M.L. 2015 Project Abstract
For the Period Ending June 30, 2018

PROJECT TITLE: Metro Conservation Corridors Phase VIII – Prairie, Forest, and Savanna Restoration in Greater Metropolitan Area
PROJECT MANAGER: Betsy Daub
AFFILIATION: Friends of the Mississippi River
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FUNDING SOURCE: Environment and Natural Resources Trust Fund
LEGAL CITATION: M.L. 2015, Chp. 76, Sec. 2, Subd. 08e

APPROPRIATION AMOUNT: $ $276,000.00
AMOUNT SPENT: $ 274,886.64
AMOUNT REMAINING: $ 1,113.36

Overall Project Outcome and Results
Friends of the Mississippi River improved 260 acres of forest, savanna and prairie habitat at six sites in the Twin Cities Metro Area. The sites are situated within the Mississippi River flyway, a corridor that is vital for migratory birds. Site restoration improved habitat connectivity for wildlife dispersal and enhanced the quality of habitat for native pollinators and Species of Greatest Conservation Need. Prairie restorations returned deep-rooted plant species to sites along the Mississippi River that help retain and filter water runoff. Removal of invasive woody plant species from forested sites re-established healthier woodlands, allowing native plant species to thrive.

Prairie restoration activities took place on 198 acres and included removal of non-native species, seeding of native plants, prescribed burns and mowing. At Spring Lake Park Reserve's east prairie restoration, 41 of 69 species of native plants were detected, achieving a very diverse prairie. At the small two-acre Ole Olson prairie, 25 species of prairie plants replaced turfgrass, creating habitat for diverse pollinator populations. At Grey Cloud Dunes SNA, we had originally planned to burn 10 acres of prairie, but an unplanned wildfire in April 2018 burned 90 acres. While more than what was planned, the burn did help rejuvenate the prairie and maintain the area free of woody encroachment.

Forest restoration activities took place on 62 acres and included removal of invasive woody plants, treatments with herbicide, native plant seeding, hand-pulling invasive plants, and prescribed burns. At Hampton Woods WMA, where native woodland wildflowers were once sparse under the buckthorn canopy, they now proliferate following buckthorn removal. At Old Mill Park, a prescribed burn on the savanna in spring 2018, resulted in native prairie species returning to dominate the site with about 90% cover. The state-threatened kittentail population (*Besseya bullii*) population remains stable at the site.

Project Results Use and Dissemination
The restoration projects received regular coverage over the three years, particularly in Friends of the Mississippi Rivers' outreach through newsletters and social media. We also received some good coverage in print media and on television.

Environment and Natural Resources Trust Fund (ENRTF)
M.L. 2015 Work Plan – Final Report

Date of Report: August 1, 2018

Date of Next Status Update Report: Final Report

Date of Work Plan Approval: June 11, 2015

Project Completion Date: June 30, 2018

PROJECT TITLE: Metro Conservation Corridors Phase VIII – Prairie, Forest, and Savanna Restoration in Greater Metropolitan Area

Project Manager: Betsy Daub

Organization: Friends of the Mississippi River

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Location: Dakota, Hennepin, Washington

Total ENRTF Project Budget:		
	ENRTF Appropriation:	**$276,000.00**
	Amount Spent:	**$274,886.64**
	Balance:	**$1,113.36**

Legal Citation: M.L. 2015, Chp. 76, Sec. 2, Subd. 08e

Appropriation Language:
$276,000 the first year is from the trust fund to the commissioner of natural resources for an agreement with the Friends of the Mississippi River for Phase VIII of the Metro Conservation Corridors partnership to conduct restoration activities on at least 195 acres of forest and savanna and at least 60 acres of prairie to preserve and increase wildlife habitat in the metropolitan area, as defined under Minnesota Statutes, section 473.121, subdivision 2, and portions of the surrounding counties. Expenditures are limited to the identified project corridor areas as defined in the work plan. A list of proposed restorations must be provided as part of the required work plan. This appropriation is available until June 30, 2018, by which time the project must be completed and final products delivered. -

I. PROJECT TITLE: Metro Conservation Corridors Phase VIII – Prairie, Forest, and Savanna Restoration in Greater Metropolitan Area

II. PROJECT STATEMENT: In activity one, FMR will conduct prairie restoration activities on 60-acres at 4 sites within the Metro Corridors. These restoration activities will have multiple benefits. They will improve or increase habitat for native pollinators by increasing host and nectar plants. When seeding, mixes will be developed to maximize plants that benefit pollinators. Habitat for Species of Greatest Conservation Need (SGCN) will also be increased through these activities. Several of the proposed sites are associated with surface water and the restoration activities at these sites will have water quality benefits by installing deep-rooted prairie plants near the shorelines, reducing erosion and the amount of sediment and chemicals entering the water. Being within the Metro area, these sites provide examples of diverse native prairie for area residents to enjoy and learn about. The four prairie sites are Spring Lake Park Reserve, Hastings Sand Coulee SNA, Ole Olson Park, and Grey Cloud Dunes SNA.

In activity two, FMR will conduct restoration activities, using best management practices, on 195 acres of forest/woodland at two sites, an oak savanna remnant at the Old Mill Park along the Vermillion River in Hastings, and a portion of the Hampton Woods in Hampton Township in Dakota County. The Hampton Woods is a large diverse deciduous forest in central Dakota County that provides breeding & migratory habitat for a number of rare species and SGCNs. Dakota County is in the process of negotiating the acquisition of about 180-acres of the forest. No restoration activities will take place until it comes into public ownership. The oak forest of Hampton Woods was of such significant ecological quality that it was recommended for inclusion in the state Scientific and Natural Area Program in 1994, although this did not occur. These woods have a relatively small amount of exotic invasive plants, compared to other forested areas in the Metro area. By acting early we can be more effective and efficient in controlling them and preserving the diverse habitat that it currently offers. FMR is also talking with Dr. Frelich, Director of the Center for Forest Ecology at the U. of M., to partner on the project to better understand how the forest responds to various restoration activities. FMR will explore utilizing any woody material removed from the forest for fuel at District Energy in St. Paul.

