

Lessard-Sams Outdoor Heritage Council

Laws of Minnesota 2014 Final Report



Date: November 06, 2019

Program or Project Title: Washington County's Last Best Places

Funds Recommended: \$430,000

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Legislative Citation: ML 2014, Ch. 256, Art. 1, Sec. 2, Subd. 5(i)

Appropriation Language: \$430,000 in the second year is to the commissioner of natural resources for an agreement with Washington County to restore and enhance habitat on public lands in Washington County. A restoration and enhancement plan and a list of proposed land restorations and enhancements must be provided as part of the required accomplishment plan.

County Locations: Washington

Eco regions in which work was completed:

- Metro / Urban

Activity types:

- Restore
- Enhance

Priority resources addressed by activity:

- Wetlands
- Forest
- Prairie

Summary of Accomplishments:

This project restored and enhanced rare and unique plant and animal communities identified by the DNR's County Biological Survey. Over 293 acres of prairie, forest, wetland were restored and enhanced. Ultimately, the county was able to approach or exceed the goal of 20% increase in diversity across all three habitats based on plant surveys conducted.

Process & Methods:

This project focused on restoration and enhancement of native plant communities in Washington County's last best public lands, as identified by the DNR's County Biological Survey, the Metro Conservation Corridors program, and the County's Top 10 Priority Conservation Areas (January 2012). The goal of the project was to establish a 20% increase in species diversity, resulting in higher quality and higher functioning habitats. This was accomplished utilizing a combination of contractors and internal staff to complete buckthorn removal and follow-up on re-sprouts, native plant seeding, controlled burns and reducing dominance of reed canary grass in wetlands to increase available wildlife habitat.

The restored and enhanced lands were selected strategically to connect existing managed native landscapes to previously isolated

DNR identified rare and unique plant and animal communities. Ultimately, this has helped to create a mosaic of interconnected landscapes of sufficient size that will accommodate the greatest biological diversity.

Overall, Washington County restored or enhanced 284 acres of habitat, a 8% increase (21 acres) over the original project goal of 259 acres. Restoration and enhancement activities took place at three locations: along the St. Croix River (St. Croix Bluffs Regional Park), within a major watershed of the Mississippi River (Cottage Grove Ravine Regional Park), and within a wetland dotted landscape that is characteristic of east-central Minnesota and the St. Paul Baldwin Plains and Moraines landscape subsection (Lake Elmo Park Reserve).

Restoration focused on three habitat types: forest (154 acres), prairie (103 acres) and wetland (27 acres).

Summary of the restoration/enhancement efforts and the evaluation efforts in each habitat type:

Forest

Oak forest habitat enhancement was completed in all three locations in Washington County, for a total of 154 acres, including oak forest, mesic hardwood forest and oak savanna where undesirable shrubs such as common buckthorn have been out competing the native plant communities. In these areas, a contractor removed buckthorn and honeysuckle using a combination of forestry mowing, chainsaw cutting and stump treatments and basal barking. Material was either mulched on-site or piled and burned. Following initial removal, buckthorn and honeysuckle re-sprouts were treated with foliar chemical spray for two years following initial removal. In order to quantify the effectiveness of these approaches and the progress toward the goal of a 20% increase in species diversity, three plots were established at each location and surveyed each year from 2015 to 2018. The surveys showed that the work resulted in a significant decrease in buckthorn extent, height and density across all nine plots. As of 2018, Buckthorn extent was still below 25% in all but one plot, and below 10% in five plots. There was also an increase in native woody and herbaceous vegetation in all nine plots over the same time period. Native woody species increased from an average of 3.3 species/plot to 5.9 species/plot, and native herbaceous species increased from an average of 2.7 species/plot to 11.0 species/plot.

