M.L. 2010 Project Abstract
For the Period Ending June 30, 2013

PROJECT TITLE:	Linking Habitat Restoration to Bioenergy and Local Economies
PROJECT MANAGER:	Barb Spears
AFFILIATION:	MN Department of Natural Resources, Ecological and Water Resources Division
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WEBSITE:	http://www.dnr.state.mn.us/eco/habitat_biomass.html
FUNDING SOURCE:	Environment and Natural Resources Trust Fund
LEGAL CITATION:	M.L. 2012, Chap. 272, Sec. 85

APPROPRIATION AMOUNT: $600,000

Overall Project Outcome and Results

This innovative project helped restore 385 acres of critical habitat and high quality native plant communities by removing ecologically inappropriate woody vegetation (exotic and/or native species) while stimulating local economies through jobs and strategic utilization of the biomass material for bioenergy and other products. This project facilitated habitat restoration efforts that might not have otherwise occurred while making the woody material, traditionally burned or landfilled, available to established and emerging woody biomass markets.

Of the $600,000 appropriation, $490,666 was spent on eleven projects. Seven non-DNR public and private landowners received a total of $324,530 granted through a competitive process. Four DNR projects received a total of $166,136. A variety of types of projects (based on restoration goals, species/type of woody biomass material, density, distance, land ownership, utilization opportunity, etc.) were completed.

Projects were selected based on critical requirements including ecological value and recovery potential of the project site, current ecologically-based management plan, project-specific harvest plan, post-harvest restoration plan, and demonstrated capacity and long-term commitment to effectively manage the site to achieve and maintain restoration goals.

Viable markets were identified prior to project implementation. Utilization of the woody biomass resulted in 291 semi-truck loads or 5,280 tons for bioenergy, 242 semi-truck loads of commercial mulch, 450 cords of pine sawlogs, 6 log loads of cottonwood for pallets, and pine cabin logs. Biomass material was either sold separately from the harvest with revenue collected, or in conjunction with the harvest where contractors valued the material (deducted from the harvest bid) and were responsible for final utilization. Revenues collected ($11,100) and values attributed ($4,000) were reinvested for further purposes of the project.

This project demonstrated that there are opportunities to sell or properly utilize ecologically inappropriate woody vegetation removed through habitat restoration activities. The long-term vision for this effort is to achieve an ecologically sound and systematic approach that addresses: current and future issues of habitat restoration and enhancement; renewable energy and climate change; invasive species, and natural resources conservation planning and implementation – all of which are effected, to some degree, by the impacts and opportunities of woody biomass.

Project Results Use and Dissemination

The webpage "Linking Habitat Restoration to Bioenergy and Local Economies" located at http://www.dnr.state.mn.us/eco/habitat_biomass.html provides an overview of the entire project, the project fact sheet, the LCCMR-approved Work Program, and the final report.

Project data were compiled and regularly updated for the DNR's Grant Outcomes webpage to provide project descriptions, funding information, indicators, targets and outcomes information. The website is located at http://www.dnr.state.mn.us/grants/outcomes/index.html.

Project information was shared at public workshops, conferences and meetings through formal presentations, panel discussions, informal conversations and handouts, such as the project fact sheet and other printed materials, targeted for the audience. Project information was also shared with DNR staff through staff meetings, project coordination, formal presentations, and informal discussions.

Telephone conversations and meetings were convened with land managers/owners, harvest contractors, and biomass market industry representatives to discuss the project, garner insights for improvements to implementing this project, identify challenges and opportunities to move this effort forward and to facilitate connections between landowners, contractors, and biomass end-users.

The key messages were: 1) for land managers/owners conducting habitat restoration projects - explore and implement the option to utilize the biomass material removed versus piling and burning or landfilling; 2) for contractors - provide the combined service of harvest and utilization of the material; and 3) for end-users - acknowledge habitat restoration projects as a potential significant source of material and to seek this opportunity.

Environment and Natural Resources Trust Fund (ENRTF)
2010 Work Program Final Report

Date of Report: July 29, 2013 – Work Program Amendment Request
Final Report
Date of Work Program Approval: January 15, 2010
Project Completion Date: June 30, 2013

I. PROJECT TITLE: Linking Habitat Restoration to Bioenergy and Local Economies

Project Manager: Barb Spears
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Web Site Address: http://www.dnr.state.mn.us/eco/habitat_biomass.html

Location: The primary target area of focus is within an approximate 75 -mile radius of St. Paul encompassing the Metro (primarily), Central, and Southeast regions of Minnesota and include all or significant portions of Anoka, Benton, Blue Earth, Carver, Chisago, Dakota, Dodge, Goodhue, Hennepin, Isanti, Kanabec, Le Sueur, McLeod, Meeker, Mille Lacs, Nicollet, Olmsted, Pine, Ramsey, Rice, Scott, Sherburne, Sibley, Stearns, Steele, Wabasha, Waseca, Washington, and Wright Counties. This distance was determined based on project management activities, such as site visits; ecological considerations and available potential markets/uses for the woody biomass material (see Attachment C).

Total ENRTF Project Budget:	**ENRTF Appropriation**	**$**	**600,000**
	Minus Amount Spent:	**$**	**599,924**
	Equal Balance:	**$**	**76**

Legal Citation: M.L. 2012, Chap. 272, Sec. 85

Appropriation Language:
Laws of Minnesota 2010, Chap. 362, Sec. 2, Subd. 7c as amended by M.L. 2012, Chap. 272, Sec. 85. $600,000 is from the trust fund to the commissioner of natural resources to restore high quality native habitats and expand market opportunities for using the woody by-product material for bioenergy source or other products. The commissioner may provide grants or otherwise transfer some or all of this money to other public or

private entities to accomplish these purposes. The commissioner may sell the material from public or private property to any viable market, provided that all of the proceeds are spent to further the purposes of this appropriation. This appropriation is available until June 30, 2013, by which time the project must be completed and final products delivered.

The Department believes these changes were needed to insure that the Department has the authority to carry out the approved work program. Below is a short descriptor of each change and the reason for the change.

Changing postharvest restoration language to woody by-product language - Clarifies that we are utilizing the woody by-product of the restoration efforts.

Adding “or other products” - Aligns appropriation language with the LCCMR-approved work program by clarifying that by-product material will be used for “other products” in addition to bioenergy. The LCCMR-approved work program includes use as mulch, pellets, animal bedding, etc.

Adding grant language - Aligns appropriation language with the LCCMR-approved work program by clarifying the intent to provide funding through a grant process. Adds clarification that money may be distributed using methods other than the grant process. The latter change is needed to provide for separate award processes for DNR and non-DNR projects.

Adding material sale language - Aligns appropriation language with the LCCMR-approved work program by providing authority for the DNR to sell the woody biomass material from all land ownerships. The second result of the work program is to “Expand Woody Biomass Market Opportunities” including developing and managing a formal bid process and utilizing collected revenues to offset current or future project costs.

II. FINAL PROJECT SUMMARY AND RESULTS:

This innovative project helped restore 385 acres of critical habitat and high quality native plant communities by removing ecologically inappropriate woody vegetation (exotic and/or native species) while stimulating local economies through jobs and strategic utilization of the biomass material for bioenergy and other products. This project facilitated habitat restoration efforts that might not have otherwise occurred while making the woody material, traditionally burned or landfilled, available to established and emerging woody biomass markets.

Of the $600,000 appropriation, $490,666 was spent on eleven projects. Seven non-DNR public and private landowners received a total of $324,530 granted through a competitive process. Four DNR projects received a total of $166,136. A variety of

types of projects (based on restoration goals, species/type of woody biomass material, density, distance, land ownership, utilization opportunity, etc.) were completed.

Projects were selected based on critical requirements including ecological value and recovery potential of the project site, current ecologically-based management plan, project-specific harvest plan, post-harvest restoration plan, and demonstrated capacity and long-term commitment to effectively manage the site to achieve and maintain restoration goals.

Viable markets were identified prior to project implementation. Utilization of the woody biomass resulted in 291 semi-truck loads or 5,280 tons for bioenergy, 242 semi-truck loads of commercial mulch, 450 cords of pine sawlogs, 6 log loads of cottonwood for pallets, and pine cabin logs. Biomass material was either sold separately from the harvest with revenue collected, or in conjunction with the harvest where contractors valued the material (deducted from the harvest bid) and were responsible for final utilization. Revenues collected ($11,100) and values attributed ($4,000) were reinvested for further purposes of the project.

This project demonstrated that there are opportunities to sell or properly utilize ecologically inappropriate woody vegetation removed through habitat restoration activities. The long-term vision for this effort is to achieve an ecologically sound and systematic approach that addresses: current and future issues of habitat restoration and enhancement; renewable energy and climate change; invasive species, and natural resources conservation planning and implementation – all of which are effected, to some degree, by the impacts and opportunities of woody biomass.

III. PROGRESS SUMMARY AS OF: July 29, 2013

Amendment Request (7/29/13):
This amendment request shifts $2525 from "Project Funds: Biomass Harvest Projects and Post-Harvest Restoration" and $431 from "Travel expenses in Minnesota" to "Personnel" to cover the salary of the Project Coordinator. Personnel costs were higher for finalizing projects and writing the final report than estimated when the April 2013 amendment was requested. **Amendment Approved:**

Amendment Request (4/16/13):
This amendment request shifts $17,700 from "PERSONNEL" and $491 from "Non-capital Equipment/Tools" to "Project Funds: Biomass Harvest Projects and Post-Harvest Restoration" (Result 1) to allow for the completion of additional project work. Personnel costs were lower than expected because the project manager was able to fulfill the obligations of this position working fewer hours than was originally estimated. Non-capital Equipment/Tools costs were lower than expected because the Department provided project manager with safety equipment. **Amendment Approved: April 17, 2013.**

PROGRESS SUMMARY AS OF: March 1, 2013
Amendment Request (3/1/13):
This amendment request shifts $1,500 from "PERSONNEL" to "Travel Expenses in Minnesota" to cover projected travel costs associated with project site visits and disseminating project information at meetings and conferences. More money is needed for travel due to the longer distance of several of the projects and the extensive interest in this project which has led to presentation requests. Personnel costs were lower than expected because the project manager was able to fulfill the obligations of this position working fewer hours than was originally estimated. **Amendment Approved: March 13, 2013.**

PROGRESS SUMMARY AS OF: December 31, 2012
Status of projects funded during Round 1: the Belwin Conservancy (NGO) and Ramsey County projects are complete; the Warsaw WMA/Umbanhowar/Eggum (DNR/private) project started cutting on December 2, 2012; the Frontenac State Park (DNR) project will begin cutting in January 2013.

Status of projects funded during Round 2: the Koester Farm Partnership (private) project started cutting on December 14, 2012; the Carleton College (private) project will begin cutting in January 2013.

Status of projects funded during Round 3: the City of Anoka project has experienced delays but is moving forward; the St. Paul Fish Hatchery AMA (DNR) project started cutting December 13, 2012; the Hoffman WMA (DNR) was funded but withdrew due to workload; the Sakatah Lake State Park (DNR) project is being pursued.

To date, a total of 384 acres (204 acres non-DNR land; 180 acres DNR land), have been enrolled for harvest at an estimated total cost of $469,450 with an average cost of $1,423 per acre; 147 acres are enrolled for restoration funding assistance at an estimated cost of $57,053 with an average cost of $388 per acre.

The Koester Farm Partnership biomass was sold for $500 in actual revenue. Biomass material for the following projects was given a value through a combined harvest/sale bid solicitation: the Frontenac State Park biomass was valued at $500; the Warsaw WMA/Umbanhowar/Eggum biomass was valued at $500; the Carleton College biomass was valued at $2,000. The St. Paul Fish Hatchery, the Anoka Nature Preserve and Sakatah Lake State Park biomass values are to be determined.

PROGRESS SUMMARY AS OF: June 30, 2012
Status of projects funded during Round 1: the Belwin Conservancy (NGO) project is in progress with final post-harvest restoration activities to be completed spring 2012; the Frontenac State Park (DNR) project was postponed due to contractor default; the Warsaw WMA (DNR)/Umbanhowar Prairie (private landowner) joint project added the Eggum Parcel (private landowner) and will begin late-summer/fall 2012; the Ramsey County project is complete.

Status of projects funded during Round 2: the Koester Farm Partnership (private) project was postponed to fall 2012/winter 2013 due to warm weather conditions; the Carleton College project (private) will begin late-summer/fall 2012.

The Round 3 Grant Opportunity (Request for Proposals) for non-DNR projects was posted to the DNR Grants webpage due April 30, 2012. Of the six proposals received, one was disqualified. A three-member review panel ranked the projects in order of funding priority based on the RFP criteria. The highest ranked project is proceeding through the selection process to ensure viability before final funding is awarded.

Three DNR projects are in discussion; the St. Paul Fish Hatchery AMA has been selected for funding and it is expected that one additional DNR project will be funded.

To date, a total of 315 acres (174 acres non-DNR land; 141 acres DNR land), have been enrolled for harvest at an estimated total cost of $342,147, with an average cost of $1,086 per acre; 131 acres are enrolled for restoration funding assistance at an estimated cost of $45,604, with an average cost of $348 per acre.

PROGRESS SUMMARY AS OF: May 21, 2012
Amendment Request (5/21/12):
This amendment request changes the appropriation language M.L. 2010, Chap. 362, Sec. 2, Subd. 7c as amended by M.L. 2012, Chap. 272, Sec. 85.
Amendment Approved: June 12, 2012.

PROGRESS SUMMARY AS OF: December 31, 2011
Status of projects funded during Round 1: the Belwin Conservancy project is in progress with final post-harvest restoration activities to be completed spring 2012; Frontenac State Park is in progress with mechanized harvesting expected to begin January 2012; the Ramsey County project is completed awaiting the final report. The Umbanhowar Prairie (private)/Warsaw WMA (DNR) joint project is in final funding discussions.

To date, 183 acres of non-DNR land and 99 acres of DNR land totaling 282 acres have been enrolled for harvest at an estimated total cost of $318,000 for an average cost of $1,128 per acre; 129 acres are enrolled for restoration funding assistance at an estimated cost of $36,754 for an average cost of $285 per acre.

The biomass for the Ramsey County project sold to the highest bidder for $0; the next bid requested that the State pay $700 for the cost to remove the material. Ramsey County is under quarantine for the Emerald ash borer and the Minnesota Department of Agriculture was consulted regarding transportation of regulated articles. A biomass sale was posted for the Frontenac State Park project with no bids received; follow-up with potential buyers/users is underway.

The Round 2 Grant Opportunity (Request for Proposals) (RFP) for non-DNR projects that had been cancelled in April 2011 was revised and posted to the DNR Grants webpage due October 31, 2011. Of the four proposals received, two are being pursued. The Round 3 Grant RFP is due April 30, 2012 with strong interest already received for this funding.

PROGRESS SUMMARY AS OF: June 30, 2011

Of the three projects funded during Round 1, Belwin Conservancy is in progress; Frontenac State Park was postponed until fall 2011/winter 2012 due to poor site conditions caused by early, heavy snow; and the Ramsey County project is scheduled to begin July 2011. An additional project, a public (DNR)/private landowner collaboration, is still in negotiations.

To date, 198 acres are enrolled for harvest at an estimated cost of $174,000 for an average cost of $878 per acre; 128 acres are enrolled for restoration funding assistance at an estimated cost of $42,925 for an average cost of $335 per acre.

The Round 2 Grant Opportunity (Request for Proposals) (RFP) was advertised and posted to the DNR Grants webpage due April 30, 2011. The Grant Opportunity (RFP) was cancelled until further notice to allow for project administration improvements and to clarify the project funding allocation process. A panel to review and score project funding applications from non-DNR applicants has been created.

The initial process to conduct a formal sale of the woody biomass material removed from project sites was developed and implemented. A biomass sale was conducted in association with the Belwin Conservancy's project of 44 acres and sold to the highest bidder for $10,600; the second highest bidder was $7,250. The process for ensuring that the woody biomass material is sold prior to biomass harvest is being developed.

Observations and lessons learned are being compiled from conversations with project partners, biomass buyers/users, technical experts, other interested parties, and through direct experiences.

PROGRESS SUMMARY AS OF: December 31, 2010

Prepared a Grant Opportunity (RFP) package due September 10, 2010. Seven applications were received from public and private landowners and were reviewed and scored by appropriate DNR staff. One applicant immediately withdrew their project (DNR land); 3 projects are proceeding this winter; one project is pending; a second project has been withdrawn (DNR land), and one project was not funded (did not meet criteria). Of the three projects proceeding, two have been granted funding for immediate post-harvest restoration. Information is being compiled on landowners who indicate an interest in this project for future funding notices. The next application deadline is April 30, 2011.

Viable markets and buyers/users for the woody biomass material are being identified. Projects involving DNR-owned land are assessed by DNR Forestry for alternative

timber or biomass sales. Consultations with DNR staff and others involved in woody biomass utilization have provided valuable information and contacts. A database of potential buyers/users has been created and will be updated as contacts are further identified.

Existing woody biomass project documents are being updated or adapted for this funding opportunity and new documents are being created based on current applicable policies, grant requirements, guidelines, etc. The project fact sheet has been revised and is available from the updated woody biomass project webpage: http://www.dnr.state.mn.us/eco/habitat_biomass.html. Language has been incorporated that addresses safety and environmental issues relating to immediate post-harvest restoration activities.

Issues and requirements for the transport of noxious weeds and ash tree material have been addressed with the Minnesota Department of Agriculture.

IV. OUTLINE OF PROJECT RESULTS:

RESULT 1: Woody Biomass Harvest and Post-Harvest Restoration Projects

Description:
Remove ecologically inappropriate woody vegetation (exotic and/or native species such as common buckthorn, Amur maple, eastern red cedar, pine plantations, and box elder) from critical habitats and high quality native plant communities. More than 7,000 acres of public and private lands needing restoration have been identified within 75 miles of St. Paul. These acres include critical priority habitats in subsets of the Eastern Broadleaf Forest and Prairie Parkland Provinces. Priority will be given to project sites ranked as outstanding or high by the MN County Biological Survey and the "key key" habitats (prairie and surrogate grasslands, savanna and jack pine woodland, upland and lowland coniferous forest, wetlands, rivers and streams, and lakeshores) as described in "Tomorrow's Habitat for the Wild and Rare: Minnesota's State Wildlife Action Plan."

Harvesting will be conducted only under appropriate site conditions and with proper equipment and techniques to protect the site. It is anticipated that the majority of the projects will occur during frozen ground conditions with adequate snow cover which generally means December through February. Immediate post-harvest restoration activities are anticipated to occur during the growing season from March through November.

Funding is provided primarily for the cutting, moving, and preparation of the woody biomass material for collection and transport and will be provided to non-DNR public and private landowners through a competitive process. Additional project-related costs may be covered.

Limited funding may be provided to bridge budget gaps for immediate post-harvest restoration activities (such as initial prescribed burning, chemicals and chemical

application, stump grinding, site preparation, etc.), based on a DNR-approved restoration plan and demonstrated need, for up to 1 year after harvest; after which time the landowner is expected to fully implement the required restoration plan. Funding need and amount will be determined and agreed upon prior to final project selection.

The goal is to implement a minimum of 12 biomass harvest projects for a minimum total of 300 acres of critical habitats and high quality native plant communities under restoration.

The Project Manager will work with project partners throughout the funding process and project implementation, and will monitor and report project progress and accomplishments.

Summary Budget Information for Result 1:

ENRTF Budget: **~~$568,860~~ $567,964**
Amount Spent: **$567,897**
Balance: **$ 76**

The below estimated budget numbers are based on project costs for previous woody biomass projects conducted through the "Linking Habitat Restoration to Bioenergy" project. The average project size in acres was 19 for a total of 14 projects completed in 2 years. The average cost per acre was $1,500 for the cutting, moving and staging of the woody material. The highest per acre rate paid was approximately $2,300.

Deliverable	Completion Date	Budget
1. Round 1 - harvest biomass from a minimum of 150 acres at an estimate of $1,500/ac	February 2011	$225,000
2. Round 1 – Immediate post-biomass harvest restoration activities, as needed.	November 2011	$ 46,050
3. Round 2 - harvest biomass from a minimum of 150 acres at an estimate of $1,500/ac	February 2012	$225,000
3. Round 2 - Immediate post-biomass harvest restoration activities, as needed.	November 2012	$ 46,050
4. Round 3 - biomass harvest projects and post-biomass harvest restoration with additional eligible landowners (if project funds are available).	May 2013	$ 21,000

Result Completion Date: June 30, 2013

Result Status as of December 31, 2012:

Deliverables: Non-DNR Projects

Project Name, Landowner	Total Harvest Acres	Harvest $$	Total Resto Acres	Resto $$	Other $$	Est/Actual Total $$	Status

Eggum Parcel, Bryan Eggum	3	$5,280	3	$1,249	$0	$6,529	Joint project with Charles Umbanhowar and Warsaw WMA. Project started 12/2/12.
Koester Dry Hill Oak Savanna, Koester Farm Partnership	24	$30,185	40	$10,175	$0	$40,360	Project started 12/14/12.
Carleton College Cowling Arboretum, Carleton College	38	$53,800	38	$10,793	$0	$64,593[1]	Project to start January 2013.
Umbanhowar Prairie, Charles Umbanhowar	7	$12,320	7	$2,915	$0	$15,235	Joint project with Bryan Eggum and Warsaw WMA. Project started 12/2/12.
Anoka Nature Preserve, City of Anoka	50	$72,400	50	$0	$2,600	$75,000	In progress.
Stagecoach Prairie Natural Area, Belwin Conservancy	32[2]	$31,647 (actual)	44	$25,675 (actual)	$2,418 (actual)	$59,740 (actual)	Completed.
Battle Creek Regional Park, Ramsey County	70	$74,503 (actual)	70	$0	$0	$74,503 (actual)	Completed.
Total	**224**	**$280,135**	**252**	**$50,807**	**$5,018**	**$335,960**	

[1] Actual ENRTF funds are $53,993; $10,600 from the Belwin Conservancy biomass sale was applied to the total project of $64,593.

[2] Total project acres: 44 for $44,000; $12,353 was paid from 2007 Minnesota Legislature and $31,647 was paid from 2010 ENRTF. Past progress reports did not reflect this split funding.

Deliverables: DNR Projects

Project Name	Total Harvest Acres	Harvest $$	Total Resto Acres	Resto $$	Other	Est. Total	Status
Frontenac State Park	84	$51,385	84	$0	$0	$51,385	Project to start January 2013.
Warsaw WMA	15	$26,400	15	$6,246	$58	$32,704	Joint project with Bryan Eggum and Charles Umbanhowar. Project started 12/2/12.

St. Paul Fish Hatchery AMA	22	$30,000	22	$0	$0	$30,000	Project started 12/13/12.
Sakatah Lake State Park[1]	40	$36,000	40	$0	$0	$36,000	In progress.
Total	**161**	**$143,785**	**161**	**$6,246**	**$58**	**$150,089**	

GRAND TOTAL	**385**	**$423,921**	**413**	**$57,053**	**$5,076**	**$486,050**	

[1]Actual ENRTF funds are $35,500; $500 from the Koester Farm Partnership biomass sale was applied to the total project of $36,000.

- Round 1 Funding. Four non-DNR projects and two DNR projects were funded:
  - The Ramsey County project is complete having received the final project report and biomass data.
  - The Belwin Conservancy (NGO) project is complete having received the final project report and biomass data.
  - The Frontenac State Park (DNR) after being postponed due to warm weather and poor site conditions in 2011 and contractor default in 2012, this project is expected to start in January 2013.
  - The Warsaw WMA (DNR)/Umbanhowar Prairie (private)/Eggum Parcel (private) joint project started on December 2, 2012. The entire woody biomass project is being managed by DNR Wildlife staff on behalf of the private landowners. This is the first joint project. The long-term restoration and management of the project areas will be accomplished through future collaboration and managed by DNR Wildlife staff.