There are two overall goals for this project.

- The first goal is to contribute to the long-term preservation of existing natural communities, especially forest and prairie, and the critical habitat they provide for pollinators and species in decline. By conducting restoration activities, we can help preserve and enhance the viability of the forests and prairies at these proposed sites and the wildlife that are dependent on them.
- A second goal is to increase the amount of native habitat at specific sites by restoring natural communities to land that is highly disturbed, while helping to protect and improve water quality at a number of sites.

Restoration activities will be conducted on public land and each site will have a Natural Resource Management Plan in place.

III. OVERALL PROJECT STATUS UPDATES:

Project Status as of (10/12/15) Work plan amendment request. FMR is seeking permission to begin to utilize funds associated with this grant before all funds have been spent or contractually encumbered from our ENRTF M.L. 2014 grant. All of the funds from the 2014 grant are allocated and committed to the projects that are on the restoration list. We have restoration projects on our M.L. 2015 list that are ready for implementation and/or additional activities, which would benefit from efficiencies by being able to conduct these activities now rather than waiting until all of the previously appropriated funds, committed to other sites, are spent. "Approved by LCCMR 10-15-15"

Project Status as of *[2/1/16]***:** No restoration activities associated with this grant have taken place.

Project Status as of *[8/1/16]***:** Restoration has commenced at two sites (Ole Olson Park & Spring Lake Park Reserve) over the time period of this report and restoration work will begin this fall at Grey Cloud Dunes SNA and Old Mill Park.

Project Status as of *[2/1/17]***:** Prairie restoration activities took place on a total of 36 acres at Ole Olson Park and Spring Lake Park. In addition, woodland restoration activities took place on 9 acres of savanna at the Old Mill Park.

Project Status as of *[8/1/17]***:** During this report period, both planning and restoration took big steps forward. Requests for proposals were sent out and contractors were hired for Hampton Woods WMA and the Hastings Sand Coulee SNA. In addition, a contractor will mow and treat weeds at a prairie restoration site Ole Olson park. Active restoration took place at a couple of sites: A burn at Old Mill Park in Hastings was delayed due to lower than anticipated fuel (dried herbaceous plants) but a burn did take place at Spring Lake Park. A contractor has begun removing shrubs from a woodland area at Grey Cloud Dunes SNA. Weather conditions prevented brush piles from being burned at this site, but this will be done in winter of 2018.

Project Status as of *[2/1/18]***:** During this report period, restoration activities continued on all six sites. Prairie restoration activities took place on a total of 120 acres at Hastings Sand Coulee SNA, Spring Lake Park, and Ole Olson Park. Woodland restoration activities occurred on 151 acres at Hampton Woods WMA, Hastings Sand Coulee SNA, and Grey Cloud Dunes SNA.

Amendment Approved [3/26/2018]:
FMR's original activity budgets were estimates of costs anticipated for this project. Our estimates for the amount needed for mileage were slightly under what our expenses have been, while our estimates for costs for vendors were slight over-estimates. We request that $300 be shifted from Professional/Technical/Service Contracts into Mileage. We propose splitting the $300 between Activity 1 and Activity 2 ($150 shifted into Mileage for each activity; and $150 shifted from Professional/Technical/Service Contracts for each activity). This amendment would not change the overall project budget.

Amendment Approved [7/31/2018]
Friends of the Mississippi River request a retroactive budget amendment that would move funds between budget categories but not change the overall project budget. We require this change due to costs that exceeded expectations in some categories, while coming under budget in others.

We request 2 shifts: (1) shift $21,179 **from** Activity 1 Vendors (Professional/Technical/Service Contracts) and move this **to** Activity 2 Vendors; **and** (2) shift $811.73 **from** Activity 1 Plant Material (Equipment/Tools/Supplies) **to** Activity 1 Personnel.

We encountered these unexpected budget issues for a few reasons. Shift request (1) between Activity budgets for Vendors is needed because of an unplanned wildfire at our Grey Cloud Dunes SNA site. We had planned on conducting a small prairie burn as part of our activities in addition to the woodland restoration work. In April 2018, a wildfire ignited by a train spark burned 90 acres of prairie and forest. As a result, we did not need to conduct the prescribed fire we had planned, and instead shifted resources to assist with the habitat clean-up post- wildfire burn. Shift request (2) from Plant Materials to Personnel is needed because in 2017 FMR's Conservation Director left. As a result, our bookkeeper increased her hours on the grant to assist more with reporting, and unexpected hours went into this new work for her. The plant materials were able to be acquired at a cost that was less expensive than estimated, leaving additional funds in this budget category.

Overall Project Outcomes and Results 8/1/18:
Friends of the Mississippi River improved 260 acres of forest, savanna and prairie habitat at six sites in the Twin Cities Metro Area. The sites are situated within the Mississippi River flyway, a corridor that is vital for migratory birds. Site restoration improved habitat connectivity for wildlife dispersal and enhanced the quality of habitat for native pollinators and Species of Greatest Conservation Need. Prairie restorations returned deep-rooted plant species to sites along the Mississippi River that help retain and filter water runoff. Removal of invasive

woody plant species from forested sites re-established healthier woodlands, allowing native plant species to thrive.

Prairie restoration activities took place on 198 acres and included removal of non-native species, seeding of native plants, prescribed burns and mowing. At Spring Lake Park Reserve's east prairie restoration, 41 of 69 species of native plants were detected, achieving a very diverse prairie. At the small two-acre Ole Olson prairie, 25 species of prairie plants replaced turfgrass, creating habitat for diverse pollinator populations. At Grey Cloud Dunes SNA, we had originally planned to burn 10 acres of prairie, but an unplanned wildfire in April 2018 burned 90 acres. While more than what was planned, the burn did help rejuvenate the prairie and maintain the area free of woody encroachment.

Forest restoration activities took place on 62 acres and included removal of invasive woody plants, treatments with herbicide, native plant seeding, hand-pulling invasive plants, and prescribed burns. At Hampton Woods WMA, where native woodland wildflowers were once sparse under the buckthorn canopy, they now proliferate following buckthorn removal. At Old Mill Park, a prescribed burn on the savanna in spring 2018, resulted in native prairie species returning to dominate the site with about 90% cover. The state-threatened kittentail population (*Besseya bullii*) population remains stable at the site.

