Opening Management	Park Rapids	Cass	145	03	2 11	50	\$15,500	Forest openings provide an important wildlife habitat component. Many species of wildlife require forest openings during some part of their life cycle such as deer, bear, and grassland songbirds. Forest openings are particularly important to woodcock for night roosting and mating displays. The permanent openings require periodic maintenance such as brush mowing to set back brush and maintain the desired qualities of a forest opening. Also, disturbed sites such as, log landings and logging roads, post timber sale harvest will be seeded with a legume mixture to provide wildlife forage and promote open habitat in the forest.	E
Island Lake Pine Regeneration	Detroit Lakes	Mahnomen	146	03	2 01	12	\$9,750	Proposal is for post harvest site prep, re-planting to jack pine and 4 yrs. bud capping.	E
Bjoring WMA Tree Planting	Bemidji	Beltrami	147	03	2 06	18	\$21,900	Reforestation project on former cropland acres within WMA. Project will involve constructing a deer depredation protection fence around the 18-acre site, followed by herbicide application and planting jack, red and white pine trees, in addition to planting an assortment of fruit and nut-bearing trees and shrubs.	E
Dishpan WMA Brush Removal and Conifer Planting	Grand Rapids	Itasca	150	02	2 28	4	\$9,270	Conifer trees such as white pine, white spruce, balsam fir, and northern white cedar provide excellent winter cover for deer. In addition, conifer cover along the edge of the Dishpan WMA impoundment will discourage beaver activity. Also, conifer conversion meets SFRMP goals. This project area is 4 acres on a SW facing slope adjacent to the impounded wetland in a stand classified as MHN46. Beaver activity in the past has eliminated most of the aspen trees on this slope and at present is covered with a dense stand of beaked hazelnut.	E

Attachment D. Parcel List

Winsor-Greenwood Shearing Project	Bemidji	Clearwater
Le Blanc Shearing Project	Bemidji	Clearwater
Mertz Shear		Beltrami
Thief River Falls Brushland Enhancement	Thief River Falls	Marshall

150	03	2 25	450	\$38,450	Brushland shearing project to enhance habitat conditions for sharp-tailed grouse and other brushland dependent species of wildlife. Project will take place January-February 2012. This 918-acre brushland complex is Clearwater County Land and Forestry Department administered land, parts of which is cooperatively managed with Minnesota DNR. A sharp-tailed grouse dancing ground (lek) exists on the complex.	E
150	03	2 06	160	\$13,800	Brushland shearing project to enhance habitat conditions for sharp-tailed grouse and other brushland dependent species of wildlife. Project will take place January-February 2012.	E
153	03	2 06	400	\$35,000	Enhance a brushland landscape by shearing 400 acres of mature willow. Mechanical shearing will benefit sharp-tail grouse, sandhill cranes, and other brushland dependent wildlife by creating an open landscape. This work is also a prerequisite to prescribed burning. This area has a history of brush land species use, but lack of maintenance has reduced habitat quality.	E
155	03	2 15	500	\$73,500	This proposal will mechanically treat up to 500 acres of rank brushlands which have also been invaded by woody species. Contract rotary and mechanical treatment methods will be used. The purpose of the treatments will be to regenerate brushlands and restore open landscape attributes to these areas for the benefit of wildlife species dependent upon these cover types.	E

Attachment D. Parcel List

Zippel Bay Jack Pine Deer Browse Protection	Baudette	Lake of the Woods	158	03	2 29	15	\$16,540	Fence existing jack pine plantation to protect newly hand planted tree seedlings from extreme deer browsing. Purpose of project is to maintain jack pine cover type as prescribed by Agassiz Lowlands SFRMP. Fence details and installation described in explanation below. Area to be fenced is adjacent to the Zippel Bay State Park. Plans would be to install fence as soon as possible this year or the following year. Fence would remain in place for several years until jack pine seedlings outgrow deer browsing potential. Expected problems include keeping deer out of the fence and fence maintenance.	E
Beltrami Island Forest Openings Project	Red Lake WMA	Lake of the Woods	158	03	2 02	242	\$244,000	Enhance the habitat quality of forest openings by removing undesirable woody vegetation with a mower or cut surface herbicide treatment. Almost all of the forest opening in these six townships originated as homesteads, so besides providing wildlife habitat, openings have historic value. To prevent succession from converting forest openings to woodland, this type of enhancement is required about once a decade. This proposal would take four years to accomplish.	E
Red Pine Thinning Adaptive Forest Management	Red Lake WMA	Lake of the Woods	159	03	2 22	172	\$21,000	The goal is to enhance the species and structural diversity of red pine plantations through thinning treatments and adaptive management. These sites are being thinned to a low basal area and half of each site were set up for a variable density thinning with ¼ and ½ acre skips and gaps. Pre-treatment monitoring data is currently being gathered from species-area plots, regeneration/basal area plots, and coarse woody debris transect sampling. This funding request is for post-treatment, 1 year after treatment, and 3 years after treatment monitoring.	E

Attachment D. Parcel List

Juneberry Brush Shearing	Roseau River WMA	Roseau
Nelson Bridge Brush Shearing	Roseau River WMA	Roseau

								Set back succession in mature decadent stands of lowland brush to enhance habitat conditions for a wide variety of game and non-game wildlife species while perpetuating the brushland component of the Aspen Parklands landscape. Project will consist of shearing 960 acres of lowland brush, 320 acres each fiscal year, for 3 years. Restoring the early-successional brushland component to this landscape and following up with rotational prescribed fire as a management option will help to maintain the site for use by woodcock, furbearers, white-tailed deer, sharp-tailed grouse, waterfowl and other wildlife species. Project work will be completed by March 2014.	E
162	04	2	22		600	\$97,500			
								Set back succession in mature willow stands to improve cover and forage for deer and moose, enhance nesting and brood rearing habitat for a variety of both game and non-game brushland dependant avian species. Perpetuate the brushland component of the Aspen Parklands landscape and predispose these stands to future management with prescribed fire. Project will consist of shearing 460 acres of lowland brush. Project work will be completed by March 2013.	E
163	04	2	25		600	\$46,650			