- Round 2 Funding: Two non-DNR projects were funded:
  - The Koester Farm Partnership (private) project started December 14, 2012.
  - The Carleton College (private) project is expected to start in January 2013.

- Round 3 Funding: One non-DNR and two DNR projects were funded:
  - The City of Anoka project has been approved for funding; the grant agreement is being developed.
  - The DNR St. Paul Hatchery AMA project started December 13, 2012.
  - The Sakatah Lake State Park project has been approved for funding; the Cooperative Work Agreement is being developed.

- Updated detailed information about each project is attached (see Attachment G).

Result Status as of June 30, 2012:

- The table below provides specific information as it relates to the deliverables listed above for Result #1, including associated estimated costs unless noted as actual.

Deliverables: Non-DNR Projects

Project Name, Landowner	Total Harvest Acres	Harvest $$	Total Resto Acres	Resto $$	Other $$	Est. Total $$	Status
Eggum Parcel, Bryan Eggum	3	$4,500	3	$900	$0	$5,400	Joint project with Charles Umbanhowar and Warsaw WMA. Project to start late-summer/fall 2012.
Koester Dry Hill Oak Savanna, Koester Farm Partnership	24	$36,000	40	$4,360	$0	$40,360	Project to start fall 2012/winter 2013.
Carleton College Cowling Arboretum, Carleton College	38	$57,000	38	$6,069	$1,524	$64,593	Project to start late-summer/fall 2012.
Umbanhowar Prairie, Charles Umbanhowar	7	$8,500	7	$2,100	$0	$10,600	Joint project with Bryan Eggum and Warsaw WMA. Project to start late-summer/fall 2012.
Stagecoach Prairie Natural Area, Belwin Conservancy	32[1]	$31,647 (actual)	44	$27,675	$418 (actual)	$59,740	Final post-harvest restoration due spring 2012.
Battle Creek Regional Park, Ramsey County	70	$74,503 (actual)	70	$0	$0	$74,503	Completed.
Total	**174**	**$212,150**	**202**	**$41,104**	**$1,942**	**$255,196**	

[1] Total project acres: 44 for $44,000; $12,353 was paid from 2007 Minnesota Legislature and $31,647 was paid from 2010 ENRTF. Past progress reports did not reflect this split funding.

Deliverables: DNR Projects

Project Name	Total Harvest Acres	Harvest $$	Total Resto Acres	Resto $$	Other	Est. Total	Status
Frontenac State Park	84	$75,000	84	$0	$0	$75,000	Postponed to fall 2012/winter 2013.
Warsaw WMA	15	$22,500	15	$4,500	$400	$27,400	Joint project with Bryan Eggum and Charles Umbanhowar. Project to start late-summer/ all 2012.
St. Paul Fish Hatchery AMA	42	$30,000	0	$0	$0	$30,000	In progress.

Total	**141**	**$127,500**	**99**	**$4,500**	**$400**	**$132,400**	

GRAND TOTAL	**315**	**$339,650**	**301**	**$45,604**	**$2,342**	**$387,596**	

- Round 1 Funding. Four non-DNR projects and two DNR projects were funded:
  - The Belwin Conservancy (NGO) project is in progress with final post-harvest restoration activities to be completed spring 2012.
  - The Frontenac State Park (DNR) project was postponed due to contractor default. This is the second time this project has been postponed; the first due to warm weather and poor site conditions.
  - The Warsaw WMA (DNR)/Umbanhowar Prairie (private) joint project added the Eggum Parcel (private) and will begin late-summer/fall 2012. The entire project is being managed by DNR Wildlife staff on behalf of the private landowners. This is the first joint project. The long-term restoration and management of the project areas will be accomplished through future collaboration.
  - The Ramsey County project is complete having received the final project report and biomass data.

- Round 2 Funding: The Koester Farm Partnership (private landowner) project came on-line quite late in the season. A contractor was hired but the project was ultimately postponed to fall 2012/winter 2013 due to warm weather conditions; the Carleton College project (private) will begin late-summer/fall 2012.

- Round 3 Funding: The Round 3 Grant Opportunity (Request for Proposals) (RFP) for non-DNR projects was posted to the DNR Grants webpage due April 30, 2012 (see Attachment D). Of the six proposals received one was disqualified due to an incomplete application package. A 3-member review panel ranked the projects in order of funding priority based on the RFP criteria. Panel members were selected from outside of the DNR Division of Ecological and Water Resources. Members represented the DNR Division of Fish and Wildlife, the Minnesota Forest Resources Council, and Dovetail Partners, Inc. The highest ranked project is proceeding through the selection process to ensure viability before final funding is awarded. This is the final round of funding for non-DNR Projects.

  Three DNR projects are in discussion, with the St. Paul Fish Hatchery AMA having been selected for funding. It is expected that one additional DNR project will be funded.
- Updated detailed information about each project is attached (see Attachment G).

Result Status as of December 31, 2011:

- The table below provides specific information as it relates to the deliverables listed above for Result #1 including associated estimated costs unless noted as actual.

Deliverables: Non-DNR Projects

Project Name/ Landowner	Total Harvest Acres	Harvest $$	Total Resto Acres	Resto $$	Other $$	Est. Total $$	Status
Koester Dry Hill Oak Savanna, Koester Farm Partnership	24	$36,000	40	$4,360	$0	$40,360	Grant agreement in progress.
Carleton College Cowling Arboretum, Carleton College	38	$57,000	38	$3,069	$1,534	$61,603	In final discussion.
Umbanhowar Prairie, Charles Umbanhowar	7	$8,500	7	$1,400	$0	$9,900	In final discussion.
Stagecoach Prairie Natural Area, Belwin Conservancy	44	$44,000 (actual)	44	$27,925	$418 (actual)	$72,343	Final post-harvest restoration due spring 2012.
Battle Creek Regional Park, Ramsey County	70	$75,000	70	$0	$0	$75,000	Cutting/biomass sale complete. Final report due.
Total	**183**	**$220,500**	**199**	**$36,754**	**$1,952**	**$259,206**	

Deliverables: DNR Projects

Project Name	Total Harvest Acres	Harvest $$	Total Resto Acres	Resto $$	Other	Est. Total	Status
Frontenac State Park	84	$75,000	84	$0	$0	$75,000	Mechanized cutting to begin early 2012.
Warsaw WMA (DNR)	15	$22,500	29	$0	$0	$22,500	In final discussion.
Total	**99**	**$97,500**	**113**	**$0**	**$0**	**$97,500**	

GRAND TOTAL	**282**	**$318,000**	**312**	**$36,754**	**$1,952**	**$356,706**	

- Round 1 Funding: three non-DNR projects and two DNR projects were funded during Round 1. The Belwin Conservancy project is in progress with final post-harvest restoration activities to be completed spring 2012; the Ramsey County project is completed awaiting the final report; and the Umbanhowar Prairie (private) is in final discussion as a joint project with the Warsaw WMA (DNR). The DNR Frontenac State Park is in progress with cutting activities expected to be completed winter 2012. The DNR Warsaw WMA is in final discussion as a joint project with the Umbanhowar Prairie.
- Round 2 Funding: The Grant Opportunity (RFP) that had been cancelled in April 2011 for non-DNR projects was revised (see Attachment D) and posted to the DNR Grants webpage with applications due October 31, 2011. Notification of the RFP was sent directly to those who had previously expressed interest. Four proposals were received and two are being pursued: Koester Farm Partnership (private landowner) and Carleton College Cowling Arboretum.

- DNR projects were also solicited at the same time as the Round 2 RFP. There was interest within the DNR but no formal applications were submitted for consideration.
- Round 3 Funding: The Round 3 RFP is due April 30, 2012 and was included in the Round 2 RFP notice. Many inquiries have already been received indicating strong interest for this funding.
- Detailed information about each project is attached (see Attachment G).

Result Status as of June 30, 2011:

- The table below provides specific information as it relates to the deliverables listed above including associated estimated costs unless noted as actual.

Round 1 Deliverables: Non-DNR Projects – Grant Opportunity (RFP) Due Date 9/10/10

Project Name	Total Harvest Acres	Harvest $$	Total Resto Acres	Resto $$	Other $$	Est. Total $$	Status
Stagecoach Prairie Natural Area, Belwin Conservancy	44	$44,000 (actual)	44	$27,925	$418 (actual)	$72,343	In progress
Battle Creek Regional Park, Ramsey County	70	$75,000	0	$0	$0	$75,000	Start July 2011
Umbanhowar Prairie (Private)/ Warsaw WMA (DNR)	TBD	TBD	TBD	TBD	TBD	TBD	In negotiation
Total	**114**	**$119,000**	**44**	**$27,925**	**$418**	**$147,343**	

Round 1 Deliverables: DNR Projects - Application Due Date 9/10/10

Project Name	Total Harvest Acres	Harvest $$	Total Resto Acres	Resto $$	Other	Est. Total $$	Status
Frontenac State Park	84	$55,000	84	$15,000	$0	$70,000	Some hand-cutting completed/all cutting postponed
Umbanhowar Prairie (Private)/ Warsaw WMA (DNR)	TBD	TBD	TBD	TBD	TBD	TBD	In negotiation
Total	**84**	**$55,000**	**84**	**$15,000**	**$0**	**$70,000**	

GRAND TOTAL	**198**	**$174,000**	**128**	**$42,925**	**$418**	**$217,343**	

- Round 1 Funding: Of the three projects funded, Belwin Conservancy is in progress and the project name was changed from “Sauers Pond Natural Area” to “Stagecoach Prairie Natural Area”; Frontenac State Park was postponed until fall 2011/winter 2012 due to soft surface soils from early, heavy snow and poor cutting conditions due to snow depth; and the Ramsey County project is scheduled to begin July 2011. An additional project, a public (DNR)/private landowner collaboration, is very complex with many details that are being negotiated before funding will be granted.

- Round 2 Funding: A Grant Opportunity (RFP) (see Attachment D) was prepared and posted to the DNR Grants webpage with applications due April 30, 2011. This was cancelled until further notice to allow for project administration improvements and to clarify the project funding allocation process. There was strong interest in this funding and contact names were captured for the future notice.
- A panel was created, facilitated by the Project Manager, to review and score project funding applications from non-DNR applicants. This panel is comprised of members internal and external to the DNR representing expertise in ecological/habitat restoration, woody biomass removal and wood products marketing. Review Panel members will be contacted when the Grant Opportunity (RFP) is posted.

Result Status as of December 31, 2010: Three projects are currently underway for an estimated total of 198 acres with total of $217,425 encumbered. Below is a summary of each of the funded projects.

Final Report Summary: June 30, 2013
This result has been successfully completed as outlined below**:**

Harvest and Restoration: Non-DNR Projects

Project Name, Landowner	Total Harvest Acres	Harvest $$	Total Resto Acres	Resto $$	Other $$	Total $$	Status
Eggum Parcel, Bryan Eggum	3	$5,280	3	$1,249	$0	$6,529	Joint project with Charles Umbanhowar and Warsaw WMA. Project. Completed.
Koester Dry Hill Oak Savanna, Koester Farm Partnership	24	$30,185	40	$9,344	$0	$39,529	Completed.
Carleton College Cowling Arboretum, Carleton College	38	$53,800	38	$10,793	$0	$64,593[1]	Completed.
Umbanhowar Prairie, Charles Umbanhowar	7	$12,320	7	$2,915	$0	$15,235	Joint project with Bryan Eggum and Warsaw WMA. Completed.
Anoka Nature Preserve, City of Anoka	71	$74,400	71	$0	$600	$75,000	Completed.
Stagecoach Prairie Natural Area, Belwin Conservancy	32[2]	$31,647	44	$25,675	$2,418	$59,740	Completed.
Battle Creek Regional Park, Ramsey County	70	$74,503	70	$0	$0	$74,503	Completed.
Total	**245**	**$282,136**	**273**	**$49,976**	**$3,018**	**$335,130**	

[1]Actual ENRTF funds are $53,993; $10,600 from the Belwin Conservancy biomass sale was applied to the total project of $64,593.
[2] Total project acres: 44 for $44,000; $12,353 was paid from 2007 Minnesota Legislature and $31,647 was paid from 2010 ENRTF. Past progress reports did not reflect this split funding.

Harvest and Restoration: DNR Projects

Project Name	Total Harvest Acres	Harvest $$	Total Resto Acres	Resto $$	Other $$	Total $$	Status
Frontenac State Park	84	$51,385	84	$0	$0	$51,385	Harvest completed. Utilization in progress.
Warsaw WMA	15	$26,400	15	$6,246	$275	$32,921	Joint project with Bryan Eggum and Charles Umbanhowar. Project. Completed.
St. Paul Fish Hatchery AMA	26[1]	$47,430	26	$0	$0	$47,430[1]	Completed.
Sakatah Lake State Park	15[2]	$34,400	15	$0	$0	$34,400	Completed.
Total	**140**	**$159,615**	**140**	**$6,246**	**$275**	**$166,136**	

GRAND TOTAL	**385[3]**	**$441,751**	**413**	**$56,222**	**$3,293**	**$490,666**	

[1]Actual ENRTF funds are $46,930; $500 from the Koester Farm Partnership biomass sale was applied to the total project of $47,430.
[2]ENRTF funds paid for 15 acres for Site 1 of 3; the Parks and Trails Fund of the Clean Water, Land and Legacy Amendment provided $24,000 for an additional 30 acres of prairie restoration on Sites 2 and 3.

- The final "Project Descriptions and Status" details information about each project and is attached (see Attachment G).
- Of the 11 projects funded, all projects except the Frontenac State Park (DNR) are completed:
- Round 1 Funding. Four non-DNR projects and two DNR projects were funded for a total of 211 acres and $240,314.
    - The Frontenac State Park (DNR) is not yet complete awaiting final collection and utilization of the harvested woody biomass material when site conditions allow. No ENRTF funds are affected by this delay. This project has experienced a number of delays being postponed due to warm weather and poor site conditions in 2011, contractor default in 2012, and contractor mechanical problems and wet spring in 2013.
- Round 2 Funding: Two non-DNR projects were funded for a total of 62 acres and $93,522.
- Round 3 Funding: One non-DNR and two DNR projects were funded for a total of 112 acres and $158,830.
- A total of 385 acres were funded, exceeding the goal of 300 acres.

- The 385 acres were harvested for a total of $441,751 resulting in an average cost per acre of $1,147 which is under the estimated amount of $1,500 per acre. If the additional 30 acres for the Sakatah Lake State Park project is included (funded by the Parks and Trails Fund of the Clean Water, Land and Legacy Amendment for an additional $24,000) then the average cost per acre decreases to $1,122.
- Post-harvest restoration activities totaled $56,222 for six of the eleven projects. This comprised less than 11% of the total project funds of $490,666.
- Costs related to "other expenses" were primarily for on-site project signage and public relations flyers as well as stump grinding as a function of site preparation for post-harvest restoration activities.
- Habitat types under restoration as a result of this project include 69 acres of oak savanna, 65 acres of prairie/grassland, 238 acres of oak woodland/forest, 8 acres of lowland hardwood forest and 5 acres of emergent marsh. An additional 30 acres of prairie is being restored as part of the Sakatah Lake State Park project (funded by the Parks and Trails Fund of the Clean Water, Land and Legacy Amendment) that would not have occurred without the catalyst of the ENRTF funding and DNR woody biomass project coordination.
- A diversity of landownerships was represented: four DNR projects (one Wildlife Management Area, one Aquatic Management Area, and two State Parks), three private landowners, one NGO, one county, one city, and one private college. Of note is the Warsaw WMA/Umbanhowar Prairie/Eggum Parcel project which was a joint public/private project. This partnership allowed for a larger number of acres to be restored, and a long-term land management relationship between these partners was developed.

RESULT 2: Expand Woody Biomass Market Opportunities

Description:
Expand opportunities for competitive woody biomass markets by identifying viable woody biomass markets and buyers/users and develop a formal process to connect them to the material from the woody biomass harvest projects. Buyers/users must be identified prior to biomass harvesting to ensure that the material will be used. Revenues collected from the sale of woody biomass material will be reinvested for further purposes of the project. Current market variables and volatility prevents an estimate of potential revenues.

Technical experts in biomass marketing and utilization have agreed to assist in this aspect: DNR Biofuels Program Manager; DNR Forestry Biomass Program Coordinator; DNR Forestry Utilization and Marketing Program Director; DNR Forestry Regional Utilization and Marketing Staff; Steve Bratkovich, Dovetail Partners, Inc.; and Don Arnosti, Consultant. Specific project partners will vary as projects are selected and will represent public and private landowners, biomass market interests, small businesses and restoration companies, NGO's and others as identified.

The Project Manager will work with project partners throughout the contracting process and project implementation, and monitor and report project progress and accomplishments.

Summary Budget Information for Result 2:

ENRTF Budget: ~~**$20,760**~~ **$21,351**

Amount Spent: **$21,351**

Balance: **$ 0**

Deliverable	Completion Date	Budget
1. List of woody biomass markets and buyers/users; developed at the outset of the project and regularly updated.	February 2013	$8,200
2. Contracts with buyers/users of woody biomass material for collection of material from harvest projects completed as each project is implemented.	February 2013	$8,200
3. Record of disposition of material, volumes, and revenues collected.	June 30, 2013	$8,200

Result Completion Date: June 30, 2013

Result Status as of December 31, 2012:

- The table below provides specific information as it relates to the deliverables listed above for Result #2:

Deliverables: Revenue, volume, and disposition for woody biomass sales.

Project Name	Total Harvest Acres	Revenue/Value	Volume	Disposition	Status
Stagecoach Prairie Natural Area, Belwin Conservancy	32	$10,600 Rev	450 cords pine 1 load of pine logs 70 loads = 1,728 tons	WI sawmill, cabin logs, bioenergy (District Energy St. Paul)	Completed Feb 2011
Battle Creek Regional Park, Ramsey County	70	$0	27 loads = 540 tons	Bioenergy (District Energy St. Paul)	Completed Feb 2012
Frontenac State Park	84	$500 Val	TBD	Bioenergy (District Energy St. Paul)	In progress
Warsaw WMA/ Umbanhowar Prairie/Eggum Parcel	25	$500 Val	TBD	Mulch, bioenergy (Fibrominn in Benson)	In progress
Koester Dry Hill Oak Savanna, Koester Farm Partnership	24	$500 Rev	TBD	Bioenergy (District Energy St. Paul)	In progress
Carleton College Cowling Arboretum, Carleton College	38	$2,000 Val	TBD	TBD	In progress

St. Paul Fish Hatchery AMA	22	TBD	TBD	TBD	In progress
Anoka Nature Preserve, City of Anoka	50	TBD	TBD	TBD	In progress
Sakatah Lake State Park	40	TBD	TBD	TBD	In progress
Total	**385**	**$14,100**			

- Because a biomass sale had to be cancelled due to the default of the harvesting contractor, a new approach to soliciting project bids was piloted. Bids were solicited for the cost of harvesting services (amount charged to the DNR) minus the biomass sale (amount paid to the DNR) for a total lump sum bid price. Contracts are awarded for the lowest lump sum bid. The intent of this approach was to identify a single contractor to accomplish all project tasks for the purpose of efficiency and to keep the overall project costs at a minimum. In the table above, the value of the biomass is indicated with "Val." Prior to this pilot approach, the Belwin Conservancy and Koester Farm Partnership projects were separate harvest and sale bid processes resulting in actual revenue as indicated in the table above by "Rev."
- A spreadsheet of potential biomass market and buyers/users contacts was regularly updated. The contact information was gathered through personal contacts, web research, membership lists and references from other buyers/users and colleagues.
- Direct contact was made with additional potential buyers/users to learn more about their operations and to respond to their requests for information about this project.

Result Status as of June 30, 2012:

- The table below provides specific information as it relates to the deliverables listed above for Result #2.

Deliverables: Revenue, volume, and disposition for woody biomass sales.

Project Name	Total Harvest Acres	Revenue	Volume	Disposition	Status
Stagecoach Prairie Natural Area, Belwin Conservancy	44	$10,600	450 cords pine 1 load of pine logs 70 loads = 1,728 tons	Sawmill Cabin logs Bioenergy (District Energy St. Paul)	Completed Feb 2011
Battle Creek Regional Park, Ramsey County	70	$0	27 loads = 540 tons	Bioenergy (District Energy St. Paul)	Completed Feb 2012
Total	**114**	**$10,600**			

- A spreadsheet of potential biomass market and buyers/users contacts was regularly updated. The contact information was gathered through personal contacts, web research, membership lists and references from other buyers/users and colleagues.

- Direct contact was made with additional potential buyers/users to learn more about their operations and to respond to their requests for information about this project.
- In December 2011, a biomass sale was posted for the Frontenac State Park project with no bids received. Direct contact was made with potential biomass buyers/users to understand the lack of interest. Timing was the issue with the biomass sale offered during the holiday season. A second biomass sale was offered in January. One qualified bid was received for $250; a second bid missed the deadline. The biomass sale was cancelled because the harvesting contractor defaulted, postponing the entire project.
- The Project Manager has joined the Minnesota Department of Agriculture's Tree Care Registry to receive electronic updates on the status of the Emerald ash borer or other diseases and pests that may impact the implementation of this project.

Result Status as of December 31, 2011:

- The table below provides specific information as it relates to the deliverables listed above for Result #2.

Deliverables: Revenue, volume, and disposition for woody biomass sales.

Project Name	Total Harvest Acres	Revenue	Volume	Disposition	Status
Stagecoach Prairie Natural Area, Belwin Conservancy	44	$10,600	450 cords pine 1 load of pine logs 70 loads = 1,728 tons	Sawmill Cabin logs Bioenergy	Completed Feb 2011
Battle Creek Regional Park, Ramsey County	70	$0	TBD	TBD	Due 12/31/11
Total	**114**	**$10,600**			

- A spreadsheet of potential biomass market and buyers/users contacts was regularly updated. The contact information was gathered through personal contacts, web research, membership lists and references from other buyers/users and colleagues.
- Direct contact was made with additional potential buyers/users to learn more about their operations and to respond to their requests for information about this project.
- The initial formal process to offer the woody biomass material for sale and connect potential buyers/users with the material was revised based on lessons learned and new information. Language for a sale bid solicitation was revised to address Emerald ash borer quarantine issues and movement of other regulated invasive species per consultation with the Minnesota Department of Agriculture, USDA-AHPIS, and the Wisconsin Department of Natural Resources.
- The biomass sale for the Ramsey County project was conducted and sold to the highest bidder for $0; the only other bid received requested that the State pay $700 for the cost to remove the material.

- A biomass sale was posted for the Frontenac State Park project with no bids received; follow-up with potential buyers/users is underway.
- Several counties in Minnesota are under quarantine for the Emerald ash borer. The Minnesota Department of Agriculture and USDA-APHIS were consulted regarding transportation of regulated articles from the quarantined Ramsey County project site and for future woody biomass projects that may involve intrastate movement of material from or through quarantined counties. Also, the Wisconsin Department of Natural Resources was consulted regarding invasive species material that may enter their state as a result of this woody biomass project.