IV. PROJECT ACTIVITIES AND OUTCOMES:

ACTIVITY 1: Prairie Restoration

Description: FMR will hire contractors to conduct restoration activities on 60-acres of prairie at 4 sites within the Metro Corridors. FMR staff will evaluate current conditions which, along with the established Natural Resource Management Plan, will inform the specific activities that the contractors will be ask to perform. These activities could include prescribed burns, woody and exotic plant removal, seeding, and mowing. FMR staff will work with contractors in the field to clarify activities, timeframes, expected results and will monitor the work throughout the project's timeframe. Staff evaluation will focus on specific issues such as percent coverage of burn, percent of woody plant removal, amount of resprouts or germination, as a examples. These restoration activities will have multiple benefits. An important outcome will be to improve or increase habitat for native pollinators by increasing host and nectar plants. When seeding, mixes will be developed to maximize plants that benefit pollinators. Habitat for Species of Greatest Conservation Need (SGCN) will also be increased through these activities. Several of the proposed sites are associated with surface water and the restoration activities at these sites will have water quality benefits by installing deep-rooted prairie plants near the shorelines, reducing erosion and the amount of sediment and chemicals entering the water. Being within the Metro area, these sites provide examples of diverse native prairie for area residents to enjoy and learn about. The four prairie sites are Spring Lake Park Reserve, Hastings Sand Coulee SNA, Ole Olson Park, and Grey Cloud Dunes SNA. FMR staff may conduct breeding bird surveys at some of the sites.

Summary Budget Information for Activity 1:

ENRTF Budget: $ $121,934.50
Amount Spent: $ 121,131.50
Balance: $ 810.40

Outcome	Completion Date
1. *Restoration activities conducted on 50 acres.*	June 30, 2016
2. *Restoration activities conducted on an additional 50 acres.*	June 30, 2017
3. *Restoration activities conducted on an additional 98 acres.*	June 30, 2018

Activity Status as of *[2/1/16]***:** No restoration activities associated with this grant have taken place.

Activity Status as of *[8/1/16]***:** Prairie restoration has begun at two sites. At the Spring Lake Park Reserve a contractor, using a forestry mower, has removed woody vegetation from the restoration site. At Ole Olson Park along the Mississippi River, a contractor prepared the soil (herbicide application) and drilled prairie seed to planting site. While no restoration activities took place at Grey Cloud SNA, FMR staff have conducted site

evaluations and have prepared an RFP for activities, which are planned to begin this fall. The draft RFP has been submitted to the DNR for review. We are waiting for feedback before distributing the RFP to potential contractors.

Activity Status as of *[2/1/17]*:

Spring Lake Park. Restoration of the 15-acre savanna and 2-acre woodland continued over the summer. The site was broadcast sprayed in June, then regrowth was sprayed in August. At the end of September, the cow vetch had resurged and was abundant and green, so that was sprayed. In October, the site was lightly disced. Due to the abundance of cow vetch, plus knapweed, we decided to hold off seeding until spring 2017 to allow for one more herbicide treatment in spring. The seed for the restoration was ordered in June to ensure availability, so that is in storage until spring 2017. Other work included carefully cutting and stump-treating honeysuckle in the remnant prairie areas and additional honeysuckle removal in the 2-ac woodland unit. In addition, the 17-acre prairie (new ac.) seeded in 2014 was spot-mowed for weeds. New Acres – 34 acres.

Ole Olson. The restoration of prairie habitat at Ole Olson began in late summer 2015. After meeting with the Minneapolis park board (MPRB) to develop our plans at the site, MNL was hired as the contractor and they began removing woody invasive species (mostly buckthorn and Siberian elm) and spraying exotic herbaceous species. The areas were prepped for seeding and seeded with a cover of winter wheat. A demonstration prairie planting was also installed as part of a FMR volunteer event. Other funding sources, including federal and state dollars, were used to assist with the restoration to this point. In spring 2016, the seeding area was sprayed and prepped a final time before being seeded with a diverse native prairie mix. Seed was purchased with MeCC8 materials funds, and the prep and seeding was partially paid for with MeCC8 funds. The site was mowed and spot sprayed throughout 2016 to keep herbaceous weeds at bay and help the native species establish. The site will be mowed and spot treated again in 2017 before being burned in 2018. MeCC8 funds will cover this ongoing work. New Acres – 2 acres.

Grey Cloud Dunes. Work at Grey Cloud Dunes focuses on restoration of the oak woodland/forest on the south end of the property. An NRMP was written and approved by the MN DNR, and an RFP for contract work was initiated in spring of 2016 and approved by the DNR in fall 2016. The process was delayed due to internal issues at the DNR, pushing back the work until winter 2017. After a bidding process, the contract was awarded to Natural Resources Restoration. Initial restoration will begin in January 2017 and will consist of the removal of invasive woody shrubs (bush honeysuckle and buckthorn). Follow-up work, including treating seedlings and re-sprouts and seeding native understory plant species, will occur for multiple years. Ultimately, a prescribed burn will also occur on the neighboring prairie areas in order to knock back encroaching woody plants and keep unwanted weedy herbaceous species at bay.

Activity Status as of *[8/1/17]*:

Hastings Sand Coulee SNA

A subcontractor was hired to complete invasive woody species control on 50 acres of forest and to conduct enhancement on 125 acres of restored and native prairie. Work will begin in July 2017.

Spring Lake Park

A prescribed burn was completed in May on the 17-acre prairie units that were seeded in 2014. The burn went very well and follow-up evaluation revealed an excellent diversity and coverage of native species, especially after just two growing seasons. 15 forb species were detected, and native species accounted for 80 to 90% of the cover. Dakota County Parks assisted with the site management by cutting and treating non-native brush that had re-established along the road.