Prairie

Stewardship work in the prairie included both 81 acres of enhancement and 25 acres of restoration at Lake Elmo Park Reserve. The tallgrass prairie enhancement was accomplished by interseeding native forbs into existing prairie restorations that were established in 1989. Prior to implementing, a pilot project was implemented to evaluate three different interseeding methods; the most successful method was determined to be a prairie burn, followed by discing and then broadcasting the forbs. A preliminary meandering survey of the prairie was used to identify species to interseed into the prairie and 51 forb species that were rare or absent were selected to be seeded in spring and winter of 2016. An average of 35% of the species seeded had established in a survey conducted in 2018, only 1-2 growing seasons post-interseeding. It is anticipated that more species will establish over time with continued management such as burning, grazing and or haying to reduce grass dominance.

In addition to the enhancement, 25 acres of prairie were restored from cropland, 11 acres using OHF funds and an additional 14 acres leveraged by the County. The seed mix included a mesic prairie mix used for 18.5 acres and a wet prairie mix for 1.5 acres. In total 86 different species were seeded by Washington County staff in the fall of 2015 using a Truax seed drill for grasses and broadcasting forbs. In a survey three years after planting, 51% of the seeded species were identified (44 species, 10 grasses/sedges and 34 forbs). Similar to the prairie enhancement, it is expected that species will continue to establish and be identified with more time and management.

Wetland

27 acres of wetland, in 29 different wetlands, were enhanced at Lake Elmo Park Reserve, including seasonally flooded wetlands, mixed emergent marsh, wet meadow and littoral open water wetlands. A wetland management plan developed by Barr Engineering and Washington Conservation District detailed the control of reed canary grass as important to increasing wetland plant diversity. Enhancement methods included a combination of herbicide application and controlled burning, followed by seeding with a native wetland mix. Comparison of pre-enhancement and post-enhancement wetland surveys indicate an average reduction in Reed canary grass of 44%, as well as an increase in native dominant plant diversity in 22 of 29 wetlands surveyed (76%). Of the 43 species seeded by the contractors, 34 (79%) were identified in the 2018 post-enhancement survey. There are plans in place for continued follow-up on reed canary grass to ensure long-term persistence of the native plants.

Explain Partners, Supporters, & Opposition:

Although there were no official financial partnerships, we worked collaboratively with the following organizations to ensure best practices were implemented: Friends of the Mississippi River at Cottage Grove Ravine Regional Park, Washington Conservation District on work commencing at Lake Elmo Park Reserve, Belwin Conservancy with Pine Plantation removal and conversion to oak savanna restoration at St. Croix Bluffs Regional Park, Washington County Sentence to Serve program for fuel load reductions in project areas.

We have received positive feedback from park users, including an article written in a local newspaper about the work at Cottage Grove Ravine Regional Park.

There was no opposition experienced during the project.

Additional Comments:

Exceptional challenges, expectations, failures, opportunities, or unique aspects of program

The greatest challenge has been the long term control of buckthorn. Buckthorn will continue to require on-going management to ensure the population does not re-establish in areas where it was removed. Since the end of grant appropriations, staff time has been spent following up on re-sprouts with herbicide, forestry mowing, and doing fuel load reductions on burn breaks to help implement controlled burns in the future.

Another important outcome of this work was the confirmed sighting of a rusty-patched bumblebee, the first federally listed endangered bee species in North America, in the Outdoor Heritage Fund enhanced prairie following a controlled burn. This is an important confirmation of the success of restoration and enhancement efforts.

Other Funds Received:

- Clean Water Fund

How were the funds used to advanced the program:

Some follow-up activities of Conservation Corp Crews were used at Lake Elmo Park Reserve within the wetland basins being enhanced (initial removal and follow-up on buckthorn re-sprouts and collecting/spreading native seed).