Result Status as of June 30, 2011:

- A spreadsheet of potential biomass market and buyers/users contacts was regularly updated. The contact information was gathered through personal contacts, magazine and newsletter reviews, and web research.
- Direct contact was made with potential buyers/users to learn more about their operations and to respond to their requests for information about this project.
- A formal process to receive the woody biomass material as a donation from the participating landowner has been developed.
- An initial formal process to offer the woody biomass material for sale and connect potential buyers/users with the material has been developed and implemented. The process included developing language for a bid solicitation and advertising the solicitation to buyers/users previously identified, project contacts, and posting to the Minneapolis Biomass Exchange website.
- The first and only biomass sale thus far was conducted in association with the Belwin Conservancy's Stagecoach Prairie Natural Area project. The material from 44 acres was sold to the highest bidder for $10,600, the second highest bidder was $7,250 and Environmental Wood Supply, LLC (service provider to District Energy St. Paul) bid zero (they would grind and collect the material at no charge). A total of 450 cords of pine logs went to a sawmill in Colfax, WI and the remaining material was ground and transported to District Energy St. Paul at a total of 70 loads; 1,728 tons of material.

Result Status as of December 31, 2010:

Developed a spreadsheet to compile contact information for biomass markets and buyers/users that will be updated as contacts are identified. Direct contacts have been made to learn more about the current markets and interests in woody biomass material from these projects. Samples of bid solicitations and contracts have been collected for use in solicitation of buyers/users of the material and for woody biomass collection operations.

Final Report Summary: June 30, 2013

This result has been successfully completed as outlined below:

Utilization: Revenue, volume, and disposition for woody biomass sales

Project Name	Total Harvest	Revenue/Value	Volume/Use	Disposition	Status

	Acres				
Stagecoach Prairie Natural Area, Belwin Conservancy	32	$10,600 Rev	450 cords pine logs 70 loads = 1,728 tons bioenergy	WI sawmill, cabin (logs), District Energy St. Paul	Completed Feb 2011
Battle Creek Regional Park, Ramsey County	70	$0	27 loads = 540 tons bioenergy	District Energy St. Paul	Completed Feb 2012
Frontenac State Park	84	$500 Val	TBD	District Energy St. Paul	In progress
Warsaw WMA/ Umbanhowar Prairie/Eggum Parcel	25	$500 Val	82 loads mulch 6 log loads pallets 14 loads = 280 tons bioenergy	Country Stone and Soil of Minnesota (mulch), Amish (pallets), Fibrominn in Benson and District Energy St. Paul (bioenergy)	Completed Feb 2013
Koester Dry Hill Oak Savanna, Koester Farm Partnership	24	$500 Rev	67 loads = 1,340 tons bioenergy	District Energy St. Paul	Completed Jan 2013
Carleton College Cowling Arboretum, Carleton College	38	$2,000 Val	130 loads mulch pine logs 15 loads = 300 tons bioenergy	Country Stone and Soil of Minnesota (mulch), cabin (logs), Fibrominn in Benson (bioenergy)	Completed Feb 2013
St. Paul Fish Hatchery AMA	26	$0	6.5 = 130 tons	District Energy St. Paul (bioenergy)	Completed Jun 2013
Anoka Nature Preserve, City of Anoka	71	$0	22 loads = 440 tons	District Energy St. Paul (bioenergy)	Completed Mar 2013
Sakatah Lake State Park	15[1]	$1,000	43 loads = 880 tons bioenergy 30 loads mulch	District Energy St. Paul Rock Hard Landscape Supply (mulch)	Completed Jun 2013
Total	**385**	**$15,100**			

[1]ENRTF funds paid for 15 acres for Site 1 of 3; the Parks and Trails Fund of the Clean Water, Land and Legacy Amendment provided $24,000 for an additional 30 acres of prairie restoration on Sites 2 and 3.

- This project was successful in demonstrating that there is market interest and value for woody biomass material from habitat restoration projects, but it is highly variable as markets are highly variable. Contractors are best suited to identify those markets as a function of being awarded the project.
- This project proved that there is a significant volume of material being removed from habitat restoration projects that can be utilized versus traditional methods of disposal.
- A spreadsheet of potential biomass market and buyers/users contacts was created and regularly updated. The contact information was gathered through "cold call" telephone conversations, magazine and newsletter reviews, Minnesota Logger Education Program (MLEP) contact list, and web research. This list also included harvest contractors who bid on complete harvest/biomass sale projects. Also, state bid solicitations and grantee project RFPs garnered contact information for interested contractors. Informal networks proved to be the most important opportunity to collect this information

- Compiling a complete contact list of harvest contractors and biomass buyers/users was challenging as many of these operators are small businesses not easily identified through traditional formal networks (the web, public membership lists). A number of the smaller businesses failed, indicating how challenging this work can be.
- This project successfully piloted a combined woody biomass harvest and biomass sale bid solicitation to test the viability of attracting contractors who would complete a project from harvest to utilization Feedback from several contractors confirmed that giving them full responsibility for the entire project allowed for harvest efficiencies and flexibility in dealing with the woody biomass material. Through this bidding process, contractors bid the cost to harvest the woody biomass material and then valued the material (deducted from the harvest bid) for a total project cost. The contractor was then responsible for the final utilization of all of the material.
- Contractors are fully aware of their competitors and collaborators and are best suited to put a harvest project together. Many traditional logging and land clearing companies have connections to markets for their material. Traditional restoration contractors have been evolving to connect woody biomass material to markets, either for some revenue return or at the very least proper utilization.
- Project partners learned how to conduct a large-scale woody biomass removal and sale project, and a few have adopted this model for subsequent projects. Completely removing or reducing the volume of material from a restoration site, either through a biomass sale or collection of material at no cost, is a desired benefit worth pursuing. For projects with pine plantations, a timber sale was recommended prior to a woody biomass harvest operation and DNR Forestry advised on all potential timber sales.
- Example: Oronoco SNA was not a project funded through this ENRTF project, but followed the model of utilizing the material established by this project. The result was that the harvest contractor shifted the original approach to the project from piling and burning to staging the material for collection and utilization for bioenergy by District Energy St. Paul. This resulted in 36 loads or 720 tons of material. Additionally, the contractor saved time in not having to tend to a burn pile of green material and the SNA was spared a sterile burn area.

RESULT 3: Analyze, evaluate, and disseminate results

Description:
Compile and analyze project data to articulate lessons learned. Information will be communicated to target markets, landowners, resource professionals and others.

Summary Budget Information for Result 3:	**ENRTF Budget:**	~~**$10,380**~~ $10676
	Amount Spent:	**$ 10676**
	Balance:	**$ 0**

Deliverable	Completion Date	Budget
1. Database, reports on multiple metrics including project costs and revenues collected.	June 30, 2013	$4,100
2. Assessment of the feasibility of market-driven ecological restoration.	June 30, 2013	$4,100
3. Mechanisms and strategy to communicate and disseminate information.	June 30, 2013	$4,100

Result Completion Date: June 30, 2013

Result Status as of December 31, 2012:

- Information was shared and contacts were made at the "Biomass for Energy, Wildlife Habitat and Economic Benefits" roundtable held July 19, 2012 in Hackensack, MN.
- Information was shared and contacts were made at the "Native American Biomass Conference" held December 5, 2012 in Carlton, MN.
- An abstract was submitted to give a presentation at the "2013 Annual Meeting of the Minnesota Chapter of The Wildlife Society" to be held February 5-7, 2013 in Walker, MN.
- An abstract was submitted to give a presentation at the Heating the Midwest "2013 Annual Conference and Expo" to be held April 24-26, 2013 in Carlton, MN.
- Information was provided to LCCMR staff per their request.
- Additional observations and lessons learned are being compiled from conversations with project partners, biomass buyers/users, technical experts, other interested parties, and through direct experiences. These include:
    - Contractor feedback has resulted in requiring a performance bond and references for projects in order to attract those contractors whose experience and business strength provide assurance that they are not only qualified but also committed to the project.
    - Market variables and the low cost of natural gas have reduced the demand for woody biomass for bioenergy.
    - It is important to keep current on the overall state-wide biomass industry and trends and understand the various forces that impact small business operators in order to adapt the approach to this project work for cost-effectiveness and efficiencies.
    - Projects located within close proximity to each other and being implemented within a relatively close timeframe provide the opportunity to attract greater competition for harvest work and the biomass material due to the increased volume and transportation efficiencies. Contractors are collaborating on projects in close proximity.

Result Status as of June 30, 2012:

- Project data was updated for the DNR's Grant Outcomes Website, which provides project descriptions, indicators and targets information to website

visitors. The website is located at: http://www.dnr.state.mn.us/grants/outcomes/index.html.

- Information was provided to LCCMR staff per their request.
- Information was shared during the MN DNR Regional Plant Ecologists meeting held January 25, 2012. This was followed by a tour of two biomass project sites.
- Additional observations and lessons learned are being compiled from conversations with project partners, biomass buyers/users, technical experts, other interested parties, and through direct experiences. These include:
    - Market variables and project complexities appear to drive collaboration amongst competitors.
    - There appears to be contractors who are interested in the biomass (in order to fulfill volume contracts with end users) and who are capable of cutting the material who would be interested in doing the entire project from cutting to hauling. An attempt is being made to write a biomass harvest/sale bid solicitation to test this. The result may be that the removal of biomass for large-scale projects will be at no cost or at significant cost savings if there is enough material to attract the appropriate contractor.
    - It is important to keep current on the overall state-wide biomass industry and trends and understand the various forces that impact small business operators in order to adapt the approach to this project work for cost-effectiveness and efficiencies.
    - Projects located within close proximity to each other and being implemented within a relatively close timeframe provide an opportunity to attract greater competition for the biomass material due to the increased volume and transportation efficiencies. This will be tested with the Koester Farm Partnership and Warsaw WMA/Umbanhowar Prairie/Eggum Parcel projects that are 5 miles apart.

Result Status as of December 31, 2011:

- Project data was compiled for the DNR's Grant Outcomes Website to provide project descriptions, indicators and targets information to website visitors. The website is located at: http://www.dnr.state.mn.us/grants/outcomes/index.html
- Presentations about this project were made to the DNR's Climate and Renewable Energy Steering Team and the Bio-fuels Team to update members about this effort.
- Additional observations and lessons learned are being compiled from conversations with project partners, biomass buyers/users, technical experts, other interested parties, and through direct experiences. These include:
    - Compiling a complete contact list of buyers/users is challenging as many of these operators are small businesses not easily identified through traditional formal networks (the web, public membership lists). Informal networks may prove to be the most important opportunity to collect this information.

- Relying on large facilities to source woody biomass material for bioenergy can be problematic if/when that facility suffers long-term mechanical problems affecting the entire system.
- Providing a complete and accurate volume estimate of woody biomass material prior to cutting and staging is problematic. A traditional timber cruise (when a forester is available) provides some good data, but for these projects, much more than "timber" is removed. There does not appear to be an accepted methodology to calculate the volume of standing shrubs (such as buckthorn) or saplings which can contribute a significant amount biomass depending on the project.

Result Status as of June 30, 2011:

- A spreadsheet has been developed and is maintained to compile metrics including project costs and revenues collected, target habitat, acreage, utilization of the woody biomass material, and volume.
- Observations and lessons learned are being compiled from conversations with project partners, biomass buyers/users, technical experts, other interested parties, and through direct experiences. These include:
  - Project timing is very important in order to accomplish the many steps to recruit, select, initiate and complete a project. Administrative and logistical factors such as budget cycles, project administration, and seasonal conditions, all have an impact and need to be considered.
  - Providing a consistent program with a regularly scheduled grant opportunity (RFP) would allow potential project partners time to plan and prepare for a project and may result in more applicants per funding round.
  - Woody biomass markets are highly competitive, market-driven, complicated and rather volatile making it very difficult to predict marketability of the material.
  - Transportation distance to a bioenergy facility or other biomass market is an important factor affecting the utilization of the woody biomass material.
  - Buyers/users may compete with each other or work collaboratively (ex. Belwin Stagecoach Prairie Natural Area Project).
  - Biomass facilities have contracts with suppliers who guarantee an agreed upon volume and quality of material delivered on an annual basis and are thus paid a premium as compared to other companies who may deliver periodic loads. Identifying and contacting supply contractors regarding a potential biomass sale may help them fulfill their contracts as well as create competition for the material resulting in a higher bid offer. The ability of supply contractors to pay a premium is dependent on their access to other sources of material which is influenced by many variables including storm events and land clearing for development.
  - The potential for ecological or habitat restoration projects to provide a source of woody biomass material is still a relatively new concept and not readily acknowledged by the biomass industry as a whole.

- It is most efficient to sort woody material types during harvest operations versus at the time of collection and transport from the project site. Sorting makes the material more attractive to a potential buyer/user.
- Invasive species, such as buckthorn and emerald ash borer, are a complicating factor for projects involving the movement of woody plant material within and transportation from project sites.
- Ideally, the most efficient and ecologically sound model for this work is for one contractor to perform the cutting as well as purchase/remove the woody biomass material. There are currently very few contractors that can do a complete project from cutting to staging to utilization. Currently, a project is completed in several steps which increases impact to the land and creates complications for project management. However, competition between vendors at each of these stages does help keep overall project costs down.
- Restoration projects involving the removal of woody biomass material, while seemingly small as compared to land clearing or forestry projects, are important to all the parties directly or indirectly involved as they provide direct jobs throughout all facets of the project from planning through implementation to completion; indirect jobs for project support networks (supplies and equipment replacement/repair); and woody biomass material for end users and their systems/networks.

Result Status as of December 31, 2010:
No significant progress to report as of 12/31/10.

Final Report Summary: June 30, 2013
This result has been successfully completed as outlined below:

- The webpage "Linking Habitat Restoration to Bioenergy and Local Economies" located at http://www.dnr.state.mn.us/eco/habitat_biomass.html provided an overview of the entire project, the project fact sheet, the LCCMR-approved Work Program, and the final report. This webpage was updated to indicate the end of this project but will remain as an informational resource for those interested in this project work and results.
- The project fact sheet "Linking Habitat Restoration to Bioenergy and Local Economies" served as a key informational tool and is attached to this report as Attachment E.
- The RFP for grant applications was posted on the DNR Grants webpage (also linked to the Office of Grants Management) under "Habitat Improvement." The notice of the RFP, including links to these webpages, was sent to an RFP mailing list and through a press release. Numerous inquiries for funding or general information about the project work were received as a result of this posting.
- Final project data was updated on the DNR's Grant Outcomes Website which provides project descriptions, outcomes performance indicators, amount spent on each project, and project images. Outcomes performance indicators include number of acres treated, the cost per acre to harvest woody biomass material,

the revenue collected or value attributed to the woody biomass material and habitat types targeted for restoration. The project description includes the composition and use of the woody biomass material. The website is searchable by project name and county. The website is located at: http://www.dnr.state.mn.us/grants/outcomes/index.html.

- A spreadsheet was developed and maintained to compile project metrics including grantee, landowner type (DNR or non-DNR), project acres, target habitats for restoration, total obligation, actual project costs, cost per acre to harvest woody biomass material, the revenue collected or value attributed to the woody biomass material, the composition and use of the woody biomass material, loads and volumes, project status, and notes. This spreadsheet was used internally but the data it contained was used to prepare work progress reports, update the DNR's Grant Outcomes Website, prepare handouts and presentations, and respond to information requests.
- Telephone conversations and meetings were convened with land managers/owners, harvest contractors, and biomass market industry representatives to discuss the project, garner insights for improvements to implementing this project, identify challenges and opportunities to move this effort forward and to facilitate connections between landowners, contractors, and biomass end-users.
- All woody biomass projects had a public relations component as required through the preparation of a project harvest plan. Stakeholders were identified and contact procedures were outlined in the harvest plan. This generally involved a letter to adjacent landowners and local officials, signs at public entrance/access points, and press releases. Attachment H contains a list of all known project media coverage from July 2010 to June 2013.
- Opportunities were identified and invitations were accepted to provide formal presentations and informal updates about this project. Project fact sheets and other information were shared and contacts were made that furthered the efforts of this work. Key audiences were:
    - the DNR Climate and Renewable Energy Steering Team and the Bio-fuels Team who were provided regular updates.
    - the DNR "transformation" staff meetings involving the merger of the Ecological Resources and the Waters Divisions.
    - the "Biomass Issues in Northeast MN" workshop hosted by the Northeast Clean Energy Resource Team, held September 23, 2010 in Mora, MN.
    - the 2010 MN/WI Invasive Species Conference held November 8-10, 2010 in St. Paul
    - the MN DNR Regional Plant Ecologists meeting held January 25, 2012 in St. Paul. This was followed by a tour of two biomass project sites.
    - the "Biomass for Energy, Wildlife Habitat and Economic Benefits" roundtable held July 19, 2012 at the Deep Portage Environmental Learning Center in Hackensack, MN.
    - the "Native American Biomass Conference" held December 5, 2012 in Carlton, MN.

    - the “2013 Annual Meeting of the Minnesota Chapter of The Wildlife Society” held February 5-7, 2013 in Walker, MN.
    - the American Chemical Society *BioEnergy Symposium* of the “Chemistry Between the Bluffs: 40th Biennial Great Lakes Regional Meeting” held June 6, 2013 in LaCrosse, WI.
- An invitation was received from BBI International to submit a presentation abstract for the 2013 International Biomass Conference and Expo held April 8-10, in Minneapolis. The abstract was not accepted but indicates interest in this work at the international level.
- An abstract was submitted to present at the Heating the Midwest “2013 Annual Conference and Expo” held April 24-26, 2013 in Carlton, MN. The presentation was not accepted, but the presentation given by District Energy St. Paul included DNR powerpoint slides to showcase this project. In addition, project fact sheets and other information were provided at the DNR exhibit space and contacts were made to encourage future consideration of habitat restoration projects as a source of biomass.
- Other significant opportunities to share information about this project work included a project summary and fact sheet posted to the University of Wisconsin Center for Limnology Digital Library website: http://cfllibrary.uwcfl.org/node/2972 ; hosting a Gustavus Adolphus College student for a day to tour project sites and the St. Paul wood yard that supplies District Energy St. Paul; updating the MFRC Southeast and East Central Landscape Committees on the results and opportunities of this project work; and providing information to Dovetail Partners, Inc. for a project examining how bioenergy can lead to habitat improvements.
- Worked with Admin Minnesota, Materials Management Division, to include language in the master contract S-910(5) “Native Plant Community Restoration” that encourages contractors to utilize woody biomass material whenever possible.
- Worked with DNR staff to include language in the Conservation Partners Legacy Grant Program that encourages grantees to consider opportunities to utilize woody biomass material whenever possible.
- Coordinated a tour of District Energy St. Paul for project partners and other interested parties to fully understand the utilization of woody biomass material for bioenergy and strengthen the connection between resource managers and District Energy St. Paul for future projects.
- Shared project examples with a variety of landowners and resource managers who have other sources of restoration/vegetation removal funds and who were interested in this model of utilizing the woody biomass material.
- Contributed to the report “Biomass Harvesting as a Vegetation Management Tool: Review and Assessment of Recent Practices” that was prepared on behalf of the MN DNR by Laura Eaton and Dennis Becker of the University of Minnesota, December 2012 to compile information on this project and other efforts to capture lessons and document best practices for future project implementation.

- Compiled observations and lessons learned from conversations with project partners, contractors, biomass buyers/users, technical experts and other interested parties and through direct experiences. These include:
    - The potential for ecological or habitat restoration projects to provide a source of woody biomass material was proven through this project work but is still a relatively new concept and not readily recognized or acknowledged by the biomass industry as a whole. Continued "marketing" of habitat restoration as a significant source of material will be important in order to utilize potentially wasted material.
    - Woody biomass removal will continue to occur without ENRTF funds, but this project tested and proved that there are utilization alternatives to traditional disposal methods of burning, burying, or grinding or otherwise leaving raw woody biomass material on site that could be utilized.
    - Capacity to utilize woody biomass material is lacking statewide and particularly in the southwest, west and northwestern parts of the state. Many inquiries were received about habitat restoration projects in those areas of the state and how to connect that material to bioenergy or other markets.
    - Ideally, the most efficient and ecologically sound model for this work is for one contractor to perform the biomass harvest as well as take responsibility for the appropriate disposition of the woody biomass material. This project successfully tested the evolution from a project that is completed in two phases, harvest/staging and utilization, (which increases potential negative impacts to the land and creates complications for overall project management) to a project that is completed in one inclusive phase with one contractor responsible for harvest to utilization.
    - Feedback from several contractors confirmed that giving them full responsibility for the entire project allowed for efficiencies and flexibility in dealing with the woody biomass material. There are currently very few contractors that can complete a project from harvesting to staging to utilization, but contractors and buyers/users are adapting their business model and collaborating with other contractors to provide this complete service in order to be competitive. Market variables and project complexities appear to drive collaboration amongst competitors.
    - Woody biomass markets are highly competitive, market-driven, complicated and rather volatile that made it very difficult to predict marketability of the material. Compounding the traditional and emerging markets for woody biomass are pests such as the Emerald ash borer that may result in a major influx of ash into a wood market system that is already struggling. The low cost of natural gas have also reduced the demand for woody biomass for bioenergy and investments in infrastructure and capacity for utilizing woody biomass material.
    - Weather considerations are critical for habitat restoration projects but can be compounded by utilization operations requiring grinding, loading and transport of material. Site conditions for large, heavy equipment such as grinders and road restrictions for moving grinders to the project site must

be considered and provided for when planning and implementing a project. All project partners involved must be fully informed of the constraints and issues in order to make informed decisions on project implementation, cancellation or extension for the purposes of woody biomass utilization.

- It is important to keep current on the overarching biomass industry and trends and understand the various forces that impact small business operators in order to adapt an approach to this project work for cost-effectiveness and efficiencies.
- All restoration projects located within close proximity to each other and being implemented within a relatively close timeframe provide an opportunity to attract greater competition for harvest work and the biomass material due to the increased volume and transportation efficiencies. Contractors are interested in collaborating on projects in close proximity. Landscape-level land management initiatives may prove to be an important point of coordination for restoration projects and utilization efforts.
- Transportation distance to a bioenergy facility or other biomass market is an important factor affecting the utilization of the woody biomass material.
- Reliance on the few large facilities to source woody biomass material for bioenergy, or other uses, can be problematic if/when that facility suffers long-term mechanical problems (District Energy St. Paul), damage due to fire (Koda Energy), changes in procurement (Fibrominn), or closure (mills) affecting the demand/supply system. Increased capacity throughout the state to utilize woody biomass material, bioenergy or other, should be developed. This will also help to alleviate transportation issues and provide much-needed markets for contractors interested in utilizing the material.
- Providing a complete and accurate volume estimate of woody biomass material prior to advertising a woody biomass project is problematic. A traditional timber cruise (when a forester is available) provides some good data, but for these projects, much more than “timber” is removed. There does not appear to be an accepted methodology to calculate the volume of standing shrubs (such as buckthorn) or saplings which can contribute a significant amount of biomass depending on the project.
- Contractor work schedules are an important time variable. Project planning and implementation should allow for a longer timeframe to schedule the woody biomass harvest/sale in order to attract the widest network of possible contractors who can then schedule their project work effectively and provide flexibility in utilizing the material. Contractors are an excellent resource for planning projects for cost and time efficiencies.
- Biomass facilities have contracts with suppliers who guarantee an agreed upon volume and quality of material delivered on an annual basis and are thus paid a premium as compared to other companies who may deliver periodic loads. Identifying and contacting supply contractors regarding a potential biomass sale may help them fulfill their contracts as well as

create competition for the material resulting in a higher bid offer. The ability of supply contractors to pay a premium for woody biomass is dependent on their access to other sources of material which is influenced by many variables including storm events, pest issues and land clearing for development.