Final site preparation was completed for the second 17-acre restoration area, with spot-spraying weeds and a light discing. Additional seed was purchased (had not been available when previous seed was purchased) from several vendors. Dakota County Parks covered most of the seed cost. The grass and larger seed was drilled in early June, the smaller seed was broadcast. The seed mix included 50 forb species and 9 graminoids. All seed origin was within 100 miles, with most of it from Dakota or Rice County.

Ole Olson Park

In 2017, volunteer work has occurred in the prairie and the demonstration garden, keeping some of the more troublesome weed species at bay. The site will be mowed and spot treated again in late summer 2017 before being burned in 2018.

Activity Status as of *[2/1/18]*:

Hastings Sand Coulee SNA

The subcontractor (MN Native Landscapes) completed the following tasks: first year establishment mowing on 6-acre seeded prairie, invasive herbaceous weed control (herbicide) on 89-acres of restored prairie and native prairie, and site preparation (mow, spray, harrow) and seeding of a 6-acre new prairie restoration.

Spring Lake Park

The 17-acre east prairie restoration was in its third growing season. After a spring burn the site was surveyed and a monitoring report was submitted to the LCCMR for the MeCC7 grant. We found 37 of the 69 seeded species – a very robust number for such a young prairie. Native plants dominated with over 85% coverage. Subcontractor activities were invasive herbaceous weed control on the 2014 seeding, first year establishment mowing on the 17-ac 2017 seeding, and non-native invasive woody control. Dakota County Parks assisted with the site management by cutting and treating non-native brush that had re-established along the road. Work in 2018 will be second year mowing of the 2017 seeded prairie, and invasive species control.

Ole Olson

Work has continued in the prairie and the demonstration garden in order to keep weed species at bay. Volunteers continued to maintain the site throughout the late summer and into the fall. Contractors mowed and selectively cut the prairie in mid-summer 2017. A spring prescribed burn on two acres will help to fully establish the native species and continue to knock back the weedy non-natives. This is also the final task in the contract.

Final Report Summary 8/1/18:

Spring Lake Park:

The first phase 17-acre east restored prairie was managed for invasive weedy species by spot-spraying in the spring. A vegetation survey was completed for the initial monitoring report. This restoration was very successful, with at least 90% native species coverage. Of the 69 seeded species, 41 have been detected so far, representing a very diverse prairie. Many of the other seeded species are more conservative and will likely show up in later years. The management phase progressed very well with no problems.

The second phase 17-acre west prairie restoration was just beginning its second growing season in spring 2018, so it still had a lot of non-native species. Native indicator species such as black-eyed Susan were showing up, which is a good sign that the seeding was successful. A mowing was completed in June, as part of the standard establishment process. A vegetation survey completed for the initial monitoring report found 23 species, of which 17 were native, but non-native species still heavily dominate the site. Many of them are annuals and will diminish as the prairie matures. Only 10 of the 60 seeded species were detected, but the site had been recently mowed and it was early in the season. This site will continue to be managed during the next two seasons of establishment with another ENRTF grant. This west restoration has mostly proceeded as planned, except that it was drill-seeded in spring 2017, rather than being broadcast seeded in fall 2016, as intended. This change was due to the contractor (Prairie Restorations Inc) having an entire staff turn-over at the Cannon Falls office. They fell behind in tasks, so they were not able to seed it in the fall. A spring seeding can be just as successful, but will have a somewhat less natural appearance with grasses appearing in rows.

These 34 acres of prairie and savanna restoration are located in the Mississippi River flyway, adding critical habitat for migratory birds as well as for the many species of prairie animals whose populations are declining due to habitat loss. Dakota County Parks has been restoring several other prairie areas at the park, so the benefits are further compounded. Results have been seen with the return of prairie-dependent birds, pollinators and other species.

Ole Olson Park:

A prescribed burn, the final contracted task for this project, occurred in May 2018. Overall, the late spring and short burn window meant that the site was burned later than was ideal, but the contractors were unavailable prior to that. The burn still reached most of the site, but did not carry as well as it could have before things greened up. Volunteers continue to maintain the site, and FMR held a public tending event to remove non-native and weedy native species from the demonstration garden and the rest of the prairie on May 31st. Minnesota Native

Landscapes (subcontractor) also spot-mowed the site one final time in early June to prevent thistles and other invaders from seeding onto the site (this task was deemed necessary given the results of the burn and was done at no extra cost). Throughout the summer, two more volunteer tending and planting events will occur to help maintain the site free of woody and herbaceous invaders. Overall, the site is in decent shape, with good establishment of prairie forbs and grasses, especially species like coneflower and black-eyed Susan. However, continued maintenance will be necessary to prevent herbaceous invaders from becoming over-abundant. In the future, more prep sprays before installing the prairie will ensure that fewer invasive and weedy species need to be contended with during establishment. Additional flexible budget for non-contracted issues such as the spraying of unanticipated invasive species would be helpful for projects such as this.

While a small two-acre prairie may not seem incredibly impactful, the creation of two acres of habitat along the Mississippi River is immensely important for creating natural area connections along this ecologically important corridor. The establishment of two acres of diverse dry prairie along the river has already had myriad benefits for water, wildlife, and people. Replacing turfgrass with over 25 species of deep-rooted prairie plants helps retains and filter water runoff from the paths and turfgrass areas, meaning that the water reaching the river is cleaner as a result. The prairie also now supports a multitude of pollinators, including monarch butterflies, and birds and other animals that depend on these insects. Finally, restoration has beautified this stretch of river, removing the non-native trees screening the river views from park users, and replacing turfgrass with native wildflower blooms throughout the growing season.

Hastings Sand Coulee SNA:
A 56-acre area of native prairie was managed over the winter months by removing invasive non-native woody plants, as well as selected native woody plants, such as red cedar and green ash. The work was completed on frozen ground with snow cover to avoid negative impacts to the prairie. In late April, MNL completed a prescribed burn on 25-acres of the native prairie. All tasks were completed very thoroughly and timely. These activities carried on previous restoration investments at the site and are critical to the on-going maintenance of the native prairie. Without it, non-native and invasive woody and herbaceous plants will begin to take over, resulting in reduced biological diversity and potential loss of some of the 14 rare plant and animal species that have been recorded here.