What is the plan to sustain and/or maintain this work after the Outdoor Heritage Funds are expended:

The areas restored or enhanced with these funds will need continued stewardship to maintain their habitat quality and wildlife productivity. Going forward, new strategies will be incorporated into management plans to suppress undesirable species and encourage native plant diversity. The undesirable species and low quality conditions established across the forests, prairies and wetlands due to years of fire and grazing suppression, therefore restoring a regime of these natural processes will be critical. These processes include the use of prescribed and conservation based grazing, and controlled burns to help control re-growth and encouraging oak regeneration. Washington County is set up for the continued management as it has a history of using controlled burns with staff, and is looking into how to incorporate conservation based grazing to help maintain these areas in a way that benefits all wildlife for the future.

Outcomes:

The original accomplishment plan stated the program would

Programs in metropolitan urbanizing region:

- Core areas protected with highly biologically diverse wetlands and plant communities, including native prairie, Big Woods, and oak savanna

How will the outcomes be measured and evaluated?

Outcomes are quantified by acreage. Acreage goals were met or exceeded in forest, prairie and wetlands. To further evaluate the success of stewardship, vegetation surveys were conducted in all three habitats pre- and post-stewardship activities. Surveys of bees and dragonflies were also surveyed at one time point across various restored, enhanced and untouched habitats and will serve as a comparison point for future evaluations of the improvements.

Budget Spreadsheet

Final Budget line item reallocations are allowed up to 10% and do not need require an amendment to the Accomplishment Plan

Total Amount: \$430,000

Budget and Cash Leverage

Budget Name	Request	Spent	Cash Leverage (anticipated)	Cash Leverage (received)	Leverage Source	Total (original)	Total (final)
Personnel	\$0	\$0	\$0	\$50,000	County, County, County	\$0	\$50,000
Contracts	\$380,000	\$372,100	\$0	\$0		\$380,000	\$372,100
Fee Acquisition w/ PILT	\$0	\$0	\$0	\$0		\$0	\$0
Fee Acquisition w/o PILT	\$0	\$0	\$0	\$0		\$0	\$0
Easement Acquisition	\$0	\$0	\$0	\$0		\$0	\$0
Easement Stewardship	\$0	\$0	\$0	\$0		\$0	\$0
Travel	\$0	\$0	\$0	\$0		\$0	\$0
Professional Services	\$50,000	\$13,100	\$0	\$0		\$50,000	\$13,100
Direct Support Services	\$0	\$0	\$50,000	\$0		\$50,000	\$0
DNR Land Acquisition Costs	\$0	\$0	\$0	\$0		\$0	\$0
Capital Equipment	\$0	\$0	\$0	\$0		\$0	\$0
Other Equipment/Tools	\$0	\$0	\$0	\$0		\$0	\$0
Supplies/Materials	\$0	\$39,800	\$20,000	\$20,000	County	\$20,000	\$59,800
DNR IDP	\$0	\$0	\$0	\$0		\$0	\$0
Total	\$430,000	\$425,000	\$70,000	\$70,000		\$500,000	\$495,000

Personnel

Position	FTE	Over # of years	Spent	Cash Leverage	Leverage Source	Total
Natural Resource Coordinator	0.20	5.00	\$0	\$20,000	County	\$20,000
Park Maintenance Operators	0.05	5.00	\$0	\$10,000	County	\$10,000
Seasonal Natural Resource Technicians	0.25	5.00	\$0	\$20,000	County	\$20,000
Total	0.50	15.00	\$0	\$50,000		\$50,000

Explain any budget challenges or successes:

Enhanced more acres of oak forest due to lower quotes received for initial removal of buckthorn.

All revenues received by the recipient that have been generated from activities on land with money from the OHF:

Total Revenue: \$0

Revenue Spent: \$0

Revenue Balance: \$0

- E. This is not applicable as there was no revenue generated.

Output Tables

Table 1a. Acres by Resource Type

Type	Wetlands (original)	Wetlands (final)	Prairies (original)	Prairies (final)	Forest (original)	Forest (final)	Habitats (original)	Habitats (final)	Total (original)	Total (final)
Restore	0	0	11	25	0	0	0	0	11	25
Protect in Fee with State PILT Liability	0	0	0	0	0	0	0	0	0	0
Protect in Fee W/O State PILT Liability	0	0	0	0	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0	0	0	0	0
Enhance	27	27	78	78	134	154	0	0	239	259
Total	27	27	89	103	134	154	0	0	250	284

Table 1b. How many of these Prairie acres are Native Prairie?