- If woody biomass material is cut prior to identifying a buyer/user it is most efficient to sort woody material types during harvest operations versus at the time of collection and transport from the project site. Sorting by trees and shrubs may make the material more attractive to a potential buyer/user.
- Increasing regulation and restrictions for invasive species, such as buckthorn and emerald ash borer, are a complicating factor for projects involving the movement of woody plant material within and transportation from project sites. Quarantine complications are a barrier for some contractors, reducing the competition for biomass material.
- Restoration projects involving the removal of woody biomass material, while seemingly small as compared to land clearing or forestry projects, are important to all the parties directly or indirectly involved as they provide direct jobs throughout all facets of the project from planning through implementation to completion; indirect jobs for project support networks (supplies and equipment replacement/repair); and woody biomass material for end users and their systems/networks.
- Contractor feedback resulted in requiring a performance bond and references for DNR projects in order to attract contractors whose experience, capabilities and business strength provided assurance as to qualifications and commitment to successfully complete the project. This approach was recommended to grantees as well.
- Well-written bid specifications or RFP to select qualified contractors is critical. Site conditions and sensitivities may warrant specialized equipment or approaches to protect the site. It is important to match the scope and scale of the project with the qualifications, including appropriate equipment, of the contractor in order to complete a project efficiently and cost-effectively. Project delays and issues occurred when contractors selected were not the best qualified nor had the proper equipment for that project.
- Methodologies for tree valuation to determine damage penalties for “leave or save trees” for restoration projects would benefit future restoration projects. Damage penalties are communicated through the final contract to help protect trees left standing, but determining a fair value for damage proved challenging.
- District Energy St. Paul is pursuing Leadership in Energy and Environmental Design (LEED) credit for sourcing woody biomass as a renewable fuel from several sources including the habitat restoration projects funded by ENRTF.

V. TOTAL ENRTF PROJECT BUDGET: $600,000

Reference Attachment A: Budget Detail for 2010 Projects.

Personnel: ~~$103,800~~ $106,756 for 0.75 unclassified FTE to serve as the project manager.
Project Funds: ~~$493,191~~ $490,666 to implement woody biomass harvest and post-harvest restoration projects: $324,530 to be granted to non-DNR public and private landowners through a competitive process; and $166,136 will be retained for projects on DNR-owned land.
Equipment/Tools/Supplies: $9 for safety equipment and supplies (i.e. hard hat, safety glasses, safety vest, insect repellant, etc.).
Acquisition (Fee Title or Permanent Easements): $0
Travel~~: $3,000~~ $2,569 for project site visits and meetings
Additional Budget Items: $0

TOTAL ENRTF PROJECT BUDGET: $600,000

Explanation of Capital Expenditures Greater Than $3,500: N/A

VI. PROJECT STRATEGY:

A. Project Partners: Primary project team members are Barb Spears, DNR Woody Biomass Project Coordinator (Project Manager), DNR EWR Central Region Assistant Regional Manager, and DNR Regional Plant Ecologist. Others providing technical assistance include DNR Biofuels Program Manager, DNR Biomass Program Coordinator, DNR Utilization and Marketing Program Director, and other DNR Regional Utilization and Marketing Staff, and Don Arnosti, Consultant. Specific project partners will vary as projects are selected and will represent public and private landowners, biomass market interests, small businesses and restoration companies, NGO's and others as identified.

B. Project Impact and Long-term Strategy: Future expansion of this project could include: broadening the scope to include forest health initiatives (such as emerald ash borer); replicating this approach in other parts of the state as biomass markets develop; focusing efforts on one specific project area and associated local economy to efficiently and effectively accomplish multiple objectives; and creating a landowner-based woody biomass cooperative to support local biomass markets.

The long-term vision for this effort is to achieve an ecologically sound and systematic approach that addresses: current and future issues of habitat restoration and enhancement; renewable energy and climate change; invasive species, and natural resources conservation planning and implementation – all of which are effected, to some degree, by the impacts and opportunities of woody biomass.

C. Other Funds Proposed to be Spent during the Project Period: An estimated $88,000 in-kind directly related to this project (e.g. DNR Staff as outlined in Attachment

B; and volunteers and STS crews) is expected to be contributed to this project (but not tracked for reporting purposes). Approximately $7,560 in Department Operations and Division-wide Support charges accruing to this project will be covered by Division general funds or other eligible Division funds (see Attachment B).

In addition, this Environment and Natural Resources Trust Fund appropriation was supplemented by other state funding (e.g. bonding and potentially L-SOHC, invasive species, heritage enhancement, and RIM match) and non-state funds (e.g. Federal SWG, private funds, and partial landowner donations) as available and appropriate.

D. Spending History: The Department of Natural Resources, Division of Ecological Resources (DNR) received $500,000 from the legislature as part of the 2007 environment, natural resources, energy, and commerce finance bill, Laws of 2007, Chapter 57, Article 2, Sec. 3, subd. 6 (see Attachment F). That project began December 2007 and concluded June 30, 2011. The one-time funds were used to pilot an innovative woody biomass project that directly addressed habitat and energy recommendations in three strategic areas identified in the *LCCMR Six-year Strategic Plan* (SSP) adopted in 2009: 1) Land and Water Restoration and Protection; 2) Sustainable Practices; and 3) Economic Incentives for Sustainability.

VII. DISSEMINATION:

Information relating to this project will be disseminated in a variety of ways including a website currently located at http://www.dnr.state.mn.us/eco/habitat_biomass.html that will be updated as appropriate for this project. Articles and presentations will be provided as requested or otherwise identified. A fact sheet will be updated and shared electronically and at meetings to generate interest in project proposal submissions. The Grant Opportunity (RFP) will be posted on the DNR Grants webpage (linked to the Office of Grants Management). Data documentation is accomplished through spreadsheets, electronic files for documents as well as project images, and project management folders. Project status reports will be prepared for LCCMR and others as requested.

Project Completion Date: June 30, 2013

Dissemination Status:

As of December 31, 2012:

- Information was provided to LCCMR staff per their request.
- Previous Progress Reports were posted to the DNR project website located at http://www.dnr.state.mn.us/eco/habitat_biomass.html.
- Information was provided to interested parties upon request, often including the project fact sheet “Linking Habitat Restoration to Bioenergy and Local Economies” (Attachment E).
- Information was shared with DNR staff, including the Regional Director, through staff meetings, project coordination, and general discussions on how habitat

improvement projects might benefit from the removal and utilization of ecologically inappropriate woody vegetation.
- Project data were updated and are available on the DNR Grant Outcomes website located at: http://www.dnr.state.mn.us/grants/outcomes/index.html.

As of June 30, 2012:
- Information was provided to LCCMR staff per their request.
- Information was shared during the MN DNR Regional Plant Ecologists meeting held January 25, 2012. This was followed by a tour of two biomass project sites.
- Previous Progress Reports were posted to the DNR project website located at http://www.dnr.state.mn.us/eco/habitat_biomass.html and a notice to interested parties was sent electronically with this link to the current information.
- Information was provided to interested parties upon request, often including the project fact sheet "Linking Habitat Restoration to Bioenergy and Local Economies" (Attachment E).

As of December 31, 2011:
- Project data was compiled for the DNR's Grant Outcomes Website to provide project descriptions, indicators and targets information to website visitors. The website is located at: http://www.dnr.state.mn.us/grants/outcomes/index.html
- Presentations about this project were made to the DNR's Climate and Renewable Energy Steering Team and the Bio-fuels Team to update members about this effort.
- Previous Progress Reports are posted to the DNR project website located at http://www.dnr.state.mn.us/eco/habitat_biomass.html and a notice to interested parties is sent electronically with this link to the current information.
- Information is provided upon request.

As of June 30, 2011:
- The project fact sheet "Linking Habitat Restoration to Bioenergy and Local Economies" has been revised and is attached to this report as Attachment E.
- Data are being collected, recorded, filed and shared as appropriate.

As of December 31, 2010:
- The webpage "Linking Habitat Restoration to Bioenergy" located at www.mndnr.gov/grants/habitat/biomass.html has been updated to "Linking Habitat Restoration to Bioenergy and Local Economies" located at http://www.dnr.state.mn.us/eco/habitat_biomass.html. This webpage also links to an updated version of the project fact sheet and the LCCMR-approved Work Program.
- The current RFP for grant applications is posted on the DNR Grants webpage (also linked to the Office of Grants Management) under "Habitat Improvement" at http://www.dnr.state.mn.us/grants/habitat/biomass_grant.html. The notice of the RFP, including links to these webpages, was sent to an RFP mailing list and through a press release.

- Participation in workshops, conferences and meetings, internal and external to the DNR, has provided outlets to share information on this project through the fact sheet, formal presentations, and panel discussions. Examples of these outlets include the "Biomass issues in Northeast MN" workshop in Mora, the MN/WI Invasive Species Conference in St. Paul, and DNR "transformation" staff meetings involving the merger of the Ecological Resources and the Waters Divisions.
- Additional information is disseminated through telephone and email in response to inquiries about the overall project, funding opportunities, and biomass utilization opportunities.

Final Report Summary: June 30, 2013
Refer to Result 3 for more detailed information on project dissemination.

The webpage "Linking Habitat Restoration to Bioenergy and Local Economies" located at http://www.dnr.state.mn.us/eco/habitat_biomass.html provides an overview of the entire project, the project fact sheet, the LCCMR-approved Work Program, and the final report.

Project data were compiled and regularly updated for the DNR's Grant Outcomes webpage to provide project descriptions, funding information, indicators, targets and outcomes information. The website is located at http://www.dnr.state.mn.us/grants/outcomes/index.html.

Project information was shared at public workshops, conferences and meetings through formal presentations, panel discussions, informal conversations and handouts, such as the project fact sheet and other printed materials, targeted for the audience. Project information was also shared with DNR staff through staff meetings, project coordination, formal presentations, and informal discussions.

Telephone conversations and meetings were convened with land managers/owners, harvest contractors, and biomass market industry representatives to discuss the project, garner insights for improvements to implementing this project, identify challenges and opportunities to move this effort forward and to facilitate connections between landowners, contractors, and biomass end-users.

The key messages were: 1) for land managers/owners conducting habitat restoration projects - explore and implement the option to utilize the biomass material removed versus piling and burning or landfilling; 2) for contractors - provide the combined service of harvest and utilization of the material; and 3) for end-users - acknowledge habitat restoration projects as a potential significant source of material and to seek this opportunity.

VIII. REPORTING REQUIREMENTS:

Periodic work program progress reports will be submitted not later than December 31, 2010; June 30, 2011; December 31, 2011; June 30, 2012; and December 31, 2012. A final work program report and associated products will be submitted between June 30 and August 1, 2013 as requested by the LCCMR.

IX. RESEARCH PROJECTS: N/A

Final Attachment A: Budget Detail for 2010 Projects - Summary and a Budget page for each partner (if applicable)

Project Title: Linking Habitat Restoration to Bioenergy and Local Economies

Project Manager Name: Barb Spears

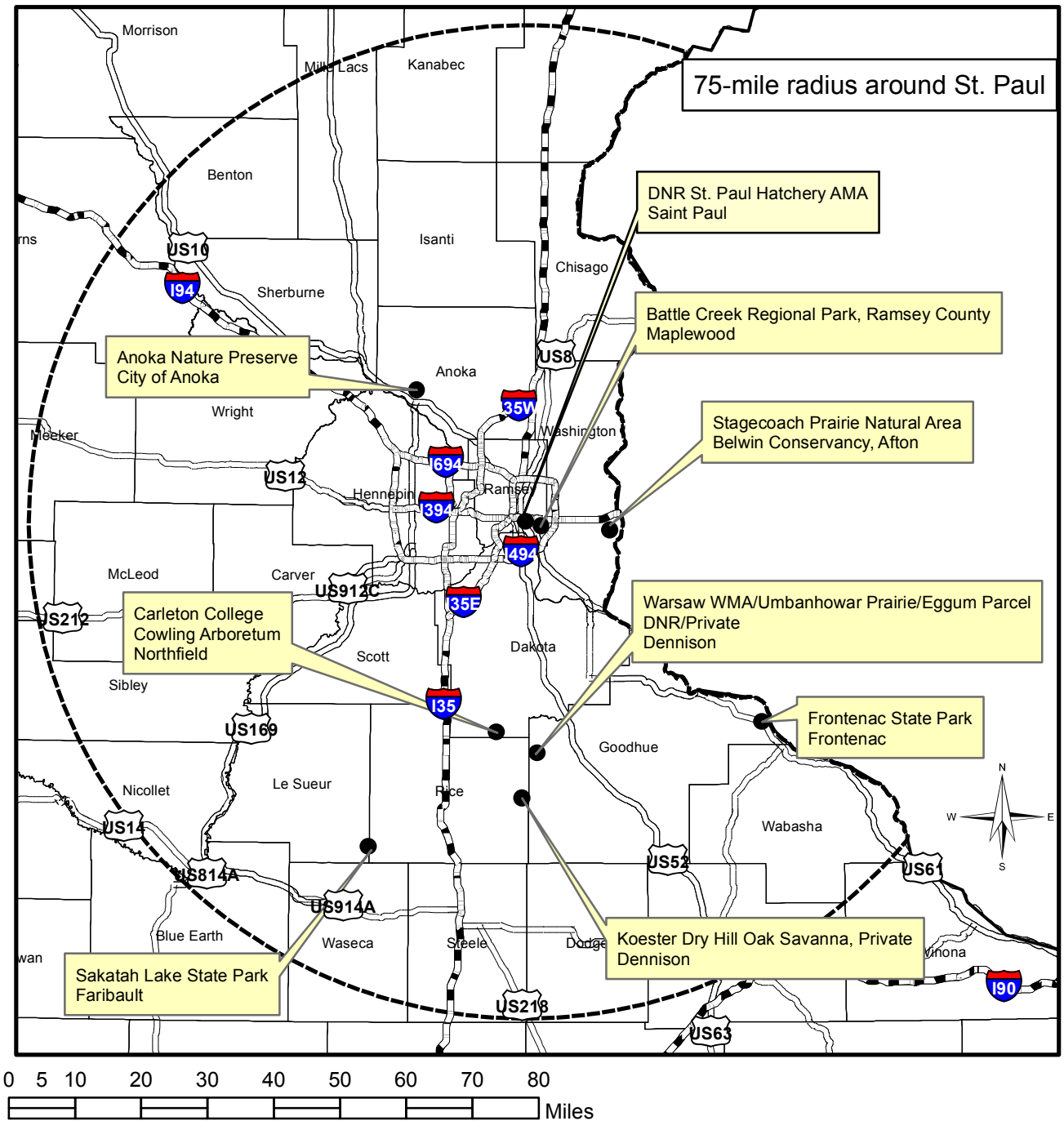
Trust Fund Appropriation: $600,000

2010 Trust Fund Budget	Result 1 Budget: (4/16/13)	Revised Result 1 Budget: (7/29/13)	Amount Spent *(6/30/13)*	Balance *(6/30/13)*	Result 2 Budget: (4/16/13)	Revised Result 2 Budget: (7/29/13)	Amount Spent *(6/30/13)*	Balance *(6/30/13)*	Result 3 Budget: (4/16/13)	Revised Result 3 Budget: (7/29/13)	Amount Spent *(6/30/13)*	Balance *(6/30/13)*	TOTAL BUDGET (4/16/13)	Revised TOTAL BUDGET (7/29/13)
BUDGET ITEM														
PERSONNEL: wages and benefits Barb Spears, .75 FTE	~~72,660~~	74,729	74,729	0	~~20,760~~	21,351	21,351	0	~~10,380~~	10,676	10,676	0	~~103,800~~	106,756
Project Funds: Biomass Harvest Projects and Post-Harvest Restoration. Grant Agreements with non-DNR public and private landowners for a total of $325,361; a total of $167,830 retained for DNR projects.	~~493,191~~	490,666	490,666	0	0	0	0	0	0		0	0	493,191	490,666
Contracts: Contracts with buyers/users of biomass material will provide assurance to collect the material and legal protection of the site during biomass collection operation.	0	0	0	0	0	0	0	0	0		0	0	0	0
Non-capital Equipment / Tools: Hard hat, safety glasses, safety vest and other safety equipment and supplies.	9	0	9	0	0	0	0	0	0		0	0	9	9
Printing	0	0	0	0	0	0	0	0	0		0	0	0	0
Supplies: Office supplies for organizing and managing project files.	0	0	0	0	0	0	0	0	0		0	0	0	0
Travel expenses in Minnesota	~~3,000~~	2,569	2,493	76	0	0	0	0	0		0	0	~~3,000~~	2,569
Other:	0		0	0	0	0	0	0	0		0	0	0	0
COLUMN TOTAL	**~~$568,860~~**	**$567,964**	**$567,897**	**76**	**~~$20,760~~**	**$21,351**	**$21,351**	**$0**	**~~$10,380~~**	**$10,676**	**$10,676**	**$0**	**$600,000**	**$600,000**

Attachment B: Budget Detail for 2010 Projects - SUMMARY OF TOTAL PROJECT COSTS	
Project Title: Linking Habitat Restoration to Bioenergy and Local Economies	
Project Manager Name: Barb Spears	
Trust Fund Appropriation: $600,000	
2010 Trust Fund Budget	**TOTAL PROJECT COST**
BUDGET ITEM	
PERSONNEL: wages and benefits	106,756
Contracts	
Project Funds for Biomass Harvest and Post-Harvest Restoration	490,666
Contracts with biomass buyers/users	0
Other direct operating costs	0
Non-capital Equipment / Tools (Safety equipment and supplies only)	9
Office equipment & computers - NOT ALLOWED	0
Capital equipment over $3,500	0
Land acquisition	0
Easement acquisition	0
Professional Services for Acq.	0
Printing	0
Supplies	0
Travel expenses in Minnesota	2,569
Travel outside Minnesota	0
Other:	
SUBTOTAL	600,000
ADDITIONAL PROJECT COSTS NOT SUPPORTED THROUGH ENRTF: e.g., Shared services* and other support costs (Dept. Ops Support and Division-wide Support***) = $7,560 Other in-kind contributions: DNR staff time for Regional Plant Ecologist, Regional Nongame Specialist, Regional Utilization and Marketing Staff, RC&D/Utilization Forester, 2 DNR Staff Foresters, and Assistant Regional Forester. = $88,000**	95,560
TOTAL	**$695,560**
*Shared services (operations support governance) are services that DNR relies on in order to conduct business and support the work of the department. These services are more efficient when shared.	
**Dept. Ops. Support includes support services at the Department level in the following areas: human resources, financial management, procurement, facilities management, information and education and information technology.	
***Division-wide Support includes support services at the Division level in the following areas: office and storage space, computer hardware, clerical services, administrative and managerial services.	

Attachment C

Primary Target Area and Project Locations for Linking Habitat Restoration to Bioenergy and Local Economies



Woody Biomass Harvest for Habitat Restoration
Grant Opportunity (Request for Proposal)

Project Description and Goals:

Woody Biomass Harvest for Habitat Restoration (also known as Linking Habitat Restoration to Bioenergy and Local Economies) is an innovative project that helps to restore high quality native plant communities by removing ecologically inappropriate woody vegetation (exotic and/or native species) while stimulating local economies through strategic utilization of the biomass material for bioenergy or other products. Project goals are to enhance biodiversity, utilize woody material traditionally burned or landfilled, stimulate local woody biomass markets, support local businesses and non-government organizations, and employ labor crews such as Conservation Corps Minnesota. Efforts provide direct benefits to ecosystems, economies, and human communities.

The Department of Natural Resources, Division of Ecological and Water Resources (DNR) received $600,000 from the Minnesota Environment and Natural Resources Trust Fund (ENRTF) as recommended by the Legislative-Citizen Commission on Minnesota Resources (LCCMR) and funded by the 2010 Legislature (M.L. 2010, Chap. 362, Sec. 2, Subd. 7c). Approximately $475,000 is available for projects through June 30, 2013; of this amount approximately $75,000 is available through this current grant opportunity.

Funds will be granted through a competitive process to facilitate habitat restoration efforts that might not otherwise occur, while supplying the woody material generated as a by-product of restoration to local established and emerging woody biomass markets. Participating landowners must agree to donate the woody biomass material to the DNR. DNR staff will identify viable markets for the woody biomass material (such as bioenergy, mulch, pellets, animal bedding, firewood, and other products) and develop and administer a formal bid process to connect potential buyers and users to the material. Revenues collected from the sale of the woody biomass material will be reinvested for further purposes of the project.

Eligible Applicants:

Any non-DNR public or private landowner (or their representative) whose project meets the Project Site Selection Criteria (listed in this document). Collaborative projects (multiple land ownerships) are welcome.

Application Due Date:

- **April 30, 2012 (Third and Final Round**)
- Applications for this third (and final) round must be postmarked or sent via e-mail with date/time no later than 4:30 pm Central Daylight Time on **Monday, April 30, 2012.**

Maximum Grant Award and Compensation:

- $75,000/landowner per overall project (may include multiple project sites on one property). The average amount awarded to past Grantees for similar projects is $34,410 for an average of 26 project acres.
- Compensation is based on a 'per unit' estimate, not to exceed $1,500 per acre which is negotiable depending on specific project site conditions.
- Compensation is on a reimbursement basis for stated deliverables under a grant agreement with the State of Minnesota.

Match and Funding Requirements:

- Matching funds and in-kind are not required. However, successful applicants may be asked to provide in-kind amounts with the final report to calculate and report total project costs (such as project management time, volunteer hours, supplies, equipment or other direct costs incurred to implement this project).
- These funds are to be used to accelerate restoration work and cannot supplant existing funds.
- Non-governmental organizations will be required to submit one of the following, upon request, if their proposal is selected and before the grant is awarded: 1) an internal financial statement; 2) IRS Form 990; or, 3) certified financial audit.

Project Completion Date:

All funded project and restoration work must be completed by May 31, 2013. No extensions beyond May 31, 2013 will be allowed.

Grant Requirements:

- Grant Agreement: Sponsors of selected proposals will enter into a grant agreement with the State of Minnesota. The legal landowner will be required to sign a "Waiver of Rights to Woody Biomass Material" as a component of the grant agreement. If authorization by a governing body prior to entering into such an agreement is necessary, it is recommended that the topic of woody biomass grant acceptance and authorization to sign pertinent agreements be placed on their governing board meeting agenda well in advance of receipt of the grant agreement.
    - **Work conducted prior to the time the grant agreement has been fully executed by all parties will not be reimbursed.**
    - Woody biomass buyers/users must be identified prior to biomass harvesting to ensure that the material will be utilized.
- Project Plan: The final, approved version of the Grantee's application and additional required documents will serve as the final Grantee project plan. Components of the project plan include:
    - Grant Application.
    - DNR-approved "Ecological Restoration and Management Plan."
    - DNR-approved "Woody Biomass Project Harvest Implementation Plan."
    - Exhibits of the grant agreement that further outline duties and deliverables, as needed.
- Grant Outcome Expectations/Reporting Requirements: Projects selected for funding will be required to submit a project status report with any partial reimbursement request and a final report with the final reimbursement request. The final reimbursement request and report must be submitted within 30 days of project completion or grant agreement end date, whichever is first. The final report must be approved by the State's authorized representative before the final reimbursement payment will be made.
- Grantee should disclose any conflict of interest.
- See "Additional Requirements" at the bottom of this document.

Eligible and Ineligible Expenses:

Eligible expenses are those expenses directly incurred through project activities that are solely related to and necessary as described in the grant agreement and approved project plan. All eligible reimbursable expenses must fall within the project period, which begins when the grant agreement is fully executed and concludes per the terms of the grant agreement. Eligible expenses must be specified in the grant application project budget. Woody biomass project-specific eligible and ineligible expenses are listed below.