Grey Cloud Dunes SNA:
Crews added additional cut material to burn piles and then burned piles in February and March. All piles were burned, save for a handful which were left for wildlife habitat. Crews then treated re-sprouts and seedlings in the 38-acre forested area. On April 25th, a wildlife (cause unknown, though likely an escaped spark from the railroad) burned roughly 90 acres of the site, including the acres planned for this grant. The fire also spread into woodlands, including acres we had previously cut and acres we hadn't treated. That the fire burned prairie acres we hoped to burn, as well as forest areas where we hadn't planned to but had previously removed woody invasives, was a benefit to the project. Burning in the forest helped control woody invasive seedlings and re-sprouts, which was something lacking in our grant due to prohibitive costs. Working with the DNR, we shifted our planned burn funds to allow our contractor to help with post-burn mop-up in the prairie and forest areas. Overall, this project has helped rejuvenate the prairie and maintain these areas free of encroaching woody species. In the forests, we removed seed-producing buckthorn and honeysuckle from 38 acres, helping to slow this invasion. Future work by the DNR will be needed to maintain these areas and perhaps add additional seed to help native plant populations recover. In the future, incorporating woodland burns into invasive removal projects will be an important grant addition.

Grey Cloud Dunes is a bastion of plant and animal diversity in the Twin Cities Metro Area. However, like many natural areas in urban settings, Grey Cloud is not immune to the threats posed by invasive plant species. The dry sand-gravel prairie and woodlands at the site are consistently encroached upon by non-native woody and herbaceous plants. These grant funds were paramount in helping to remove these species that threaten to outcompete the more conservative dry prairie and woodland species at the site. By removing thickets of honeysuckle and buckthorn, we have paved the way for native species to regenerate from the seedbank, maintaining the high levels of plant diversity the site is known for. In turn, we're providing important habitat for a variety of wildlife that depend on these various plant species. However, future funding will be necessary to deal

with the remaining unrestored woodland acres at the site as well as maintain the restored acres against new seed sources from neighboring properties.

ACTIVITY 2: Forest/woodland Restoration

Description: FMR will hire contractors to conduct restoration activities on 195-acres of forest/woodland at 2 sites within the Metro Corridors, an oak savanna remnant at the Old Mill Park along the Vermillion River in Hastings, and a portion of the Hampton Woods in Hampton Township in Dakota County. The Hampton Woods is a large diverse deciduous forest in central Dakota County that provides breeding & migratory habitat for a number of rare species and SGCNs. Dakota County is in the process of negotiating the acquisition of about 180-acres of the forest. No restoration activities will take place until it comes into public ownership. The oak forest of Hampton Woods was of such significant ecological quality that it was recommended for inclusion in the state Scientific and Natural Area Program in 1994, although this did not occur. These woods have a relatively small amount of exotic invasive plants, compared to other forested areas in the Metro area. FMR staff will evaluate current conditions which, along with the established Natural Resource Management Plan, will inform the specific activities that the contractors will be ask to perform. These activities could include prescribed burns, and exotic plant removal. FMR staff will work with contractors in the field to clarify activities, timeframes, expected results and will monitor the work throughout the project's timeframe. Staff evaluation will focus on specific issues such as percent coverage of burn, percent of woody plant removal, amount of resprouts or germination, as examples. FMR staff may conduct breeding bird surveys at these sites.

Summary Budget Information for Activity 2:

ENRTF Budget: $ $154,065.50
Amount Spent: $153,755.14
Balance: $ 310.36

Outcome	Completion Date
1. *Restoration activities conducted on 20 acres*	June 30, 2017
2. *Restoration activities conducted on an additional 42 acres*	June 30, 2018

Activity Status as of *[2/1/16]***:** No restoration activities associated with this grant have taken place.

Activity Status as of *[8/1/16]***:** Restoration activities have been contracted out for Old Mill Park and should begin this fall.

Activity Status as of *[2/1/17]***:**

Old Mill Park. The 3-ac prairie installed in 2015 was mowed in August. Follow-up management of the wooded areas was completed in fall, to control buckthorn. Stems were cut and treated. A volunteer event (other funding) was held in June to pull invasive weeds from the demonstration planting. New acres – 9 acres.

Activity Status as of *[8/1/17]***:**

Hastings Sand Coulee SNA
A subcontractor was hired to complete invasive woody species control on 50 acres of forest and to conduct enhancement on 125 acres of restored and native prairie. Work will begin in July 2017.

Hampton Woods WMA
A subcontractor was hired to complete invasive woody species control on 100 acres of forest at the Hampton Woods WMA. Work will begin late fall 2017.

MeCC8 – Grey Cloud Dunes SNA
After a bidding process, a contract was awarded to Natural Resources Restoration to conduct restoration activities at this site. Initial invasive shrub removal began on 38 acres of woodland in January 2017. Due to weather constraints, the stacked piles of invasive material were unable to be burned. Burning will occur when the site has adequate snow cover, either in late 2017 or early 2018. Follow-up work, including treating seedlings and re-sprouts and seeding native understory plant species, will

occur through 2018. Ultimately, a prescribed burn will also occur on the neighboring prairie areas in order to knock back encroaching woody plants and keep unwanted weedy herbaceous species at bay. New acres: 38.

Old Mill Park
A prescribed burn was planned for spring 2017 on the 3-acre areas seeded in 2015, however fuels were not adequate. The burn will be completed in fall 2017 or spring 2018. The site was monitored for invasive species issues to address. No other management was conducted.

Activity Status as of *[2/1/18]*:

Hastings Sand Coulee SNA
The subcontractor (MN Native Landscapes) completed invasive herbaceous weed control in 51-acres of oak woodland.

Hampton Woods WMA
The subcontractor (Applied Ecological Services) began removal of non-native invasive woody plants (primarily buckthorn) in November. Work has been completed on 62 acres so far. Work will continue on the remaining 48 acres over the next few months.

Old Mill Park
A prescribed burn was planned for fall 2017 on the 3-acre of savanna seeded in 2015, however suitable burn conditions (temperature, wind direction etc) were very poor and the burn was postponed. It will be burned in spring 2018. The site was monitored for invasive species issues to address. No other management was conducted.