Type	Native Prairie (original)	Native Prairie (final)
Restore	0	0
Protect in Fee with State PILT Liability	0	0
Protect in Fee W/O State PILT Liability	0	0
Protect in Easement	0	0
Enhance	0	0
Total	0	0

Table 2. Total Funding by Resource Type

Type	Wetlands (original)	Wetlands (final)	Prairies (original)	Prairies (final)	Forest (original)	Forest (final)	Habitats (original)	Habitats (final)	Total (original)	Total (final)
Restore	\$0	\$0	\$44,000	\$11,000	\$0	\$0	\$0	\$0	\$44,000	\$11,000
Protect in Fee with State PILT Liability	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Protect in Fee W/O State PILT Liability	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Protect in Easement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Enhance	\$100,000	\$98,700	\$86,000	\$28,000	\$200,000	\$287,300	\$0	\$0	\$386,000	\$414,000
Total	\$100,000	\$98,700	\$130,000	\$39,000	\$200,000	\$287,300	\$0	\$0	\$430,000	\$425,000

Table 3. Acres within each Ecological Section

Type	Metro Urban (original)	Metro Urban (final)	ForestPrairie (original)	Forest Prairie (final)	SEForest (original)	SE Forest (final)	Prairie (original)	Prairie (final)	N Forest (original)	N Forest (final)	Total (original)	Total (final)
Restore	11	25	0	0	0	0	0	0	0	0	11	25
Protect in Fee with State PILT Liability	0	0	0	0	0	0	0	0	0	0	0	0
Protect in Fee W/O State PILT Liability	0	0	0	0	0	0	0	0	0	0	0	0
Protect in Easement	0	0	0	0	0	0	0	0	0	0	0	0
Enhance	239	259	0	0	0	0	0	0	0	0	239	259
Total	250	284	0	0	0	0	0	0	0	0	250	284

Table 4. Total Funding within each Ecological Section

Type	Metro Urban (original)	Metro Urban (final)	ForestPrairie (original)	Forest Prairie (final)	SEForest (original)	SE Forest (final)	Prairie (original)	Prairie (final)	N Forest (original)	N Forest (final)	Total (original)	Total (final)
Restore	\$44,000	\$11,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$44,000	\$11,000
Protect in Fee with State PILT Liability	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Protect in Fee W/O State PILT Liability	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Protect in Easement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Enhance	\$386,000	\$414,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$386,000	\$414,000
Total	\$430,000	\$425,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$430,000	\$425,000

Automatic system calculation / not entered by managers

Target Lake/Stream/River Feet or Miles (original)

0

Target Lake/Stream/River Feet or Miles (final)

0

Explain the success/shortage of acre goals:

We received lower quotes than anticipated for initial removal of buckthorn, this allowed us to increase acreage. We adjusted the prairie restoration and enhancement costs, using internal staff to plant, burn, conduct maintenance mow's and interseed into the prairie to reduce this cost. We also leveraged county funding to plant 14 additional acres of prairie.

Parcel List

Section 1 - Restore / Enhance Parcel List

Washington

Name	TRDS	Acres	Total Cost	Existing Protection?	Description
Cottage Grove Ravine Regional Park	02721NW 1/4 of the N 1/223	63	\$124,000	Yes	Oak forest enhancement, buckthorn removal and follow-up
Lake Elmo Park Reserve	02921NaN22	27	\$98,600	Yes	Wetland enhancement
Lake Elmo Park Reserve	02921NaN22	81	\$27,400	Yes	Prairie enhancement, seed purchase
Lake Elmo Park Reserve	02921NE 1/4 of N 1/222	24	\$11,000	Yes	Prairie restoration, seed purchase
Lake Elmo Park Reserve	02921NE 1/4 of N 1/222	34	\$59,500	Yes	Oak forest enhancement, buckthorn removal and follow-up
St. Croix Bluffs Regional Park	02720SE 1/4 of S 1/222	55	\$97,200	Yes	Oak forest enhancement

Section 2 - Protect Parcel List

No parcels with an activity type protect.