Eligible Expenses:

- Cutting, moving, sorting and staging of ecologically inappropriate woody plant material for collection and transport from the project site(s) for the purpose of ecological restoration.
- Costs of additional direct biomass harvest-related activities such as temporary road access modifications or other unforeseen contingencies may be allowed with prior approval by the DNR Woody Biomass Project Coordinator.
- Limited funding may be provided to a Grantee to help bridge budget gaps for immediate post-harvest restoration activities (such as initial prescribed burning, chemicals and chemical application, stump grinding, site preparation, or other pre-approved activities), based on the DNR-approved "Ecological Restoration and Management Plan" (see "How to Apply" section) and demonstrated need, for up to 1 year after harvest; after which time the landowner is expected to fully implement the required "Ecological Restoration and Management Plan." **Funding need and amount will be determined and agreed upon by the DNR Woody Biomass Project Coordinator and Grantee prior to final project selection.**
- Project-related signage, as appropriate, with prior approval by the DNR Woody Biomass Project Coordinator.

Ineligible Expenses:

- All expenses not defined as eligible expenses, including time and travel for project management activities.
- Any expenses incurred before the project is authorized by a fully executed grant agreement.

Project Site Selection Criteria:

- Ecological value and recovery potential of the project site(s): priority will be given to sites ranked as outstanding or high by the MN County Biological Survey and/or containing one or more key habitats as described in "Tomorrow's Habitat for the Wild and Rare: Minnesota's State Wildlife Action Plan." See the grant application form for more details (linked under the "How to Apply" section).
- Association: priority will be given to projects associated with an existing restoration initiative.
- Location: priority will be given to projects located within the primary target area of focus which is within a 75-mile radius of St. Paul encompassing the Metro (primarily), Central, and Southeast regions of Minnesota to include all or portions of Anoka, Benton, Carver, Chisago, Dakota, Dodge, Goodhue, Hennepin, Isanti, Kanabec, Le Sueur, McLeod, Meeker, Mille Lacs, Nicollet, Olmsted, Pine, Ramsey, Rice, Sherburne, Sibley, Stearns, Steele, Wabasha, Waseca, Washington, and Wright Counties.
- Conservation easements: priority will be given to sites protected under a conservation easement, upon review and acceptance of the conservation easement language.
- Suitable road and site access must exist for equipment required to cut, move, sort, stage, collect, and transport woody material; proposed staging area for biomass material and equipment must be adequate with limited or no modifications.
- Current management plan (10 years or less) that clearly articulates ecological restoration goals for the project site(s). Amendments to an outdated management plan are acceptable.
- Demonstrated capacity to provide project management services to coordinate all aspects of this project with the DNR Woody Biomass Project Coordinator, contracted biomass harvest service provider, contracted biomass buyers/users, and others as identified.
- Demonstrated capacity and commitment to conduct post biomass-harvest restoration activities and monitoring to achieve and maintain long-term restoration goals. This must be explicitly described in an "Ecological Restoration and Management Plan" consistent with the LCCMR and DNR guidelines which is a requirement of the application package (see "How to Apply" section).
- Demonstrated capacity to write a detailed "Woody Biomass Project Harvest Implementation Plan" consistent with a template provided by the DNR. (The template will be provided upon request and at the time of the grant award).
- Demonstrated capacity to track and report budget information relating to the project.

Project Site Selection Process:

- Proposals received on or before the due date will be reviewed by the DNR Woody Biomass Project Coordinator for compliance with application requirements and scored by a review panel.
- Projects that appear to meet the Project Site Selection Criteria, as outlined above, require a site visit with the DNR Woody Biomass Project Coordinator, landowner/Project Manager, potential woody biomass buyer/user and other interested parties to assess woody plant material species/type and volume, road and site access, and proposed staging area(s).
- Project site selection is dependent on available markets for the woody biomass material. This determination will be made by the DNR Woody Biomass Project Coordinator.
    - **Project funding may not be awarded until a market for the woody biomass material has been identified.**
    - **Note: If District Energy St. Paul is determined to be the most appropriate end user of the biomass material; they generally require at least 20 semi-truckloads of ground material.**
- Final selection will be based on how well the proposed project meets the selection criteria, site visit assessment, and biomass market availability.
- Final project acreage is subject to negotiated modification based on cost estimate.
- The DNR reserves the right to select a variety of types of project sites (based on species/type of woody plant material, density, distance, land ownership, utilization opportunity, etc.) from the set of qualifying proposed projects to diversify the overall project information base.
- The DNR reserves the right to determine the maximum number of projects selected per funding round.

How to Apply:

Electronic submissions are encouraged with PDF attachments preferred. **(NOTE: Maximum file size for the electronic message plus attachments is 25MB. Electronic submissions may be sent in separate messages if needed).** A complete application package must include the following:

1. Completed "Woody Biomass Harvest for Habitat Restoration Grant Application" using the specified form (Greg - link to Application Form).
2. Copy of the current management plan including amendment(s).
3. Copy of the "Ecological Restoration and Management Plan" for the proposed project site(s) consistent with the guidelines to prepare this plan (Greg - link to the Guidelines for Ecological Restoration and Management Plans).
4. Copy of the relevant conservation easement for the proposed project site(s).
5. Copy of an aerial photo outlining the proposed project area to include: property boundaries, proposed project site(s) for biomass harvest and subsequent restoration activities, estimated acreage labeled for each project site(s), proposed roads and site access points, proposed skid trails and staging area(s), and other pertinent information (such as water resources or areas to avoid).
6. Receipt of an application package will be confirmed immediately either electronically or by phone. Please contact Barb Spears if confirmation has not been received.

This request for proposal does not obligate the State to award a grant or complete the project and the State reserves the right to cancel this Grant Opportunity (Request for Proposal) if it is considered to be in its best interest.

To submit application package or request additional information, please contact:

Barb Spears, Woody Biomass Project Coordinator
MN DNR Division of Ecological and Water Resources
1200 Warner Road, St. Paul, MN 55106
E-mail: barbara.spears@state.mn.us
Phone: 651-259-5849

Additional Requirements

Award Information:

- DNR will notify all applicants by phone, electronic mail and/or postal mail of their award status as soon as appropriate for each round of grants following the *Project Site Selection Process*. The notification of a site visit, which advises the applicant that it has been preliminarily selected and is being considered for award, is not an authorization to begin work.
- Grants will be awarded using a grant agreement. The grant agreement is the legal document detailing the terms of the grant including project dates, Grantee's duties, reporting requirements, compensation and payment, publicity and other requirements. The grant agreement must be signed by the Grantee and DNR. **Work may not begin until the grant agreement is "fully executed," meaning all signatures have been obtained.**

Grants and Public Information:

Under 2011 Minnesota Statutes 13.599 Grants.

Subd. 3. **Responses to request for proposals**.

(a) Responses submitted by a Grantee are private or nonpublic until the responses are opened. Once the responses are opened, the name and address of the Grantee and the amount requested is public. All other data in a response is private or nonpublic data until completion of the evaluation process. After a granting agency has completed the evaluation process, all remaining data in the responses is public with the exception of trade secret data as defined and classified in section 13.37. A statement by a Grantee that the response is copyrighted or otherwise protected does not prevent public access to the response.

(b) If all responses are rejected prior to completion of the evaluation process, all data, other than that made public at the opening, remain private or nonpublic until a resolicitation of proposals results in completion of the evaluation process or a determination is made to abandon the grant. If the rejection occurs after the completion of the evaluation process, the data remain public. If a resolicitation of proposals does not occur within one year of the grant opening date, the remaining data become public.

Subd. 4. **Evaluation data.**

(a) Data created or maintained by a granting agency as part of the evaluation process referred to in this section are protected nonpublic data until completion of the evaluation process at which time the data are public with the exception of trade secret data as defined and classified in section 13.37.

(b) If a granting agency asks individuals outside the granting agency to assist with the evaluation of the responses, the granting agency may share not public data in the responses with those individuals. The individuals participating in the evaluation may not further disseminate the not public data they review.

Use of the Conservation Corps Minnesota (CCM):

A recipient of money from the Environment and Natural Resources Trust Fund must give consideration to contracting with the Conservation Corps Minnesota or its successor for contract restoration and enhancement work (including the cutting, moving, sorting and staging of woody plant material).

Restoration and Enhancement Requirements:

An "Ecological Restoration and Management Plan" is required for all woody biomass projects. Guidelines to assist in the preparation of the plan are available at (Greg - link to the Guidelines for Ecological Restoration and Management Plans). The plan will be reviewed and approved by the DNR Woody Biomass Project Coordinator and will become a component of the Grantee project plan.

Restoration and Management Plan:

Per M.L. 2010, Chap. 362, Sec. 2, Subd. 11. Project Requirements:

> Paragraph d): For all restorations conducted with money appropriated under this section, a recipient must prepare an ecological restoration and management plan, which to the degree practicable, is consistent with the highest quality conservation and ecological goals for the restoration site. Consideration should be given to soil, geology, topography, and other relevant factors that would provide the best chance for long-term success of the restoration projects. The plan must include the proposed timetable for implementing the restoration, including site preparation, establishment of diverse plant species, maintenance, and additional enhancement to establish the restoration; identify long-term maintenance and management needs of the restoration and how the maintenance, management and enhancement will be financed; and take advantage of the best available science and include innovative techniques to achieve the best restoration.

Local Ecotype Vegetation and Seed Guidelines:

Per M.L. 2010, Chap. 362, Sec. 2, Subd. 11. Project Requirements:

> Paragraph b): To the extent possible, a person conducting restoration with money appropriated under this section must plant vegetation only of ecotypes native to Minnesota and preferably of the local ecotype using a high diversity of species originating as close to the restoration site as possible and, when restoring prairies, protect existing prairies from genetic contamination. Use of seeds and plant materials beyond these requirements must be expressly approved in the work plan.

Reference "Native Vegetation Establishment and Enhancement Guidelines" (BWSR 9/22/11). This document summarizes current guidelines for the use of native seed and plants (herbaceous and woody). Consistent with current legislation, projects are required to use local sources of plant materials and strive for diversity levels that will provide high levels of ecological function. A copy of these guidelines can be obtained by visiting: http://www.bwsr.state.mn.us/native_vegetation/seeding_guidelines.pdf or by contacting the DNR Woody Biomass Project Coordinator.

Insurance Requirements:

A. Grantee shall not commence work under the grant agreement until they have obtained all the insurance described below and the State of Minnesota has approved such insurance. Grantee shall maintain such insurance in force and effect throughout the term of the grant agreement.

B. Grantee is required to maintain and furnish satisfactory evidence of the following insurance policies:

1. **Workers' Compensation Insurance:** Except as provided below, Grantee must provide Workers' Compensation insurance for all its employees and, in case any work is subcontracted, Grantee will require the subcontractor to provide Workers' Compensation insurance in accordance with the statutory requirements of the State of Minnesota, including Coverage B, Employer's Liability. Insurance **minimum** limits are as follows:

   $100,000 – Bodily Injury by Disease per employee
   $500,000 – Bodily Injury by Disease aggregate
   $100,000 – Bodily Injury by Accident

   If Minnesota Statute 176.041 exempts Grantee from Workers' Compensation insurance or if the Grantee has no employees in the State of Minnesota, Grantee must provide a written statement, signed by an authorized representative, indicating the qualifying exemption that excludes Grantee from the Minnesota Workers' Compensation requirements.

If during the course of the grant agreement the Grantee becomes eligible for Workers' Compensation, the Grantee must comply with the Workers' Compensation Insurance requirements herein and provide the State of Minnesota with a certificate of insurance.

2. **Commercial General Liability Insurance:** Grantee is required to maintain insurance protecting it from claims for damages for bodily injury, including sickness or disease, death, and for care and loss of services as well as from claims for property damage, including loss of use which may arise from operations under the grant agreement whether the operations are by the Grantee or by a subcontractor or by anyone directly or indirectly employed by the Grantee under the contract. Insurance **minimum** limits are as follows:

   $2,000,000 – per occurrence
   $2,000,000 – annual aggregate
   $2,000,000 – annual aggregate – Products/Completed Operations

   The following coverages shall be included:

   Premises and Operations Bodily Injury and Property Damage
   Personal and Advertising Injury
   Blanket Contractual Liability
   Products and Completed Operations Liability
   Other; if applicable, please list_____
   State of Minnesota named as an Additional Insured

3. **Commercial Automobile Liability Insurance:** Grantee is required to maintain insurance protecting it from claims for damages for bodily injury as well as from claims for property damage resulting from the ownership, operation, maintenance or use of all owned, hired, and non-owned autos which may arise from operations under this grant agreement, and in case any work is subcontracted the Grantee will require the subcontractor to maintain Commercial Automobile Liability insurance. Insurance **minimum** limits are as follows:

   $2,000,000 – per occurrence Combined Single limit for Bodily Injury and Property Damage

   In addition, the following coverages should be included:

   Owned, Hired, and Non-owned Automobile

C. Additional Insurance Conditions:

- Grantee's policy(ies) shall be primary insurance to any other valid and collectible insurance available to the State of Minnesota with respect to any claim arising out of Grantee's performance under this grant agreement;

- Grantee's policy(ies) and Certificate(s) of Insurance shall contain a provision that coverage afforded under the policy(ies) shall not be cancelled without at least thirty (30) days advanced written notice to the State of Minnesota;

- Grantee is responsible for payment of Contract related insurance premiums and deductibles;

- If Grantee is self-insured, a Certificate of Self-Insurance must be attached;

- Grantee's policy(ies) shall include legal defense fees in addition to its liability policy limits;

- Grantee shall obtain insurance policy(ies) from insurance company(ies) having an "AM BEST" rating of A- (minus); Financial Size Category (FSC) VII or better, and authorized to do business in the State of Minnesota; and

- An Umbrella or Excess Liability insurance policy may be used to supplement the Grantee's policy limits to satisfy the full policy limits required by the Contract.

D. The State reserves the right to immediately terminate the grant agreement if the Grantee is not in compliance with the insurance requirements and retains all rights to pursue any legal remedies against the Grantee. All insurance policies must be open to inspection by the State, and copies of policies must be submitted to the State's authorized representative upon written request.

E. The successful responder is required to submit Certificates of Insurance acceptable to the State of Minnesota as evidence of insurance coverage requirements prior to commencing work under the grant agreement.

Linking Habitat Restoration to Bioenergy and Local Economies

Minnesota's wild and wooded lands are being taken over by trees and shrubs that don't belong there, degrading habitat in the process. This project will help to create healthier habitats by removing ecologically inappropriate woody vegetation and turning it into something useful.

Natural resources agencies, nonprofits, local government, private landowners, and volunteers are working to manage and restore Minnesota's important and diverse native habitats such as prairie, oak savanna, woodland, and wetland. Many of these areas are overgrown with woody invasive species and other ecologically inappropriate shrubs and trees.

Existing restoration plans call for the removal of ecologically inappropriate woody vegetation. However, the cost associated with the removal and disposal of this material often impedes or delays the completion of habitat restoration projects, further degrading habitats.

In 2007, the Minnesota Legislature provided the Minnesota DNR one-time funds of $500,000 to pilot an innovative project that successfully completed 15 projects to harvest woody biomass from 157 acres of oak savanna, 70 acres of oak woodland/ forest, 68 acres of prairie and 4 acres of wet ash swamp as of January 2011, resulting in 11,023 tons of material utilized by District Energy St. Paul in its cogeneration facility. The pilot effort developed the capacity to implement and manage biomass removal projects, generate fiscal and operational data, and learn lessons that set a strong foundation to expand this work to the next level.

In 2010, an additional $600,000 was provided by the Minnesota Environment and Natural Resources Trust Fund to continue and expand on this work. The overarching goal is to provide direct benefits to ecosystems, economies and human communities. The project will facilitate additional native habitat restoration on public and private lands and stimulate local markets; supplement landowner resources for native habitat restoration and management; strategically utilize the biomass material for bioenergy or other

Prairie Before Restoration Activities

Prairie After Restoration Activities

Linking Habitat Restoration to Bioenergy and Local Economies

products instead of traditional burning and landfill disposal; support local businesses and NGO's; utilize and employ labor crews such as Sentencing to Service and Conservation Corps Minnesota; and formally evaluate the ecological and market impacts and implications for the future.

This project will refine a proven RFP process with discrete criteria to select eligible project sites. Critical requirements include ecological and recovery potential of the site, current ecologically-based management plan, project-specific harvest plan, and an "Ecological Restoration and Management Plan." The expanded scope may also provide limited funding to bridge budget gaps for immediate post-harvest restoration activities (e.g. initial prescribed burning, chemical and/or mechanical stump treatment, site preparation, etc.) for up to one year after harvest. The project will expand market opportunities to attract potentially interested buyers, thus stimulating local economies. It will also position the State to better assess the feasibility of market-driven ecological restoration.

The MN DNR Division of Ecological and Water Resources coordinates the project to ensure that principles of ecological restoration are followed and that the material is readily available to local bioenergy facilities or other existing and emerging biomass markets.

Many wildlife species, such as the redheaded woodpecker (above) and the Leonard's skipper (below), need healthy and suitable habitat to survive.

This expanded DNR project will help to restore native habitats, making the woody material that is removed available for energy or other uses.

For more information about this project contact:

Barb Spears, Woody Biomass Project Coordinator
Division of Ecological and Water Resources
651-259-5849
barbara.spears@state.mn.us

Webpage: http://mndnr.gov/eco/habitat_biomass.html

Attachment F

2007 Environment, Natural Resources, Energy, and Commerce Finance Bill

Laws of 2007, Chapter 57, Article 2, Sec. 3, subd. 6

Of this amount, $500,000 is transferred to the Department of Natural Resources for the Ecological Services Division to prepare, authorize, and implement habitat restoration plans on public or private properties to fulfill ecological principles of restoration ecology, while providing roadside access to the byproduct of the management actions at no cost to the operator of a biomass-fueled cogeneration facility located in St. Paul. The division may provide grants or otherwise transfer some or all of these funds to other public or private entities to accomplish these purposes. If a higher value nonbiomass market is available for some of the byproduct of this management, the division is authorized to sell the material to that market, provided that all of the proceeds are spent for the further purposes of this appropriation. The nonbiomass market sales of material from this management cannot exceed 20 percent by weight of the total byproducts produced by all approved activities under this appropriation. The restoration activities shall take place on land located within 75 miles by road of the city of St. Paul. The division shall consult with the operator of the biomass facility and other appropriate parties regarding planned projects to be funded with this appropriation. The division shall report annually to the legislative policy and finance committees for natural resources and energy regarding the expenditures and results of the program. This appropriation does not cancel but is available until spent.

Attachment G

LINKING HABITAT RESTORATION TO BIOENERGY AND LOCAL ECONOMIES
Project Descriptions and Status
July 1, 2010 to June 30, 2013
(Updated June 2013)

History
This project extended the success of a one-time $500,000 legislative appropriation in 2007 that piloted the "Linking Habit Restoration to Bioenergy" project that connected two separate but linked aspects of environmental health: habitat restoration and bioenergy.

Purpose
"Linking Habitat Restoration to Bioenergy and Local Economies" is an innovative project that helps to restore critical habitats and high quality native plant communities by removing ecologically inappropriate woody vegetation (exotic and/or native species) while stimulating local economies through strategic utilization of the woody biomass material for bioenergy or other products. This project helped to facilitate habitat restoration efforts that might not have otherwise occurred while making the woody biomass material generated as a by-product available to established and emerging woody biomass markets.

Funding
The Department of Natural Resources, Division of Ecological and Water Resources received $600,000 from the Minnesota Environment and Natural Resources Trust Fund (ENRTF) as recommended by the Legislative-Citizen Commission on Minnesota Resources (LCCMR), funded by the 2010 Legislature (ML 2010, Chap. 362, Sec. 2, Subd. 7c) and amended by the 2012 Legislature (ML 2012, Chap. 272, Sec. 85).

Round 1 Funded Projects (Proposals Due September 2010) Non-DNR Projects:

Stagecoach Prairie Natural Area (formerly known as Sauers Pond Natural Area), Belwin Conservancy; Afton, Washington County.

Status: Completed.

Description: 44 acres. Dry-mesic prairie restoration. Rolling terrain with short, moderately steep slopes and old agricultural ravines. The Belwin Conservancy owns 1,300 acres which are managed, in part, to protect the Valley Creek trout stream. The Stagecoach Prairie Natural Area is being managed principally to promote grassland birds. Pre-removal vegetation includes remnant and restored prairies, old pastures, pine plantations, a lowland hardwood forest, and moderately-degraded oak woodlands. This project site has over 4.5 miles of hiking and ski/snowshoe trails open to the public.

Project Selection: This project site was not specifically ranked by the Minnesota County Biological Survey but was ranked moderate as a Regionally Significant Ecological Area (RSEA). Distance to St. Paul is 15 miles which provided an opportunity to test the markets for selling this mixed biomass material with a large component of pine suitable for logs, mixed hardwoods and shrubs, including buckthorn.

Amount Awarded: $72,425

Amount Spent: $72,093 (Final)
Breakdown: $59,740 from the 2010 ENRTF plus $12,353 from the 2007 Minnesota Legislature, through a direct appropriation for the previous "Linking Habitat Restoration to Bioenergy" project, for cutting/moving/staging of biomass material only.

- Cutting/moving/staging of woody biomass material: $44,000 (Final)
    - $12,353 spent from 2007 Minnesota Legislature
    - $31,647 spent from 2010 ENRTF
- Immediate post-biomass harvest restoration activities: $25,675 (Final)
    - $14,000 = Stump grinding
    - $ 8,625 = Forestry mowing
    - $ 3,050 = Broadcast herbicide
    - $ 0 = ($2,000 for prescribed burning was redirected to clear ravines of woody biomass debris following harvest).
- Other: $2,418 (Final)
    - $ 418 = Signage
    - $2,000 = Ravine clearing

Biomass Type: 15 acres of pine plantations, 20 acres of mixed hardwoods, and 9 acres of mixed shrubs including buckthorn and Amur maple.
Harvest Operations: Completed January 2011. Belwin Conservancy managed this project and contracted with Mike's Tree Service, Inc. (under a master contract). Mike's Tree Service, Inc. subcontracted with three additional loggers to help cut, move and stage biomass material that was completed in January 2011. Biomass material was sorted by pine logs, mixed hardwoods and shrubs, and invasive species and staged in such a manner for efficient access by a buyer/user.
Utilization: Completed May 2011. **Value of the biomass material:** $10,600
Weather conditions and road restrictions caused a delay in collection and transport of biomass material to end users. The entire lot of biomass material was offered to buyers/users through DNR Solicitation #2011-70-03, a listing on the Minneapolis Biomass Exchange website, and through an e-mail advertisement notice to DNR Project Manager contacts. Contractors were responsible for the complete removal and proper utilization of all biomass material with specific considerations for buckthorn species. Mike's Tree Service, Inc. was the highest bidder at $10,600. Kluver Custom Wood Products was the second highest bidder at $7,250 and Environmental Wood Supply, LLC (service provider to District Energy St. Paul) bid zero (they would grind and collect the biomass material at no charge). A total of 450 cords of pine logs went to a sawmill in Colfax, WI; a truckload of pine logs was used by the buyer to build his cabin; and the remaining biomass material was ground and transported to District Energy St. Paul for a total of 70 loads; 1,728 tons for bioenergy.
Restoration Operations: Completed June 2012. Stump grinding was completed May 2011. The first forestry mowing and clearing of the ravines was completed June 2011. The first herbicide application was completed July 2011. The final forestry mowing was completed March 2012. The final herbicide application was completed June 2012.
Press/Media: Pioneer Press, April 17, 2011, Mary Devine. 1500 ESPN Garage Logic radio program, April 18, 2011, Joe Soucheray. Woodbury Bulletin, September 21, 2011, Amber Kispert. StarTribune, June 2, 2013, Jim Adams.