Grey Cloud Dunes
Initial invasive shrub removal (honeysuckle and buckthorn) on 38 acres of forest and woodland began in January 2017. Due to weather constraints, the stacked piles of invasive material were unable to be burned at the time. Crews will conduct further removal and piling in winter 2018. The additional material will be added to the previous burn piles and will be burned in winter 2018. Remaining work includes some follow-up work treating re-sprouts and seedlings and a prescribed burn on over ten acres of prairie. The burn will help to knock back encroaching woody plants and keep unwanted weedy herbaceous species at bay. Both of these final tasks will occur in spring 2018.

Final Report Summary 8/1/18:

Hampton Woods WMA:
Invasive woody removal work was completed by AES in late winter on the final 48 acres. Each stem was hand-cut, then treated with herbicide. The most common way to disposal of the material is to burn brush piles, which is usually the cheapest means of disposal. However, it also creates burn scars and results in CO2 emissions. An alternative method sometimes used it to use a chipper to chip the brush and broadcast the chip back on-site. That method works well but tends to be costly. At Hampton we tried a different method. We had the brush is loose piles and used a forestry mower to chip it up. This method worked very well, with less negative impacts than burning and much more cost effective than chipping. In spring the site looked completely different from the past year. Where native woodland wildflowers had been very sparse under the buckthorn canopy, they were now proliferating after the buckthorn removal. The native forest species were quickly rebounding with much more coverage and diversity than anticipated. Seedling and sapling buckthorn, however, were also abundant in the areas where it had been most dense. Native seed was broadcast in those areas to provide some competition for the buckthorn and to provide fuel for potential future prescribed burns. The initial monitoring report showed a high native species diversity and a ranking of high, although tending closer to medium due to the buckthorn. In May, a volunteer event was held to locate and pull garlic mustard, which is present in small isolated patches and still at a manageable level. An intern also did a survey to locate the several orchid species present at the site.

This project was a giant step toward restoration of the 210-acre Hampton Woods WMA, with invasive woody removal completed on nearly half of it. The site is a woodland oasis in an agricultural landscape, and harbors a very good diversity of native plants. Invasive woody plants had overtaken portions of the site and the native diversity was severely impaired. With this project the spread of invasive shrubs has been halted, protecting the woodland wildflower diversity, including three orchid species.

Old Mill Park:
The previously postponed prescribed burn was completed by contractors (Prairie Restorations) in May 2018. The burn season was extremely short, with few days with suitable conditions. The burn was a little later than desired, but the results were very

good. Non-native grasses were burned, just in time for the native plants to push up and claim the space. By late June 2018, native prairie species dominated the site with about 90% cover or more. FMR's intern also surveyed the state-threatened kittentail population (Besseya bullii) at the park and found the population is stable since the last survey.
The project went very well overall, and according to plan, except for the timing of one prescribed burn. Adjacent management units need to be burned in different years to provide wildlife refugia. Due to the poor burn conditions over the past two seasons, contractors were unable to conduct a planned burn on the second half of the site.

V. DISSEMINATION:

Description: FMR will seek to promote and disseminate information about these projects through earned media, FMR's website (www.FMR.org), electronic & printed newsletters, and volunteer stewardship events.

Status as of *[2/1/16]***:** http://fmr.org/news/2016/03/09/restoring-prairie-and-savanna-old-rail-yard. This article appeared on FMR's website. The specifics address work that occurred last year but alludes to future work that has now been done. It does give credit to the Environment and Natural Resource Trust Fund.

Status as of *[8/1/16]***:** No additional dissemination has taken place during this timeframe.
Status as of *[2/1/17]***:** No additional dissemination has taken place during this timeframe.

Status as of *[8/1/17]***:** "Big Woods preserved in the heart of Dakota County."
http://fmr.org/sites/default/files/attachments/2017%20FMR%20Spring%20newsletter.pdf

Status as of *[2/1/18]***:**

https://www.twincities.com/2017/07/27/dakota-county-oak-forest-to-be-preserved-as-wildlife-area/

https://www.gomn.com/life/a-huge-oak-woods-is-now-protected-in-the-twin-cities

https://fmr.org/hamptonwoods

Final Report Summary:

The project received regular coverage over the three years, particularly in FMR's outreach through newsletters and social media. We also received some good coverage in print media and on television.

New or not previously noted coverage includes the following:

https://www.kare11.com/article/news/burning-to-reinvigorate-the-prairie/89-548552605

https://fmr.org/news/2018/05/17/burning-to-restore-habitat

https://www.facebook.com/FriendsMissRiv/videos/10156323522901083/

https://www.swcbulletin.com/news/fires/4440518-dnr-natural-area-caught-wide-blaze

https://fmr.org/news/2018/01/11/snow-and-foresty-mowers-restoration-winter-work

https://fmr.org/prairie-restoration-spring-lake-park-reserve

Previous coverage:

http://fmr.org/news/2016/03/09/restoring-prairie-and-savanna-old-rail-yard. This article appeared on FMR's website. The specifics address work that occurred last year but alludes to future work that has now been done. It does give credit to the Environment and Natural Resource Trust Fund.

"Big Woods preserved in the heart of Dakota County."
http://fmr.org/sites/default/files/attachments/2017%20FMR%20Spring%20newsletter.pdf

VI. PROJECT BUDGET SUMMARY:

A. ENRTF Budget Overview:

Budget Category	$ Amount	Overview Explanation
Personnel:	$20,904.73	• Conservation Director: Overall project management, assist with evaluation of restoration projects, partner communications, landowner relations. .007 FTE over the three-year project. • Ecologist (2): Plan/organize restoration activities, develop and put out bids, hire and oversee vendors, guide restoration activities, evaluate restoration activities. .09 FTE over the three-year project. • Bookkeeper: Pay invoices received. Assist in developing reimbursement documentation, track and document staff expenses. .002 FTE over the three-year project.
Professional/Technical/Service Contracts:	$246,977	Vendors to provide restoration services such as prescribed burns, soil prep., seeding, woody and exotic plant removal, herbicide application, etc. Contracts will be awarded on a competitive and performance basis.
Equipment/Tools/Supplies:	$7,188.27	Plant material
Travel Expenses in MN:	$930	Mileage to restoration sites
TOTAL ENRTF BUDGET:	**$276,000**	

Explanation of Use of Classified Staff:

Explanation of Capital Expenditures Greater Than $5,000:

Number of Full-time Equivalents (FTE) Directly Funded with this ENRTF Appropriation: Approximately .1 FTE over the three-year project.