Section 2a - Protect Parcel with Bldgs

No parcels with an activity type protect and has buildings.

Section 3 - Other Parcel Activity

No parcels with an other activity type.

Completed Parcel: Cottage Grove Ravine Regional Park

# of Total Acres:	63
County:	Washington
Township:	027
Range:	21
Direction:	NW 1/4 of the N 1/2
Section:	23
# of Acres: Wetlands/Upland:	
# of Acres: Forest:	63
# of Acres: Prairie/Grassland:	
Amount of Shoreline:	
Name of Adjacent Body of Water (if applicable):	
Has there been signage erected at the site:	Yes
Total cost of Restoration/Enhancement:	\$124,000

Completed Parcel: Lake Elmo Park Reserve

# of Total Acres:	24
County:	Washington
Township:	029
Range:	21
Direction:	NE 1/4 of N 1/2
Section:	22
# of Acres: Wetlands/Upland:	
# of Acres: Forest:	
# of Acres: Prairie/Grassland:	24
Amount of Shoreline:	
Name of Adjacent Body of Water (if applicable):	
Has there been signage erected at the site:	Yes
Total cost of Restoration/Enhancement:	\$11,000

Completed Parcel: Lake Elmo Park Reserve

# of Total Acres:	34
County:	Washington
Township:	0 29
Range:	21
Direction:	NE 1/4 of N 1/2
Section:	22
# of Acres: Wetlands/Upland:	
# of Acres: Forest:	34
# of Acres: Prairie/Grassland:	
Amount of Shoreline:	
Name of Adjacent Body of Water (if applicable):	
Has there been signage erected at the site:	Yes
Total cost of Restoration/Enhancement:	\$59,500

Completed Parcel: Lake Elmo Park Reserve

# of Total Acres:	0
County:	Washington
Township:	029
Range:	21
Direction:	
Section:	22
# of Acres: Wetlands/Upland:	
# of Acres: Forest:	
# of Acres: Prairie/Grassland:	
Amount of Shoreline:	
Name of Adjacent Body of Water (if applicable):	
Has there been signage erected at the site:	Yes

Completed Parcel: Lake Elmo Park Reserve

# of Total Acres:	27
County:	Washington
Township:	029
Range:	21
Direction:	NaN
Section:	22
# of Acres: Wetlands/Upland:	27
# of Acres: Forest:	
# of Acres: Prairie/Grassland:	
Amount of Shoreline:	
Name of Adjacent Body of Water (if applicable):	
Has there been signage erected at the site:	Yes
Total cost of Restoration/Enhancement:	\$98,600

Completed Parcel: Lake Elmo Park Reserve

# of Total Acres:	81
County:	Washington
Township:	029
Range:	21
Direction:	NaN
Section:	22
# of Acres: Wetlands/Upland:	
# of Acres: Forest:	
# of Acres: Prairie/Grassland:	81
Amount of Shoreline:	
Name of Adjacent Body of Water (if applicable):	
Has there been signage erected at the site:	Yes
Total cost of Restoration/Enhancement:	\$27,400

Completed Parcel: St. Croix Bluffs Regional Park

# of Total Acres:	55
County:	Washington
Township:	0 27
Range:	20
Direction:	SE 1/4 of S 1/2
Section:	22
# of Acres: Wetlands/Upland:	
# of Acres: Forest:	55
# of Acres: Prairie/Grassland:	
Amount of Shoreline:	
Name of Adjacent Body of Water (if applicable):	St. Croix River
Has there been signage erected at the site:	Yes
Total cost of Restoration/Enhancement:	\$97,800

Parcel Map