Battle Creek Regional Park, Ramsey County Parks and Recreation; Maplewood, Ramsey County.

Status: Completed.

Description: 70 acres. Oak woodland restoration. Gently rolling terrain. The natural vegetation of Battle Creek Regional Park is a mixture of prairies, oak savanna, oak woods and wetlands. There are also several smaller unique habitats. These include seep swamps with skunk cabbage and marsh marigolds; and mesic hardwoods with yellow birch and white pine. Much of the natural vegetation has been highly degraded. Invasive species have become widespread in most habitats. The most troublesome species include buckthorn, black locust, garlic mustard, and purple loosestrife. Wildlife diversity is high.

Project Selection: Ranked moderate in biodiversity by Minnesota County Biological Survey. Distance to St. Paul is 6 miles which provides an opportunity to test the local markets for selling/utilization of the biomass material.

Amount Awarded: $75,000

Amount Spent: $74,504 (Final)

- Cutting/moving/staging of woody biomass material: $74,504 (Final)
- Immediate post-biomass harvest restoration activities: N/A
- Other: N/A

Biomass Type: Primarily buckthorn plus other mixed shrubs and mixed hardwood species including ash.

Harvest Operations: Completed December 2011. Ramsey County utilized two master contractors: 1) Natural Resources Restoration, Inc., utilizing Sentencing to Service crews, hand-cut the biomass material and moved it into piles along the trail system and, 2) Bluemel Tree & Landscape, Inc. collected the piles and transported the biomass material to the adjacent Ramsey County Corrections Facility wood yard as there was no staging area large enough within the park itself.

Utilization: Completed February 2012. **Value of the biomass material:** $0
The entire lot of biomass material was offered to buyers/users through DNR Solicitation #2012-52-03, a listing on the Minneapolis Biomass Exchange website, and through an e-mail advertisement notice to DNR Project Manager contacts. Contractors were responsible for the complete removal and proper utilization of all biomass material with specific consideration for ash and buckthorn species. Rumpca Companies Inc. was awarded the biomass sale with a bid of zero. Environmental Wood Supply, LLC (service provider to District Energy St. Paul) would remove the biomass material at a cost to the State of $700 because of their cost to mobilize their crews and equipment for less than 20 loads. The biomass material was ground and transported to District Energy St. Paul for a total of 27 loads; 540 tons for bioenergy.

Restoration Operations: Not funded.

Press/Media: None.

Umbanhowar Prairie, Charles and Hendrika Umbanhowar; Dennison, Goodhue County.

Status: Completed June 2013. Joint project with the Warsaw WMA (DNR) and Eggum Parcel (private).

Description: 7 acres. Dry prairie restoration. Rolling terrain with short, moderately steep slopes. Dry prairie and open grassland are increasingly rare in southeast Minnesota. At the time of Euro-American settlement, the Dennison area was part of a

large area of prairie and savanna. This project helped to implement recommendations from the Prairie Stewardship Plan dated March 2005 prepared by Bonestroo, Rosene, Aderlik & Associates (prepared with funding from the ENRTF).

Project Selection: This project site was not specifically ranked by the Minnesota County Biological Survey but is immediately adjacent to a 50-acre parcel (also owned by the Umbanhowar's) ranked as outstanding and under a State Prairie Bank Conservation Easement (dated September 15, 2006) protecting a population of prairie bush clover, *Lespedeza leptostachy,* a Minnesota state and federal threatened species.

This is the first private landowner to be funded. Distance to St. Paul is 41 miles along Highway 52, county and back roads which provided an opportunity to test the viability of selling biomass material composed of a wide mix of conifers and hardwoods, with limited shrubs including buckthorn, from a fairly remote location. Restoring the Umbanhowar Prairie, Eggum Parcel and Warsaw WMA sites together will reduce invasion of woody plants into adjacent prairie and grasslands, provide additional restored prairie and connectivity to create approximately 70 contiguous acres of open habitat that is rare in this region. Public/ private collaboration on projects of this nature are uncommon and have not been previously attempted through this biomass project which provided a test of implementing such a complicated project. This joint project also tested how to approach potential issues and complications with contracting and project management of a joint public/private project.

Amount Awarded: $15,235. Note: funding was managed through the DNR Warsaw WMA for the entire project.

Amount Spent: $15,235 (Final)

- Cutting/moving/staging of woody biomass material: $12,320 (Final)
- Immediate post-biomass harvest restoration activities: $2,915 (Final)
- Other: N/A

Biomass Type: Buckthorn and other mixed shrubs plus mixed hardwood species and planted red pine.

Harvest Operations: Completed February 2013. This project was managed as a joint project with the Warsaw WMA and the Eggum Parcel by DNR Wildlife staff. A combined harvest/sale bid solicitation #2013-20-03 was piloted to contract with a single operator to cut and utilize the woody biomass material for efficiency and to minimize the overall project cost and to maximize the value of the woody biomass material. Mike's Tree Service, Inc. was awarded the contract.

Utilization: Completed February 2013. **Value of the biomass material:** (See Warsaw WMA = $500). See full description under Warsaw WMA.

Restoration Operations: Completed June 2013. Prairie Restorations, Inc. was awarded the contract for labor only to treat stumps following cutting. Additional non-ENRTF funding was used to spray new growth. DNR Wildlife staff is managing the long-term restoration operations for the entire Warsaw WMA/Umbanhowar Prairie/Eggum Parcel project.

Press/Media: None.

Eggum Parcel, Bryan Eggum; Dennison, Goodhue County.

Status: Completed June 2013. Joint project with the Warsaw WMA (DNR) and the Umbanhowar Prairie (private).

Description: 3 acres. Oak savanna restoration. Rolling terrain with short, moderately steep slopes. This parcel is at the head of a ravine. Dry prairie and open grassland are increasingly rare in southeast Minnesota. At the time of Euro-American settlement, the Dennison area was part of a large area of prairie and savanna. This project site is immediately adjacent to the Warsaw WMA and very near the Umbanhowar Prairie (see descriptions) and will help to implement recommendations from the Umbanhowar's Prairie Stewardship Plan dated March 2005 prepared by Bonestroo, Rosene, Aderlik & Associates (prepared with funding from the ENRTF).
Project Selection: This project site was not specifically ranked by the Minnesota County Biological Survey but is immediately adjacent to the Warsaw WMA and near a 50-acre parcel (owned by Charles Umbanhowar) ranked as outstanding and under a State Prairie Bank Conservation Easement (dated September 15, 2006) protecting a population of prairie bush clover, *Lespedeza leptostachy,* a Minnesota state and federal threatened species. Distance to St. Paul is 41 miles along Highway 52, county and back roads which provided an opportunity to test the viability of selling biomass material composed of a wide mix of conifers and hardwoods, with limited shrubs including buckthorn, from a fairly remote location. Restoring the Eggum Parcel in conjunction with the Umbanhowar Prairie and Warsaw WMA sites reduced invasion of woody plants into adjacent prairie and grasslands, provided additional connectivity to create approximately 70 contiguous acres of open habitat that is rare in this region. Public/ private collaboration on projects of this nature are uncommon and have not been previously attempted through this biomass project which provided the opportunity to test implementation of such a complicated project. This joint project also tested how to approach potential issues and complications with contracting and project management of a joint public/private project.
Amount Awarded: $6,529. Note: funding was managed through the DNR Warsaw WMA for the entire project.
Amount Spent: $6,529 (Final)

- Cutting/moving/staging of woody biomass material: $5,280 (Final)
- Immediate post-biomass harvest restoration activities: $1,249 (Final)
- Other: N/A

Biomass Type: Buckthorn, honeysuckle, Siberian elm and other mixed shrubs and hardwood species.
Harvest Operations: Completed February 2013. This project was managed as a joint project with the Warsaw WMA and the Eggum Parcel by DNR Wildlife staff. A combined harvest/sale bid solicitation #2013-20-03 was piloted to contract with a single operator to cut and utilize the woody biomass material for efficiency and to minimize the overall project cost and to maximize the value of the woody biomass material. Mike's Tree Service, Inc. was awarded the contract.
Utilization: Completed February 2013. **Value of the biomass material:** (See Warsaw WMA = $500). See full description under Warsaw WMA.
Restoration Operations: Completed June 2013. Goodhue SWCD staff was consulted due to the steep ravine. Prairie Restorations, Inc. was awarded the contract for labor only to treat stumps following cutting. Additional non-ENRTF funding was used to spray new growth. DNR Wildlife staff is managing the long-term restoration operations for the entire Warsaw WMA/Umbanhowar Prairie/Eggum Parcel project.
Press/Media: None.

Round 1 Funded Projects (Proposals Due September 2010) DNR Projects:

Frontenac State Park, Minnesota Department of Natural Resources; Frontenac, Goodhue County.

Status: Completed June 2013. Harvest of the biomass material was completed March 2013. Collection and transportation of the biomass material to the end-user is pending due to wet ground conditions.

Description: 84 acres. Oak woodland restoration. Level terrain. This project site is located at the southern boundary of Frontenac State Park, a 2,854 acre park on the shore of Lake Pepin (Mississippi River) in the northern portions of the Blufflands Ecological Subsection. This project site is also culturally significant. Both pre-contact surface mounds from the woodland tradition and post-contact depression/embankment features are found within the project site boundaries totaling about 9 acres.

Project Selection: Ranked high in biodiversity by the Minnesota County Biological Survey. Distance to St. Paul is 59 miles along major Highway 61 which provided an opportunity to test the viability of selling and utilizing biomass material containing a large quantity of buckthorn required to be utilized by a bioenergy facility.

Amount Awarded: $75,000

Amount Spent: $51,385 (Final)

- Cutting/moving/staging of woody biomass material: $51,385 (Final)
- Immediate post-biomass harvest restoration activities: N/A
- Other: N/A

Biomass Type: Primarily buckthorn, elm and box elder with additional downed and standing dead trees.

Harvest Operations: Completed March 2013. A few acres of hand-cutting in the culturally sensitive areas were completed by Conservation Corps Minnesota (CCM) crews the winter of 2011 but the entire hand-cut area was not completed due to deep snow. All remaining hand-cutting and chemical treatment in the culturally sensitive areas (9 acres total) was completed by CCM crews and DNR State Park Staff the winter of 2012 using Parks and Trails funds. A combined biomass harvest/sale bid solicitation #2013-24-03 (due September 13, 2012) was piloted to contract with a single contractor to cut and utilize the woody biomass material for efficiency, to minimize the overall project cost, and to maximize the value of the biomass material. Herring Eco-Logistics, Inc. was awarded the contract to conduct the mechanized harvest operations on the remaining 75 acres. .

Utilization: In progress – waiting for required site conditions to grind material. **Value of the biomass material:** $500.

Herring Eco-Logistics, Inc. was responsible for the biomass material and arranged with Environmental Wood Supply, LLC (service provider to District Energy St. Paul) to grind and collect all of the biomass material to be utilized by District Energy St. Paul. Currently waiting or required site conditions to grind material.

Restoration Operations: Not funded.

Press/Media: Lake City Graphic, December 13, 2012. Rochester Post-Bulletin, April 20, 2013, John Weis.

Warsaw Wildlife Management Area (WMA), Minnesota Department of Natural Resources (DNR); Dennison, Goodhue County.

Status: Completed. Joint project with the Umbanhowar Prairie and Eggum Parcel.

Description: 15 acres. 11 acres dry prairie and 4 acres oak savanna restoration. This project is being managed by the DNR Assistant Wildlife Manager as a joint project with the Umbanhowar Prairie and the Eggum Parcel. Rolling terrain with short, moderately steep slopes. Dry prairie and open grassland are increasingly rare in southeast Minnesota. At the time of Euro-American settlement, the Dennison area was part of a large area of prairie and savanna. The 230-acre Warsaw WMA consists of a majority of grasslands interspersed with wetlands. Management is primarily for grassland and wetland wildlife species.

Project Selection: This project site was not specifically ranked by the Minnesota County Biological Survey, but is adjacent to the Charles Umbanhowar property, a portion of which is under a State Prairie Bank Conservation Easement protecting a population of prairie bush clover, *Lespedeza leptostachy,* a Minnesota state and federal threatened species. The Umbanhowar's are implementing a DNR-approved Prairie Stewardship Plan dated March 2005. This is the first DNR WMA project to be funded. Distance to St. Paul is 41 miles along Highway 52, county and back roads which provided an opportunity to test the viability of selling biomass material composed of a wide mix of conifers and hardwoods, with limited shrubs including buckthorn, from a fairly remote location. Restoring the Warsaw WMA, Umbanhowar Prairie and Eggum Parcel sites together reduced invasion of woody plants into adjacent prairie and grasslands, provided additional restored prairie and connectivity to create approximately 70 contiguous acres of open habitat that is rare in this region. Public/private collaboration on projects of this nature is uncommon and has not been previously attempted through this biomass project which provided a test of implementing such a complicated project. This joint project also tested how to approach potential issues and complications with contracting and project management of a joint public/private project.

Amount Awarded: $33,046

Amount Spent: $32,921 (Final)

- Cutting/moving/staging of woody biomass material: $26,400 (Final)
- Immediate post-biomass harvest restoration activities: $6,246 (Final)
- Other : $275 (Final) = Signage

Biomass Type: Mixed hardwoods and conifers with limited shrubs including buckthorn.

Harvest Operations: Completed February 2013. This project was managed as a joint project with the Umbanhowar Prairie and the Eggum Parcel by DNR Wildlife staff. A combined harvest/sale bid solicitation #2013-03-03 (due September 13, 2012) was piloted to contract with a single operator to cut and utilize biomass material for efficiency and to minimize the overall project cost and to maximize the value of woody biomass material. An attempt was also made to combine the biomass utilization with the Koester Dry Hill Oak Savanna project to attract buyers/users for cost effectiveness and efficiencies of collection operations as these projects are 5 miles apart. Two bids were received that were significantly over budget. Extensive follow-up with potential contractors was conducted to assess the situation and interest. It was determined that there was interest in this project, but the timing was bad due to workloads and vacations. The harvest/sale was rebid #2013-20-03 with no changes to the bid solicitation. Three bids were received with one bid over budget but within appropriate costs. Mike's Tree Service, Inc. was awarded the contract. Mike's Tree Service subcontracted with several small businesses to complete the project.

Utilization: Completed February 2013. **Value of the biomass material:** $500.

Mike's Tree Service, Inc. was responsible for the biomass material and subcontracted with Metro Wood Recycling who ground the majority of the biomass material for commercial mulch resulting in 82 loads. Five loads of cottonwood sawlogs went to local Amish for pallets and one load of cottonwood sawlogs went to a pallet company in Lakeville, MN. The remaining biomass material was used for bioenergy with 11 loads transported by Stockman Transfer, Inc. to Fibrominn in Benson and 200 cubic yards of whole residual biomass material was taken by Mike's Tree Service, Inc. to District Energy St. Paul.

Restoration Operations: Completed June 2013. Prairie Restorations, Inc. was awarded the contract for labor only to treat stumps following cutting. Additional non-ENRTF funding was used to spray new growth. DNR Wildlife staff is managing the long-term restoration operations for the entire Warsaw WMA/Umbanhowar Prairie/Eggum Parcel project.

Press/Media: None.

Round 2 Funded Projects (Proposals Due October 2011) Non-DNR Projects:

Koester Dry Hill Oak Savanna, Koester Farm Partnership; Northfield Township (near Dennison), Rice County.

Status: Completed.

Description: 24 acres. Dry hill oak savanna and prairie islands restoration. Gently rolling terrain. Dry hill oak savannas are extremely rare, with only 13 occurrences documented in the Natural Heritage Information System in the state. The total 40-acre oak savanna parcel is adjacent to 250 acres of grassland. Of this, 135 acres have been accepted into a Native Prairie Bank Conservation Easement to protect original, unplowed Southern Dry Hill and Southern Mesic native prairie.

Project Selection: This project site was not specifically ranked by the Minnesota County Biological Survey, but is adjacent to a Native Prairie Bank Conservation Easement. This project site is ecologically very significant and removing the invasive species will also benefit the easement and its goals to protect the native prairie. This was the second private landowner to be funded. Distance to St. Paul is 45 miles and somewhat off major roads. This provided an opportunity to test transportation distance and accessibility for selling/ utilization of the biomass material.

Amount Awarded: $40,360

Amount Spent: $39,529 (Final)

- Cutting/moving/staging of woody biomass material: $30,185 (Final)
- Immediate post-biomass harvest restoration activities: $9,344 (Final)
    - $ 960 = Stump treatment
    - $2,865 = Woody stem removal along fence lines
    - $3,000 = Prescribed burn
    - $2,519 = Mowing
- Other: N/A

Biomass Type: Siberian elm, buckthorn and other mixed shrubs and hardwood species.

Harvest Operations: Completed January 2013. Craig Koester, Koester Farm Partnership, managed the project. Zumbro Valley Forestry, LLC contracted to cut, move and stage the biomass material according to the harvest plan and requirements of Dakota Wood Grinding, Inc. Conservation Corps Minnesota was considered.

Utilization: Completed January 2013. **Value of the biomass material:** $500
The entire lot of biomass material was offered to buyers/users through DNR Solicitation #2013-11-03. Dakota Wood-Grinding, Inc. was the sole bidder on the biomass material for $500. The biomass material was ground and transported to District Energy St. Paul for a total of 67 loads; 1,340 tons of material for bioenergy.
Restoration Operations: Completed June 2013. Zumbro Valley Forestry, LLC chemically treated the cut stumps during harvest operations. A prescribed burn for the entire 40 acres of oak savanna and woody stem removal/treatment from fence lines was completed April 2013. Final woody stem mowing was completed June 2013.
Press/Media: None.

Carleton College Cowling Arboretum, Carleton College; Northfield, Rice and Dakota Counties.

Status: Completed.
Description: 38 acres. 10 acres prairie, 12 acres oak savanna and 16 acres deciduous upland oak forest restoration. Nearly flat terrain. The Carleton College Cowling Arboretum is located on the northeast side of Northfield, immediately adjacent to the Carleton College campus. The Arboretum contains both remnant native plant communities and extensive restorations of forest and grassland that buffer and connect the native areas. This project helped to implement the *Carleton College Cowling Arboretum Strategic Plan* and the *Weed Management Plan* designed to serve the Arboretum's primary purposes of education, conservation, and recreation.
Project Selection: The selected project sites were not ranked by the Minnesota County Biological Survey, but large portions of the approximately 880-acre arboretum had been mapped as regionally significant and with great restoration potential. This project completed a large-scale effort to further enhance and protect important plant communities in the region. This was the first college to be funded. Distance to St. Paul is 45 miles which provided an opportunity to test the local markets for selling a large volume of biomass material including pine logs.
Amount Awarded: $64,593
Breakdown: $53,993 from the 2010 ENRTF plus $10,600 revenue from the Belwin Conservancy biomass sale.
Amount Spent: $64,593 (Final)

- Cutting/moving/staging of woody biomass material: $53,800 (Final)
    - $43,200 spent from 2010 ENRTF
    - $10,600 spent from Belwin Conservancy biomass sale
- Immediate post-biomass harvest restoration activities: $10,793 (Final)
    - $8,922 = Stump treatment
    - $1,734 = Hand seeding
    - $ 448 = Stump grinding
    - ($311) = In-kind contribution deducted from total expenses
- Other: N/A

Biomass Type: Scotch, red and jack pine plantations as well as other conifer species such as white cedar and spruce; mixed hardwood species and mixed shrub species including buckthorn and honeysuckle.
Harvest Operations: Completed March 2013. Carleton College Cowling Arboretum staff managed this project. There were four harvest project sites, three of which involved

mechanized removal and one hand-cutting only. A combined harvest/sale bid solicitation was offered. Carleton College contracted with Mike's Tree Service, Inc. for the mechanized operations and Zumbro Valley Forestry, LLC for the hand-cutting operations. Operations involved in-kind contributions by college staff and students.
Utilization: Completed March 2013. **Value of the biomass material:** $2,000. Mike's Tree Service, Inc. was responsible for the biomass material and subcontracted with Metro Wood Recycling who ground the majority of the biomass material for commercial mulch resulting in 130 loads. Approximately 100 pine logs were used for a cabin and 15 loads of ground material was transported by Stockman Transfer, Inc. to Fibrominn in Benson for bioenergy.
Restoration Operations: Completed June 2013. Zumbro Valley Forestry, LLC was awarded the contract for stump treatment following cutting. Carleton College Cowling Arboretum staff conducted minimal stump grinding and hand seeding of Site 1 using seed previously collected by staff.
Press/Media: Carleton College Arb Talk, April 24, 2012, Brandon Valle. Cowling Arboretum Arb News, November 29, 2012, Nancy Braker. KYMN radio program, December 15, 2012, Wendy Nordquist.

Round 3 Funded Projects (Proposals Due April 2012) Non-DNR Projects:

Anoka Nature Preserve, City of Anoka, Anoka, Anoka County

Status: Completed.
Description: 71 acres. 16 acres oak savanna and 55 acres oak woodland restoration. The Anoka Nature Preserve (formerly known as the Rum River Nature Area) is a 200-acre property owned by the City of Anoka. The *Rum River Nature Area Management Plan* was prepared in 2008 following the donation of a conservation easement to the Anoka Conservation District by the City of Anoka in the fall of 2007. The long-term management goal is to preserve and protect the natural and recreational features of the property defined by conservation values noted in the management plan and in the easement document. Short-term goals are to implement the natural resources management activities in order to achieve the desired future condition of restored prairie, woodland and oak savanna habitats. A total of 142 acres of buckthorn were basal-treated with funds provided by the Lessard-Sams Outdoor Heritage Council. This project accelerated restoration by removing the dead buckthorn and other ecologically inappropriate woody vegetation.
Project Selection: This project scored highest by a 4-member review panel. The project site was not ranked by the Minnesota County Biological Survey, but was mapped by the Minnesota Land Cover Classification System (MLCCS) as being of moderate biodiversity significance and it is adjacent to a Regionally Significant Ecological Area. The Anoka Nature Preserve had been selected by the Anoka Sand Plain Partnership as a high priority restoration site. Distance to St. Paul is 30 miles which provided an opportunity to test markets for cedar and other biomass material in the north Metro Area.
Amount Awarded: $75,000
Amount Spent: $75,000 (Final)

- Cutting/moving/staging of woody biomass material: $74,400 (Final)
- Immediate post-biomass harvest restoration activities: N/A
- Other: $600 (Final) = Informational flyers for park guests and others.