Number of Full-time Equivalents (FTE) Estimated to Be Funded through Contracts with this ENRTF Appropriation: Approximately 1.5

B. Other Funds:

Source of Funds	$ Amount Proposed	$ Amount Spent	Use of Other Funds
Non-state			
Dakota County	$20,000	$10,415	In-kind for restoration activities

Friends of the Mississippi River	$6,000	$6,000.00	Staff time, contractor expenses
Watershed Districts	$3,000	$2,227	Staff time for volunteer events
Private	0	$1,000	Staff time for volunteer events
TOTAL OTHER FUNDS:	**$29,000**	**$19,642.00**	

VII. PROJECT STRATEGY:

A. Project Partners: The FMR team includes Betsy Daub, Karen Schik, Barb Heintz, and Alex Roth.

Project partners: (None of the following partners will receive funds from this appropriation other than having restoration done on land that they own) Dakota County, the State of Minnesota, City of Hastings, Minneapolis Park Board.

B. Project Impact and Long-term Strategy: This project has resulted in hundreds of acres of native communities that are healthier and more sustainable and which provide the habitat needs for species that live in these communities. FMR has been strategically focused on specific areas within the designated corridors for over fifteen years. This has allowed us to stay engaged with projects, landowners, partners and communities, helping to ensure the continuous improvement and expansion of the habitat values at these sites, while protecting the public investment that has been made in them. Starting with individual parcels, our project areas have grown by orders of magnitude to protect and restore large tracts of land, ultimately creating contiguous greenway corridors. The protection, restoration and enhancement projects presented in this work program are all part of larger projects both in the sense of time and area. Because of human induced changes in the landscape, natural areas require management. While it is often the case that initial restoration and enhancement require relatively large investments initially, the costs often decrease over time as the goals for a site are met and the project enters a more maintenance level of activity, such as conducting period burns on restored prairie. FMR is committed to conducting fundraising from both public and private sources, for the ongoing restoration and enhancement activities required at these sites over time.

C. Funding History:

Funding Source and Use of Funds	Funding Timeframe	$ Amount
2009 ENRTF appropriation. MeCC 5. Restoration within Metro Corridors.	6/16/2009 – 6/30/11	$90,000
2011 ENRTF appropriation. MeCC 6. Restoration within Metro Corridors.	7/1/2011 - 6/30/13	$200,000
2013 ENRTF appropriation. MeCC 7. Restoration within Metro Corridors.	7/1/2013 – 6/30/16	$304,000
OHF appropriation-Metro Big Rivers II - Restoration in the Metro Area.	7/1/11 – 6/30/16	$150,000
OHF appropriation-Metro Big Rivers III - Restoration in the Metro Area.	7/1/12 – 6/30/17	$375,000
Outdoor Heritage Fund-Conservation Partners Legacy Grant Program	1/10/2011 – 6/30/14	$94,374
2014 ENRTF appropriation. Restoration within the Metro Area.	6/4/14 – 6/30/17	$200,000
OHF appropriation-Metro Big Rivers IV - Restoration in the Metro Area.	7/1/13 – 6/30/18	$160,000
OHF appropriation -Metro Big Rivers V - Restoration in the Metro Area.	7/12/14 – 6/30/19	$160,000
OHF appropriation – Metro Big Rivers VIII – Restoration in Metro Area	7/1/18-6/30/21	$300,000
Private landowners - Restoration	1/1/09 – 12/31/14	$500,000

VIII. FEE TITLE ACQUISITION/CONSERVATION EASEMENT/RESTORATION REQUIREMENTS:

A. Parcel List: See attached parcel list

B. Acquisition/Restoration Information:

Restoration

The restoration activities presented in this work program will be conducted on lands that are in public ownership. A Natural Resource Management Plan (NRMP) has been or will be developed for each of the sites. These plans are kept within the Ecologists' offices at FMR and used extensively to direct the restoration activities at the site. Each NRMP includes site information (geology, soils, historic vegetation, rare species, etc.), ecological evaluation, and management recommendations.

FMR's restoration projects will follow the BWSR guidelines for planting and seeding native plant communities. Specific guidelines that will be followed include:

- Seek to achieve species richness and diversity levels that meet or exceed the minimal standards identified by BWSR.

- Seed and plant material will also be sourced from genetic origins as close to the restoration site as possible, but also from multiple locations if possible, to maximize the long-term fitness of the plant populations.

- Seed will be "yellow tag" whenever possible, which ensures a known source.

- For remnant sites, especially prairie, seed will be obtained from on-site or from other nearby remnants.

- FMR also uses the BWSR seed mixes for a basis, but we typically design our own mixes, based on nearby native plant communities, soil types, and other factors. These seed/plant mixes and BWSR guidelines are inherently designed to benefit pollinators and as well as other wildlife by providing food and shelter sources for the full growing season. Consideration for pollinator nesting locations will also be evaluated for restoration sites.

Being a place-based organization, FMR's approach to land conservation is to stay engaged long-term in the projects that it takes on. This allows us to take a longer term and more holistic approach to the restoration and management needs of the property, than any one funding source or grant allows. We are able to revisit and monitor sites over a longer time frame, giving the opportunity to respond to issues in timely manner. This is both more cost effective in the long term and helps to protect the public investment in the project. This is often done in partnership with the landowner. For state – owned property, we have had discussions with DNR staff about the transition from the restoration/installation phase, conducted by FMR. to the long-term management phase, which the DNR will incorporate into their annual workplans and budgets. We will have similar discussions with staff from local units of government for properties that they own. FMR and/or the landowner may seek additional funding for follow-up management activities at these sites.