Additional Funding: Provided by the City of Anoka for $5,000 and the Outdoor Heritage Fund of the Clean Water, Land, and Legacy Amendment through the Anoka Sand Plain Partnership as recommended by the Lessard-Sams Outdoor Heritage Council for $99,400 to implement a 3-year project.
Biomass Type: Primarily buckthorn and red cedar, with prickly ash and tartarian honeysuckle.
Harvest Operations: Completed March 2013. Anoka Conservation District staff managed the project. A combined harvest/sale bid solicitation was offered to the bidder who could cut the most acres for the funds available to ensure full utilization of project funds without the risk of cost overruns. This project had more acres to treat than funds allowed, so bidding the project in this manner allowed for more acres to be harvested than the original 50 acres budgeted. Minnesota Native Landscapes, Inc. was awarded the contract. The Anoka Conservation District obtained supplemental funding to treat an additional 17 acres for a total project of 88 acres.
Utilization: Completed June 2013. **Value of the biomass material:** $0.
Minnesota Native Landscapes, Inc. was responsible for the biomass material and arranged with Environmental Wood Supply, LLC (service provider to District Energy St. Paul) to grind and collect all of the biomass material to be utilized by District Energy St. Paul resulting in a total of 48 loads, 960 tons of material for bioenergy.
Restoration Operations: Not funded.
Press/Media: ABC Newspapers, Anoka Union, April 25, 2013. StarTribune, June 2, 2013, Jim Adams. StarTribune, June 9, 2013, Paul Levy.

Round 3 Funded Projects (Proposals Due April 2012) DNR Projects:

DNR St. Paul Hatchery Aquatic Management Area (AMA), Minnesota Department of Natural Resources (DNR); St. Paul, Ramsey County

Status: Completed.
Description: 26 acres. 8 acres lowland hardwood forest, 13 acres upland oak woodland, and 5 acres emergent marsh restoration. Mainly low, nearly flat terrain, with wet areas. Sloping south and west along the property edges. The DNR St. Paul Hatchery AMA, first established in 1877, is a component of an urban natural area with a broad spectrum of native plant communities in the floodplain of the Mississippi River.
Project Selection: The immediate project site was not ranked by the Minnesota County Biological Survey, but was mapped by the Minnesota Land Cover Classification System (MLCCS). The restoration of this project site added 26 acres to a larger contiguous area that has benefitted from recent major restoration efforts. These efforts include the adjacent Indian Mounds Regional Park (City of St. Paul), Battle Creek Regional Park (Ramsey County) and another DNR St. Paul Hatchery AMA site that is surrounded by Indian Mounds Regional Park. These combined restoration efforts provide residents and park visitors with an opportunity to experience and learn about the native plant communities that are representative of Mississippi River blufflands and floodplain forest. The project also served to educate the public about invasive species impacts, control strategies and restoration techniques. Distance to St. Paul is less than 1 mile which provided an opportunity to test local markets for selling/utilization of the biomass material that was comprised primarily of buckthorn.
Amount Awarded: $47,447

Amount Spent: $47,430 (Final)

- Cutting/moving/staging of woody biomass material: $47,430 (Final)
- Immediate post-biomass harvest restoration activities: N/A
- Other: N/A

Biomass Type: Primarily buckthorn, with Siberian elm, Russian olive, box elder, honeysuckle and black locust.

Harvest Operations: Completed May 2013. MN DNR staff managed this project. Conservation Corps Minnesota crews were contracted to cut, move and stage the biomass material according to the harvest plan. Additional buckthorn was cut as an Eagle Scout project in November 2012.

Utilization: Completed June 2013. **Value of the biomass material:** $0.
The entire lot of biomass material was offered to buyers/users through DNR Solicitation #2013-76-03. Environmental Wood Supply, LLC (service provider to District Energy St. Paul) was the sole bidder on the material for $0. The biomass material was ground and transported to District Energy St. Paul for a total of 6.5 loads; 130 tons for bioenergy.

Restoration Operations: Not funded.

Press/Media: None.

Sakatah Lake State Park, Minnesota Department of Natural Resources (DNR); Waterville, LeSueur County

Status: Completed.

Description: 15 acres. 10 acres oak savanna and 5 acres prairie restoration. Low, generally rolling terrain with one area containing a moderately steep slope. Sakatah Lake State Park is located within an area that provides an example of a transition zone, or ecotone, between the Southern Oak Barrens and the Big Woods Landscape Regions. This project will help to implement recommendations from the *Sakatah Lake State Park Unit Plan for Natural & Cultural Resources Management 2007-2013.*

Project Selection: The project was divided into three harvest sites, with one site identified as Dry Hill Prairie and ranked high in biodiversity by the Minnesota County Biological Survey. The other harvest sites were mapped as part of the MN DNR Parks and Trails land cover mapping and ranked low but with a desired future condition as oak savanna and prairie. This project was associated with the 50-acre Schwartz Prairie and other reconstructed prairie areas. All of these efforts combined created approximately 150 acres of contiguous grassland within the park. Distance to St. Paul is 64 miles that provided an opportunity to test a project located in the southwest quadrant of the primary woody biomass project area. This project resulted in a tremendous amount of woody biomass material that tested markets for this biomass material from this distance and location.

Amount Awarded by LCCMR/ENRTF: $36,000

Amount Spent: $34,400 (Final)

- Cutting/moving/staging of woody biomass material: $34,400 (Site 1)
- Immediate post-biomass harvest restoration activities: N/A
- Other: N/A

Additional Funding: The Parks and Trails Fund of the Clean Water, Land and Legacy Amendment provided $24,000 for an additional 30 acres of prairie restoration on Sites 2 and 3.

Biomass Type: Mixed trees and shrubs, including buckthorn (Sites 2 and 3) and honeysuckle.
Harvest Operations: Completed April 2013. MN DNR Parks and Trails staff managed the project. The DNR Solicitation #2013-36-04 required a separate bid for each of three project sites for harvest and biomass sale in order to allow flexibility in the final contract for cost efficiencies and timing. Site 1 was awarded to MN Native l.andscapes, Inc. for $34,400 for cutting bid with $0 for biomass value = $34,400 paid by LCCMR/ENRTF funds. Sites 2 and 3 were awarded to Dakota Wood Grinding, Inc.: Site 2 = $9,500 for the cutting bid minus $500 for biomass value = $9,000.; Site 3 = $14,500 for the cutting bid minus $500 for biomass value = $14,000 for a total contract of $24,000 paid by the Parks and Trails Fund of the Clean Water, Land and Legacy Amendment. Dakota Wood Grinding, Inc. sub-contracted with Zumbro Valley Forestry who cut and staged the biomass material for grinding. Conservation Corps Minnesota was not considered due to the timing of the project notification and CCM training schedule.
Utilization:
Sites 2 and 3 were completed February 2013. Site 1 was completed June 2013.
Value of the biomass material: Site 1 = $0; Site 2 = $500, Site 3 = $500 for a total of $1,000 for the entire project.
Rock Hard Landscape Supply ground the biomass material from Site 1 resulting in 30 loads of commercial mulch. Dakota Wood Grinding, Inc. ground the biomass material from Sites 2 and 3 resulting in 43 loads, 860 tons of material transported to District Energy St. Paul for bioenergy.
Restoration Operations: Not funded. Ecological Restoration and Management Plan on file. Restoration funds were secured through the Parks and Trails Fund of the Clean Water, Land and Legacy Amendment for invasive species control.
Press/Media: Faribault Daily News, February 12, 2013. KEYC-TV, Mankato, February 18, 2013: http://www.keyc.tv/story/21236469/prairie-restoration, Jack Gerfen. Mankato Free Press, May 12, 2013, Tim Krohn.

Linking Habitat Restoration to Bioenergy and Local Economies
Project Media Coverage – July 2010 to June 2013

Battle Creek Regional Park, Ramsey County

1) No media.

Stagecoach Prairie Natural Area, Belwin Conservancy

1) 4/17/2011 – Pioneer Press article, Mary Devine.
2) 4/18/2011 -- Tara Kelly interviewed on 1500 ESPN Garage Logic radio program with Joe Soucheray.
3) 9/21/2011 – Woodbury Bulletin, Amber Kispert.
4) 6/2/2013 – StarTribune, Jim Adams.

Warsaw WMA/Umbanhowar Prairie/Eggum Parcel, MN DNR/Private

1) No media.

Frontenac State Park, MN DNR

1) 12/13/2012 – Lake City Graphic, DNR press release.
2) 4/20/2013 – Rochester Post-Bulletin, John Weiss.

Koester Dry Hill Oak Savanna, Koester Farm Partnership

1) No media.

Cowling Arboretum, Carleton College

1) 11/29/2012 – Cowling Arboretum Arb News, Nancy Braker.
2) 4/24/2012 – Carleton College Arb Talk, Brandon Valle.
3) 11/30/12 – Northfield.org, Jessica Paxton.
4) 12/15/2012 – Nancy Braker interviewed on KYMN radio.

Anoka Nature Preserve, City of Anoka

1) 4/25/2013 - ABC Newspapers, Anoka Union.
2) 6/2/2013 – StarTribune, Jim Adams.
3) 6/9/2013 – StarTribune, Paul Levy.

DNR St. Paul Hatchery AMA, MN DNR

1) No media.

Sakatah Lake State Park, MN DNR

1) 2/12/2013 – Faribault Daily News, DNR press release.

2) 2/18/2013 -- KEYC-TV, Mankato, Jack Gerfen.

3) 5/12/2013 – The Mankato Free Press, Tim Krohn.

NOTE:

All projects have a public relations component. As required through the preparation of a project harvest plan, stakeholders are identified and contact procedures are outlined. This generally involves a letter to adjacent landowners and local officials, signs at public entrance/access points, and press releases.

TwinCities.com

At Afton's Belwin Conservancy, pines cleared to restore rolling prairie in St. Croix Valley

By Mary Divine
mdivine@pioneerpress.com

Updated: 04/17/2011 11:31:35 PM CDT

Belwin Conservancy official Ned Phillips walks along a ridge at a previous Belwin restoration site, 85.2 acres of endangered oak savanna in the Lake Edith Natural Area. The project is a finalist for the Minnesota Environmental Initiative awards this spring. (Pioneer Press: John Doman)

It was the sound of chainsaws that brought Pat Klett out to Belwin Conservancy earlier this month.

Klett said he hiked over from his house in Afton and found the remains of "hundreds" of red pine trees.

"It was the most beautiful valley you ever saw in your life — filled with beautiful white pine mixed in with red pine," Klett said. "To see all the logs piled up to the sky, well, it's just a shame."

But conservancy officials say the clear-cutting will help beautify, not destroy, what they call the Stagecoach Prairies Natural Area.

The area is being restored to what it looked like in 1848, when surveyors described it as "first-rate rolling prairie," said Tara Kelly, director of ecological restoration for the conservancy.

The land being cleared is about 44 acres, about 3 percent of the 1,364 acres the conservancy owns in the lower St. Croix River Valley. In addition to ridding the area of pines, workers are pulling out buckthorn and cutting other woody debris.

"This whole area was a line of pine trees," Kelly said last week as she toured the area on an ATV. "Now you can get a feel for the lay of the land and the glacial history. Once it's prairie, it will be even more spectacular."

Kelly said she could understand why some people might be upset about the trees that were cut.

"People have an emotional attachment to trees," she said. "They're big and tall and beautiful. In this case, however, the pines that were planted here really

don't offer anything in terms of habitat. They create a dense shade and nothing grows under them. We call it the 'ecological dead zone.' "

Before firing up the chainsaws, the conservancy sent notices to neighbors and posted signs at entrances to its hiking trails. Belwin officials say they've been upfront and proactive about what they're trying to accomplish.

"Human nature likes for things to look the same, but things can change — and change quite quickly," Kelly said. "Pre-1960, it looked very different. With a little bit of patience, people will get a feel for what we are trying to do here."

TwinCities.com

Farmers planted the pines in the 1950s or 1960s to prevent erosion. That was before Charles and Lucy Winton Bell of Wayzata began acquiring land for what would eventually become a conservancy. Their grandson, David Hartwell, is now president of the Belwin Conservancy board. Besides preserving habitat, the conservancy has an outdoor educational laboratory that serves 10,000 elementary school children annually from the St. Paul and Stillwater school districts.

Last year the conservancy received a $72,425 grant for its prairie-restoration project. The money came from the Minnesota Environmental and Natural Resources Trust Fund, which is fed by state lottery proceeds.

The grant links ecological restoration with bio-energy and other uses: The contractor who cut down the trees will sell the pine logs for posts and lumber, and the rest of the woody material will be chipped and used in the District Energy St. Paul's biomass power plant. "It's a marriage of conservation and commerce," Kelly said.

This is the second major grant the conservancy has received for habitat restoration; in 2008, it received $116,000 to restore 85.2 acres of endangered oak savanna in the Lake Edith Natural Area.

That project is a finalist for the Minnesota Environmental Initiative awards this spring.

"It's the closest thing we, in the environmental community, have to the Oscars," said Steve Hobbs, Belwin's executive director. A panel of experts goes through the nominees — there were 50 this year — and picks three finalists for five different categories, Hobbs said.

"The Belwin Conservancy, along with our many partners and the Department of Natural Resources, is incredibly honored just to be considered for this award."

Mary Divine can be reached at 651-228-5443.

Woodbury Bulletin

Wednesday, September 21, 2011 Serving Woodbury and Afton, Minnesota

www.woodburybulletin.com $1 newsstands

WHS makes strong gains on state math test

Woodbury, East Ridge high schools see increases on MCA II testing

BY AMBER KISPERT
akispert@woodburybulletin.com

At the end of last year, Woodbury High School officials were optimistic for the results of both its Minnesota Comprehensive Assessment (MCA) II math and reading tests.

"We knew they were looking really good," WHS principal Linda Plante said.

Primarily, Plante said the school was hoping for a 6 to 10 percent increase over last year's math proficiency score of 57.9 percent. WHS made that goal, and then some.

The school increased its MCA II math proficiency to 79.9 percent – jumping 22 percent over last year's figures.

"I had a feeling they were going to be high and this just proved it," said WHS math teacher Courtnee Den Herder.

In terms of the raw scale score, WHS earned a 1,159.6, which ranks the school third in the state.

WHS isn't the only school to make large gains on the MCA II math test. East Ridge High School also made significant gains in its math score. East Ridge increased its score by 7.1 percent to 72.29 percent. East Ridge's scale score was 1,157, which ranked it sixth in the state.

"There's a lot to be proud of," East Ridge principal Aaron Harper said. "We feel real confident about the work we're doing."

In comparison, District 833 scored 64.7 percent proficient, compared to 48.6 percent across the state. Math proficiency increased 8.9 percent this year in the district, compared to a decrease of 4.7 percent across the state.

WHS increased its reading score by 2.4 percent to 93.1 percent. WHS's raw scale score of 1,063.3 ranked it sixth in the state.

"Kudos to the teachers because they really have done a fine job,"

See **MCA** Page 5A

Belwin: How to regulate restoration

Continued from **Page 1A**

"What has happened is that we are working with the city staff to try and come to a resolution on how to interpret this ordinance," Hobbs said. "What's upsetting to us is that there are accusations that we were somehow trying to skirt city code in anyway."

Hobbs said he has been working with city staff since June to understand the ordinance and how it relates to restoration work.

Hobbs' suggestion was to create an amendment that would address restoration projects in terms of clear cutting.

"I agree that the city should have a mechanism to make sure restoration projects are restoration projects," he said. "We're not trying to get any kind of special treatment; we just think there's a better way to do this."

After much back and forth, it was decided that Belwin Conservancy should have applied for a permit.

The CUP was on last Monday's agenda for consideration.

Planning Commissioners were not pleased with how events have transpired.

"It's easier to ask for forgiveness than permission," Planning Commission Chairwoman Barb Ronningen said. "You should have applied for a permit long before you started the project. Somebody dropped the ball and to me it should be a fine, not a permit after the fact."

Planning Commissioner Dick Bend said the miscommunication stemmed from city staff.

"Clearly we have a failure from the regulatory standpoint," he said.

Ways to reconcile

During last Monday's meeting, Planning Commission members did not seem to come to any type of resolution in relation to the permitting issue.

"Belwin is a wonderful attribute, but that doesn't mean a permit shouldn't be in place," Ronningen said.

However, planning commissioners did reach a consensus that something needs to be done so that this type of issue does not come up again in the future.

"If Belwin is going to clear cut in the future, something needs to change," Planning Commissioner Tom Nolz said. "This should not have occurred, but I want Belwin to have a good reputation."

Hobbs said he hopes they can come to a resolution and said it would be unfortunate if Belwin Conservancy had to pay a fine, since it is a nonprofit organization that relies on donations from members.

"I'd feel bad for our members that we have to use some of their donations for a fine," he said. "I hope we don't get to that point.

"We really are trying to adhere to whatever code that applies to what we're doing."

A clear-cut issue? Yes and no ...

Afton Planning Commission discusses ordinance with Belwin Conservancy

BY AMBER KISPERT
akispert@woodburybulletin.com

This year marks Belwin Conservancy's 40th anniversary, but being embroiled in a battle with the city is not the way its supporters wanted to celebrate.

Afton Planning Commission discussed an ordinance violation during its Sept. 12 meeting.

Afton ordinance states that all clear cutting of trees in excess of 6 inches in diameter in an area of 20,000 feet or greater must have a conditional use permit.

Belwin Conservancy, which frequently clear cuts for restoration purposes, has never applied for a permit.

Last year, Belwin Conservancy began restoration work on its Stagecoach Prairie project, which resulted in the clear cutting of buckthorn, amur maple and red pine trees. The project encompasses about 44 acres.

Afton City Council heard of Belwin Conservancy's actions and looked into whether or not a CUP was required.

Belwin Conservancy Director Steve Hobbs said he informed city staff of the group's plans to clear cut for restoration purposes before the project even got underway, and at no point was he informed that a permit was required.

"Throughout the process, we were following the direction of Afton staff," Hobbs said.

However, when the possible ordinance violation was brought to the attention of Afton City Council, it was unclear whether or not the permitting requirement applied to Belwin Conservancy since the ordinance dealt with clear cutting in relation to development, not restoration.

See **BELWIN** Page 2A

StarTribune

Anoka preserve is a major proving ground in state's buckthorn battle

Article by: Jim Adams
Star Tribune
June 2, 2013 - 9:16 PM

Buckthorn and other invasive plants waited in a cornfield in the Anoka Nature Preserve to be ground into mulch.

Joel Koyama, Star Tribune

In a woodland a half-mile north of Anoka High School lie the remains of one of the great buckthorn battles of recent years.

Nearly half of the 200-acre Anoka Nature Preserve along the Rum River has been cleared of snagging buckthorn and other invasive plants since February. Twenty-two semitrailer truckloads of vegetation have been shredded and hauled away already, and a nearly equal amount — a football field-sized pile, 15-feet high — will soon be obliterated by a 95,000-pound, 1,000-horsepower mulching machine.

The $179,000 project is part of a pilot program launched in 2008 by the Minnesota Department of Natural Resources, with the aim of restoring habitat and reaping a fuel source in the process. Hundreds of acres in the metro area have been ridded of invasive plants, and the mulch has been used as fuel at the District Energy plant in St. Paul, said Barb Spears, coordinator of the DNR's Woody Biomass Project, which ends this month.

For years, buckthorn has been removed largely with hand equipment and burned at the site. The DNR program "is an opportunity to get something good from buckthorn — bioenergy," Spears said.

At the Anoka Nature Preserve, the scenic change is dramatic. Hundreds of white and bur oaks, buried last fall by a thorny wall, are now visible. Hillocks once submerged in the thick, green buckthorn now add graceful contours to the returning oak savanna.

"Before, the buckthorn was so dense you couldn't see 30 feet ahead in the winter with all the gray stems. Now, you can see 250 feet and clearly see the big oak trees," said Chris Lord, project manager for the Anoka Conservation District, which has overseen the project.

Soon, the stack of invasives will be gone, after the grinding machine turns them into mulch. It will take about 20 semitrailer trucks, each carrying about 20 tons, to haul the remaining material to St. Paul.

There it will help fire a boiler in the District Energy plant that provides steam heat and cooling for downtown homes and buildings, including the State Capitol, said Jeff Guillemette, biomass fuel manager for Environmental Wood Supply. Twenty truckloads would feed the boiler furnace for less than half a day, he said.

The Anoka project is one of 24 that have received $886,000 in state grants over the past five years to remove invasive plants from 706 acres of parks, preserves and other areas, Spears said. The DNR started the project in 2008 with a $500,000 grant from the Legislature. The program got an extension in 2010 with $600,000 in State Lottery funds set aside to preserve and improve natural areas.

Ellen Anderson, a senior energy/environment adviser to Gov. Mark Dayton, is a former state senator who co-authored the bill that provided initial funding for the restoration-bioenergy project.

She said most project goals have been achieved: removing invasive species; creating a local, renewable fuel source; and improving wildlife habitat and landscapes in parks and natural areas. The missing piece was setting up a sustainable market for the woody materials removed, which compete against established fossil fuels.

"Eventually there will be a real strong market for more renewable materials, but the economics don't quite work yet," she

said, noting that the invasive wood supply isn't stable enough.

Program ending; efforts won't

Although the DNR program ends June 30, state funds are still available through State Lottery and Legacy Amendment environmental grants to continue restoration and invasive plant-removal efforts, Spears said. "My emphasis through our projects has been to help people recognize and consider that when they plan a project, to call District Energy and see if they can use this material instead of piling and burning it on site."

The Anoka Preserve project started last October when Sentencing to Service inmates and others applied $30,000 worth of herbicide over three weeks to trunks of the buckthorn, prickly ash, small eastern cedars and other invasive plants, Lord said. After the herbicide had time to soak into plant roots, removal work began in February. About 800 tons of brush and trees were sheared at the base, hauled out and stacked for shredding.

A relentless plant

Buckthorn is a persistent competitor. Its roots give off a toxin that weakens or prevents nearby plant growth, Lord noted. Its berries contain a laxative that causes birds to excrete them, spreading seeds.

At the Anoka site, buckthorn seeds that have accumulated in the soil will emerge in a year and a controlled burn is planned to remove them, making way for raspberry, Juneberry, hazelnut and other native plants, Lord said.

The biggest project the DNR helped fund was the removal of invasive plants from 134 acres at the Belwin Conservancy in Afton in 2009-11. That oak restoration project sent 5,400 tons to the St. Paul bioenergy plant.

Wild turkeys now roam in newly opened areas and more redheaded woodpeckers seem to be nesting, said Tara Kelly, Belwin's director of ecological restoration. But the visual change is breathtaking. "You can see the forest for the trees now," she said.

Wild turkeys also are seen browsing in the pruned Anoka preserve and rodent hunting is a lot easier for hawks, owls and other raptors, Lord said. The biggest advantage, however, will be stronger oak growth because tree roots won't be affected by buckthorn toxins and the oaks will absorb precipitation previously shared with the invasive plants.

"There should be a much bigger crop of acorns," Lord said. That will provide lots of snacks for deer and turkeys.

Jim Adams• 612-673-7658

State Park woodlands to be restored this winter

An overgrown portion of Frontenac State Park will be restored to oak woodland, and woody debris from the work will be turned into fuel as part of a project beginning in mid-December, according to the Minnesota Department of Natural Resources.

The project will involve removing trees and shrubs from 75 acres of the park along Highway 61 just north of Lake City. Formerly an oak woodland with large oaks towering over grass and other native plants, the land has become overgrown with shrubs, trees and other species that are choking out oak regeneration.

People driving along Highway 61 will notice large piles of trees and shrubs near the road. The woody debris will be chipped and hauled away to be burned for heat or electricity at a biomass facility. Tree and shrub stumps will be treated with herbicide to prevent regrowth, and the area will later be reseeded with native prairie grasses and flowers.

The $47,500 project is being funded by money from the Minnesota Environment and Natural Resources Trust Fund (state lottery proceeds) as recommended by the Legislative-Citizen Commission on Minnesota Resources (LCCMR). It's scheduled to be finished by the end of March.

Dec. 13, 2012 -
Graphic.
Lake City Graphic

Frontenac park takes a step back

BY JOHN WEISS
weiss@postbulletin.com

FRONTENAC — This winter, with the help of chainsaws, tractors and other heavy equipment, Frontenac State Park took another ecological step back to the 1850s.

A contractor cut many of the trees and shrubs from 75 acres along U.S. 61 on the south side of the park between Lake City and Red Wing. With new seeding, seeds already in the ground and controlled burns, the land will again look like it did before European settlers arrived more than 160 years ago, said Park Manager Jenny Dehn.

In the 1850s, much of the region was covered with prairie mixed with some woods. When settlers arrived, they controlled the fires needed to maintain prairie and more trees began to grow.

The Department of Natural Resources decided more than a decade ago that one of its goals would be to return the land to how it looked pre-settlement. The DNR has opened up other parts of the park with saws and has turned former cropland back to prairie.

Long Point, which juts into Lake Pepin, and the land on the south side of the highway got the work this winter. The $47,500 for the project came from the Minnesota Environment and Natural Resources Trust Fund, which is funded by the state lottery, according to the DNR.

The logs that were cut last winter will be chipped up when heavier trucks are allowed on the highway, and the chips will be taken to St. Paul to be burned for energy, Dehn said.

One problem the park is still facing is that the land that was logged was heavily infested with invasive buckthorn, so more work still needs to be done, Dehn said.

In a year or two, however, "it's going to be looking pretty cool," she said.

Harry Roberts, former park manager who oversaw much of the work, said the land will be what is known ecologically as open oak woods, which means there was a lot of grass and flowers within the woods.

"We have been trying to do this for four years," he said. Problems getting a contractor who would show up, and weather caused some delays.

PostBulletin.com
for related websites

John Weiss / weiss@postbulletin.com

Trees are stacked up along U.S. 61 at Frontenac State Park after being cut down. They will be later chipped and hauled away for energy while the open land will be returned to the way it looked maybe 150 years ago.

Arb News

Arboretum Awarded Funds to Assist With Restoration Programs

November 29, 2012 at 4:25 pm
By Nancy Braker, Arboretum Director

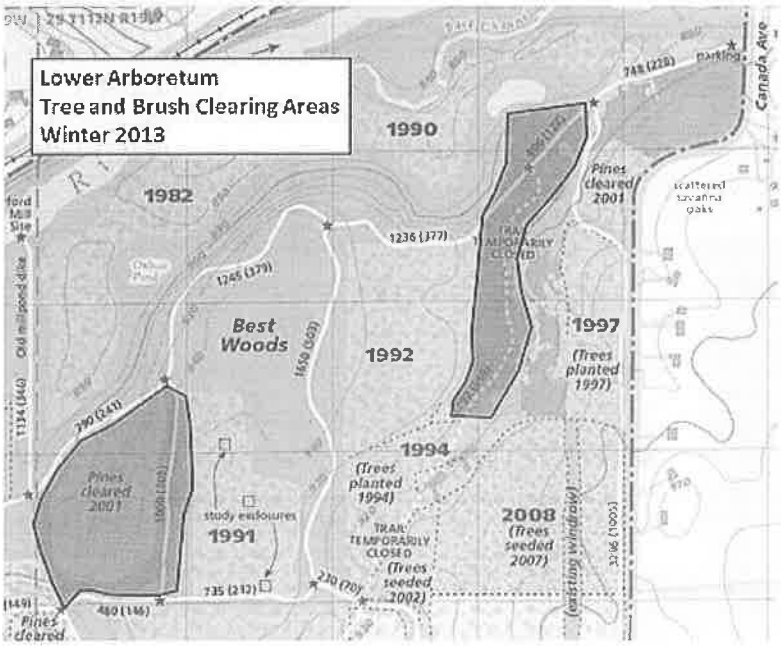
This winter Arboretum staff will be taking the first steps in a new forest and grassland restoration project, funded through the Minnesota Environment and Natural Resources Trust Fund. The $64,593 grant, administered through the Minnesota Department of Natural Resources, will help restore 38 acres, about 4% of the Arboretum. Arboretum users will notice some big changes, so read on to learn about what this project entails.

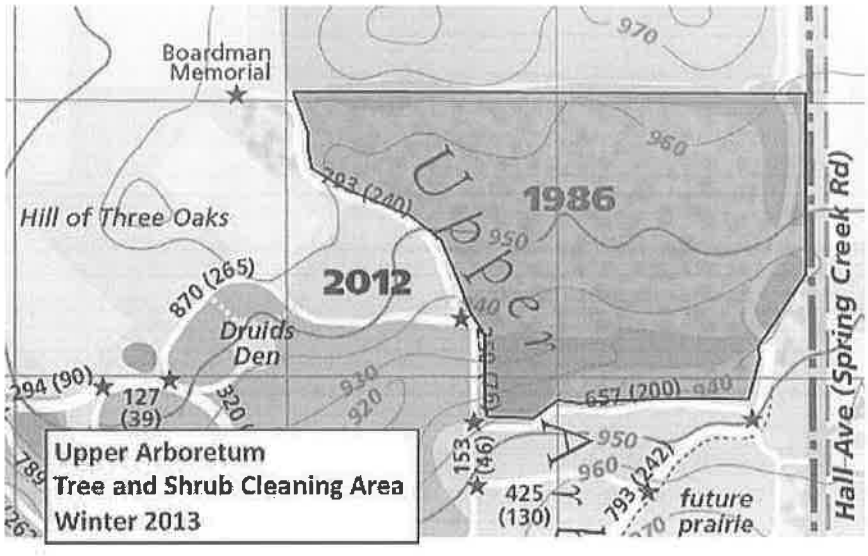
The overall habitat management goal of the Arboretum is to restore examples of the native plant communities - the forest, oak savanna and prairie that were originally found in the Northfield area. The current project includes 27 acres of future forest and oak savanna in the Lower Arboretum and ten acres of future prairie in the Upper Arboretum.

The project in the Lower Arboretum includes pine plantations that are declining in health, and previously cut pine areas now choked with brush. The pine plantations to be removed are primarily jack pine, a short lived species that was planted more than 70 years ago. Some of the pine stands were not thinned in past and are now crowded and stunted. Many of these trees are now dead, and are constantly falling over the trail, creating a management hazard for our staff and blocking the way for runners, walkers and skiers. One trail segment will be closed temporarily during the project and for a year afterwards to allow grass to be established.

Not all the Arboretum pines will go; other plantations will be retained and thinned in the future to create a more healthy and productive environment. The pines were planted for timber production, and the original intention of the College was to remove them at maturity. The Arboretum staff currently expects to retain some of the pine plantations at the north end of the Arboretum for future lumber use by the Art Department sawmill and for visitor enjoyment.

The Upper Arboretum section of the project includes a former agricultural field now overgrown with brush and short lived trees such as boxelder. The woody material (cut trees and brush) that is removed during the project will be used for lumber, chipped for landscape mulch or used for energy production.





Arboretum staff are currently preparing for a contractor to remove the trees this winter. Trees to be left uncut will be marked with spots of blue paint. Once the trees and brush are removed, additional work will take place to prepare the sites for future replanting.

Funding for this project was provided by the Minnesota Environment and Natural Resources Trust Fund as recommended by the Legislative-Citizen Commission on Minnesota Resources (LCCMR). The Trust Fund is a permanent fund constitutionally established by the citizens of Minnesota to assist in the protection, conservation, preservation, and enhancement of the

state's air, water, land, fish, wildlife, and other natural resources.

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Cowling Arboretum pages maintained by Nancy Braker
This page was last updated on 30 November 2012

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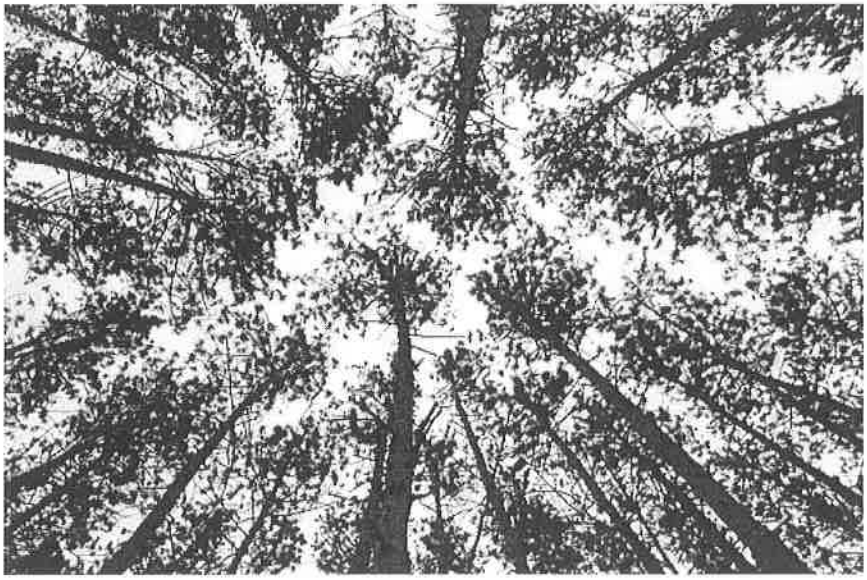
Arb Notes for April 20, 2012 - Pine Removal Project

April 24, 2012 at 12:36 pm
By Brandon Valle '14



While running, jogging, or walking through the pine plantation in the northern tip of the arb, one might not realize the obstacle it poses to restoration. Covering 30 acres, the dense pine forest holds quite a bit of wood. The pines aren't native to this part of Minnesota. They occupy land that should bear oak forests or prairie. They shade out native plants, they spread pine trees to neighboring savannas, and prevent managers from balancing these nearby plots with prescribed burns. They're also starting to die. As the pine population slowly turns to a stand of dry snags the risk of them snapping in a windstorm increases, making upkeep more time consuming and costly. In short it's time for the pines to go.

Until recently the large scale removal of pine trees wasn't an option, but just this year arb managers applied for and received a large grant for the removal of ten acres of the plantation, part of a long term plan to reintroduce native forest. Money from the grant will also go towards the removal of woody infestations covering another 25 acres of the arb. The grant comes from the Minnesota Department of Natural Resources, and the removal of the pine will be conducted by

private contractors. As soon as the ground freezes this fall the project begins, and the goal is to be finished by winter 2013. To prevent a resurgence in non-native species the removal of the pines will be followed up with herbicide treatment of any remaining invasives. Then native grasses will be planted to provide ground cover and prevent erosion, and from there either native grassland species will continue to be added as it's transformed into prairie or native trees will begin to be planted.

From the perspective of the DNR the goal of the biomass grant isn't just to remove species harmful to native ecosystems. An underlying goal is to improve the market for biomass material. The biomass collected from the removal projects in the arb could be used for everything from bioenergy, to mulch, to pellets, to animal bedding. By funding this projects, and similar projects throughout Minnesota, the DNR aims to contribute to these markets, help the businesses that use the biomass improve their methods, and ultimately make it easier and cheaper for landowners and managers to remove unwanted vegetation in the future. That's a goal every restoration project can look forward to, and some of the progress will be made right here in Carleton's Cowling Arboretum.

Brandon Valle 14', for the Cole Student Naturalists

Photo by Berett Wilber 15'

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- **Philip Mazzio** (07/21/13)
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Visiting Northfield

Carleton College Cowling Arboretum awarded funds to assist with restoration programs

Submitted by **Jessica Paxton** on Fri, 11/30/2012 - 3:52pm
Misc

This winter Carleton College Cowling Arboretum staff will take the first steps in a new forest and grassland restoration project, funded through the Minnesota Environment and Natural Resources Trust Fund. A $64,593 grant, administered through the Minnesota Department of Natural Resources, will help restore 38 acres, about 4% of the Carleton Arboretum. "While 4% seems like a small portion, Arboretum users will notice some big changes, so we wanted to make sure our users were aware of what this project entails," reports Nancy Braker, Arboretum Director.

The overall goal of the Cowling Arboretum is to restore examples of native plant communities: the forest, oak savanna and prairie that were originally found in the Northfield area. The current project includes 27 acres of future forest and oak savanna in the Lower Arboretum and ten acres of future prairie in the Upper Arboretum.

Project areas in the Lower Arboretum include pine plantations that are declining in health, and previously cut pine areas now choked with brush. The pine plantations to be removed are primarily jack pine, a short-lived species that was planted more than 70 years ago. Some of the pine stands were not thinned in the past and are now crowded and stunted. "Many of these trees are now dead, and are constantly falling over the trail, creating a management hazard for our staff and blocking the way for our runners, walkers and skiers," Braker explains.

Not all the Arboretum pines will go; other plantations will be retained and thinned in the future to create a more healthy and productive environment. The pines were planted for timber production, and the original intention of the College was to remove them at maturity. The College currently expects to retain some of the pine plantations at the north end of the Arboretum for future lumber use by the Carleton sawmill and for visitor enjoyment.

The Upper Arboretum section of the project includes a former agricultural field now overgrown with brush and short lived trees such as boxelder.

Overall, the project will include the removal of non-native trees and shrubs as well as native woody species that are inappropriate to the specific location or are impeding restoration efforts. The woody material (cut trees and brush) that is removed will be used for lumber, chipped for landscape mulch or used for energy production.

Events

« July 2013 »

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Upcoming Event List

July 30

- **Wee Tennis (Ages 4 & 5)** @ 9:00 am
  Northfield Middle School Tennis Courts
- **Tennis (Ages 6-9)** @ 10:00 am
  Middle School Tennis Courts

August 01

- **Vintage Band Festival** @ 12:00 pm
  City of Northfield and surrounding communities

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Guildcraft Carpets (GuildcraftRugs): PrairieMod: Longshadow Prairie Planters **http://t.co/il12qvgrq3** 25 mins 23 secs ago via **HootSuite**

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- **All-Wheel Drive |July 25**
- **Today's news update – Injury accident reported on Hwy 3 near 145th street**
- **Today's news update – Motorcyclist in deadly crash identified; The couple calling themselves "Bonnie and Clyde" sentenced; Fire Service Governance is top of mind for Mayor Graham; 35 road construction will disrupt the rest of the summer**
- **Wayne Eddy Affair | Matthew Mehaffey**
- **Today's news update – Apple Valley woman and Farmington man sentenced for armed robbery of Northfield hotel**
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For more information, contact Carleton College Cowling Arboretum Director Nancy Braker at (507) 222-4543 or by email at **nbraker@carleton.edu**.

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- **Griff Wigley**

See the blog post with the Downtown parking management report, recommendations and documents for June 18 Council meeting:...

Help Solve Downtown Parking Problems · 1 month ago

- **Bob**

You said it. Fiasco is the

Community

Invasive species work will change look of nature preserve

By Community Contributor
April 25, 2013 at 7:00 am

The Anoka Nature Preserve is a 200-acre parcel of land owned by the city of Anoka just north of the Rum River Library at the northwest part of the intersection of Seventh Avenue and Bunker Lake Boulevard. The parcel is used by area residents as a passive recreational area, cross-crossed with walking trails and is frequently used by Anoka High School students for cross country running and skiing.

The city of Anoka donated a conservation easement on the parcel to the Anoka Conservation District (ACD) in 2007. Since then, the city and the ACD have been working together to secure funding to pursue ecological restoration work on the property. Recently, a pair of grant awards totaling nearly $175,000 to treat buckthorn throughout the site were awarded.

In October 2012, ACD staff, along with sentenced-to-serve (STS) crews applied herbicide to the invasive species common buckthorn, prickly ash and tartarian honeysuckle throughout 148 acres of the property. The herbicide is currently soaking through the bark and traveling down to the roots to kill the small trees and shrubs. The effort required nearly three weeks and $30,000 in herbicide to complete, and thanks to the STS program, came in well under budget.

the roots are dead, it will be possible to cut down the treated trees and shrubs without the risk of them coming back twice as dense by resprouting. Cutting of the woody material is scheduled to occur this winter and be wrapped up by the end of March.

With the removal of the dense buckthorn and other invasive small trees and shrubs, the warmth of the sunlight that will now be able to reach the ground will spur on rapid germination of the seeds that have built up over the years, according to Chris Lord, ACD manager.

To combat this, the grant provides for a controlled burn in a couple years to kill the anticipated two-foot-thick carpet of small seedlings that is anticipated to grow, Lord said.

"With the removal of the extremely dense infestation of invasive trees and shrubs, the park will take on a very different feel," he said.

"It will be much more open and will better showcase the large number of stately old trees that make up the woodland. The openness may make the park feel a bit smaller though, with sightlines that extend beyond the park into neighboring yards and fields.

"It may take some getting used to, but in the end it will be much better for wildlife, because the berries from buckthorn cause malnourishment in birds and mammals.

"In time, and with some effort to keep the buckthorn from coming back, desirable shrubs like raspberries, hazelnut, chokecherry and dogwood will work their way into the park."

StarTribune

Anoka preserve is a major proving ground in state's buckthorn battle

Article by: Jim Adams
Star Tribune
June 2, 2013 - 9:16 PM

Buckthorn and other invasive plants waited in a cornfield in the Anoka Nature Preserve to be ground into mulch.

Joel Koyama, Star Tribune

In a woodland a half-mile north of Anoka High School lie the remains of one of the great buckthorn battles of recent years.

Nearly half of the 200-acre Anoka Nature Preserve along the Rum River has been cleared of snagging buckthorn and other invasive plants since February. Twenty-two semitrailer truckloads of vegetation have been shredded and hauled away already, and a nearly equal amount — a football field-sized pile, 15-feet high — will soon be obliterated by a 95,000-pound, 1,000-horsepower mulching machine.

The $179,000 project is part of a pilot program launched in 2008 by the Minnesota Department of Natural Resources, with the aim of restoring habitat and reaping a fuel source in the process. Hundreds of acres in the metro area have been ridded of invasive plants, and the mulch has been used as fuel at the District Energy plant in St. Paul, said Barb Spears, coordinator of the DNR's Woody Biomass Project, which ends this month.

For years, buckthorn has been removed largely with hand equipment and burned at the site. The DNR program "is an opportunity to get something good from buckthorn — bioenergy," Spears said.

At the Anoka Nature Preserve, the scenic change is dramatic. Hundreds of white and bur oaks, buried last fall by a thorny wall, are now visible. Hillocks once submerged in the thick, green buckthorn now add graceful contours to the returning oak savanna.

"Before, the buckthorn was so dense you couldn't see 30 feet ahead in the winter with all the gray stems. Now, you can see 250 feet and clearly see the big oak trees," said Chris Lord, project manager for the Anoka Conservation District, which has overseen the project.

Soon, the stack of invasives will be gone, after the grinding machine turns them into mulch. It will take about 20 semitrailer trucks, each carrying about 20 tons, to haul the remaining material to St. Paul.

There it will help fire a boiler in the District Energy plant that provides steam heat and cooling for downtown homes and buildings, including the State Capitol, said Jeff Guillemette, biomass fuel manager for Environmental Wood Supply. Twenty truckloads would feed the boiler furnace for less than half a day, he said.

The Anoka project is one of 24 that have received $886,000 in state grants over the past five years to remove invasive plants from 706 acres of parks, preserves and other areas, Spears said. The DNR started the project in 2008 with a $500,000 grant from the Legislature. The program got an extension in 2010 with $600,000 in State Lottery funds set aside to preserve and improve natural areas.

Ellen Anderson, a senior energy/environment adviser to Gov. Mark Dayton, is a former state senator who co-authored the bill that provided initial funding for the restoration-bioenergy project.

She said most project goals have been achieved: removing invasive species; creating a local, renewable fuel source; and improving wildlife habitat and landscapes in parks and natural areas. The missing piece was setting up a sustainable market for the woody materials removed, which compete against established fossil fuels.

"Eventually there will be a real strong market for more renewable materials, but the economics don't quite work yet," she

said, noting that the invasive wood supply isn't stable enough.

Program ending; efforts won't

Although the DNR program ends June 30, state funds are still available through State Lottery and Legacy Amendment environmental grants to continue restoration and invasive plant-removal efforts, Spears said. "My emphasis through our projects has been to help people recognize and consider that when they plan a project, to call District Energy and see if they can use this material instead of piling and burning it on site."

The Anoka Preserve project started last October when Sentencing to Service inmates and others applied $30,000 worth of herbicide over three weeks to trunks of the buckthorn, prickly ash, small eastern cedars and other invasive plants, Lord said. After the herbicide had time to soak into plant roots, removal work began in February. About 800 tons of brush and trees were sheared at the base, hauled out and stacked for shredding.

A relentless plant

Buckthorn is a persistent competitor. Its roots give off a toxin that weakens or prevents nearby plant growth, Lord noted. Its berries contain a laxative that causes birds to excrete them, spreading seeds.

At the Anoka site, buckthorn seeds that have accumulated in the soil will emerge in a year and a controlled burn is planned to remove them, making way for raspberry, Juneberry, hazelnut and other native plants, Lord said.

The biggest project the DNR helped fund was the removal of invasive plants from 134 acres at the Belwin Conservancy in Afton in 2009-11. That oak restoration project sent 5,400 tons to the St. Paul bioenergy plant.

Wild turkeys now roam in newly opened areas and more redheaded woodpeckers seem to be nesting, said Tara Kelly, Belwin's director of ecological restoration. But the visual change is breathtaking. "You can see the forest for the trees now," she said.

Wild turkeys also are seen browsing in the pruned Anoka preserve and rodent hunting is a lot easier for hawks, owls and other raptors, Lord said. The biggest advantage, however, will be stronger oak growth because tree roots won't be affected by buckthorn toxins and the oaks will absorb precipitation previously shared with the invasive plants.

"There should be a much bigger crop of acorns," Lord said. That will provide lots of snacks for deer and turkeys.

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StarTribune

Anoka County buckthorn hauled off to be fuel

June 8, 2013 - 5:11 PM

Another 26 semitrailer truckloads of invasive buckthorn were hauled away from the Anoka Nature Preserve last week. M of that shredded vegetation will be converted into bioenergy.

While the effort to clear buckthorn and other invasive plants from the 200-acre preserve has been, for the most part, hig effective, there will need to be a controlled burn of 71 acres, likely next year, said Chris Lord, project manager for the A Conservation District.

"The treated buckthorn that was taken out was 90 percent effective," Lord said. "There are seeds on the forest floor. Th way to rid the preserve of them is through a controlled burn."

The $179,000 project was part of a Minnesota Department of Natural Resources pilot program aimed at restoring habit reaping a fuel source in the process [www.startribune.com/a2300]. The buckthorn mulch was taken to the District Energ plant in St. Paul to be used as fuel.

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Faribault Daily News

Prairie restoration to begin at Sakatah Lake State Park

Posted: Tuesday, February 12, 2013 12:59 pm

A restoration of historic prairie and oak savanna habitat is set to begin at Sakatah Lake State Park in Waterville this month.

The landscape surrounding the park was originally a mosaic of prairies, savannas, oak woodlands and wetlands, said Molly Tranel Nelson, DNR regional resource specialist. This changed over time due to extensive agriculture, population growth, a lack of natural fire and the disappearance of large grazers such as bison and elk.

The project meets management goals of the plan by removing invasive boxelder, honeysuckle and Amur maple on three sites, totaling about 45 acres, Tranel Nelson said. Undesirable brush — including prickly ash, dogwood and sumac — also will be removed.

The harvested wood will be ground into chips on the site, trucked away and sold as biomass. All harvesting and grinding will be completed before spring thaw so that disturbance to the sites will be minimal.

Harvest activities will be visible from state Highway 60, LeRoy Avenue and County Road 99, and there will be increased traffic from semis and heavy equipment. Parking along these roads is not allowed.

The Sakatah Singing Hills State Trail will remain open during the project, but a portion of the Timberdoodle Trail will be closed to hikers and skiers.