When FMR develops a Request For Proposals (RFP) for a specific site and for a set of restoration activities, we send it to Conservation Corps of Minnesota for them to consider and respond to.

As a part of the restoration process, FMR Ecologists are constantly evaluating the restoration activities as they are being conducted and subsequently, the initial results of those activities. Summaries of these initial evaluations will be included in the final report for the grant. FMR will also conduct a follow-up evaluation, three years hence, and submit it to LCCMR staff. FMR may include funding in future requests to conduct these three year evaluations.

IX. VISUAL COMPONENT or MAP(S): See attached map.

X. RESEARCH ADDENDUM:

XI. REPORTING REQUIREMENTS:
Periodic work plan status update reports will be submitted no later than February 1, 2016, August 1, 2016, February 1, 2017, August 1, 2017, and February 1, 2018. A final report and associated products will be submitted by August 15, 2018.

Environment and Natural Resources Trust Fund
M.L. 2015 Project Budget

Project Title: Metro Conservation Corridors Phase VIII – Prairie, Forest, and Savanna Restoration in Greater Metropolitan Area
Legal Citation: M.L. 2015, Chp. 76, Sec. 2, Subd. 08e
Project Manager: Betsy Daub
Organization: Friends of the Mississippi River
M.L. 2015 ENRTF Appropriation: $ 276,000
Project Length and Completion Date: 3 Years, June 30, 2018
Date of Final Report: 8/1/2018

ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET	Activity 1 Budget	Amount Spent	Activity 1 Balance	Activity 2 Budget	Amount Spent	Activity 2 Balance	TOTAL BUDGET	TOTAL SPENT	TOTAL BALANCE
BUDGET ITEM									
Personnel (Wages and Benefits)	13,328.73	13,328.73	0.00	7,576.00	7,380.39	195.61	20,904.73	20,709.12	195.61
Conservation Director: $1,728. Overall project management, assist with evaluation of restoration projects, partner communications, landowner relations. .007 FTE over the three-year project. 88% salary, 12% benefits.		950.68			677.72				
Ecologist (2): $17,825. Plan/organize restoration activities, develop and put out bids, hire and oversee vendors, guide restoration activities, evaluate restoration actitivities. .09 FTE over the three-year project. 86% Salary, 14% Benefits.		11,955.08			6,289.54				
Bookkeeper: $540. Pay invoices received. Assist in developing reimbursement documentation, track and document staff expenses. .002FTE over the three-year project. 86% Salary, 14% Benefits.		422.97			413.13				
Professional/Technical/Service Contracts									
Vendors to provide restoration services such as prescribed burns, soil prep., seeding, woody and exotic plant removal, herbicide application, etc. (Vendor contracts will be awarded on a competitive and performance basis.)	100,947.50	100,371.14	576.36	146,029.50	146,029.50	0.00	246,977.00	246,400.64	576.36
Equipment/Tools/Supplies									
Plant material*	7,188.27	6,988.11	200.16				7,188.27	6,988.11	200.16
Other supplies									
Travel expenses in Minnesota									
Mileage	470.00	443.52	26.48	460.00	345.25	114.75	930.00	788.77	141.23
COLUMN TOTAL	**121,934.50**	121,131.50	**803.00**	**154,065.50**	153,755.14	**310.36**	**276,000.00**	**274,886.64**	**1,113.36**

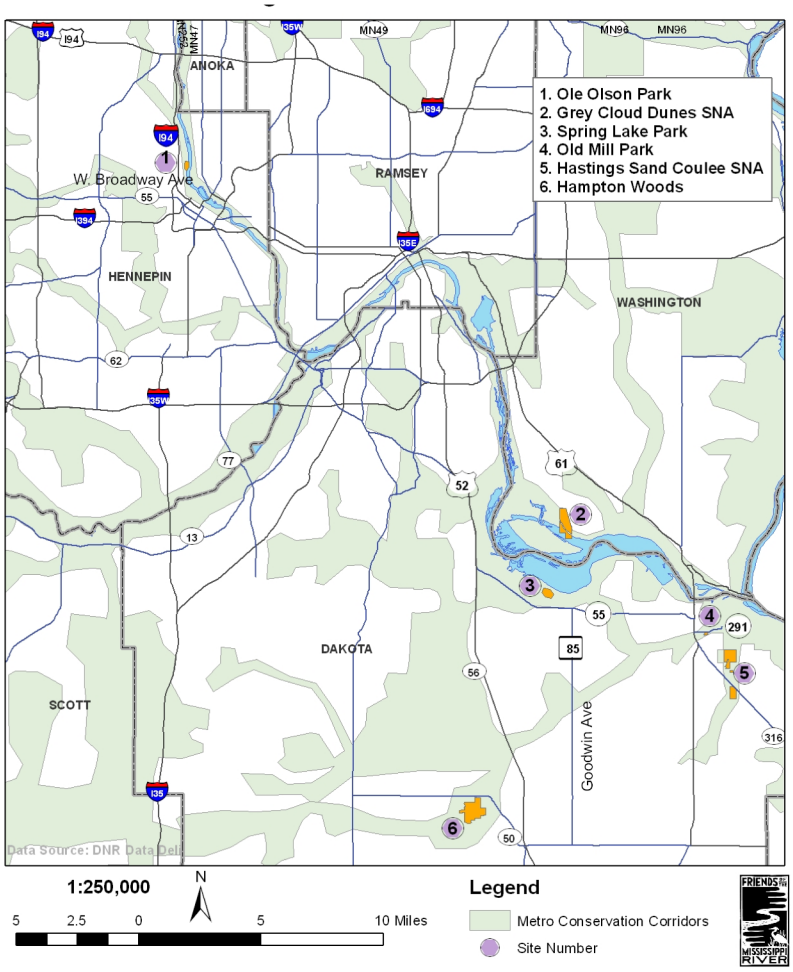
Note: During the grant, $875 was inadvertently shown as spent on a vendor for Actvity 1, but this was never spent, nor intended to be. ***Also**, in the 2/1/18 budget update report, $7.40 in Activity 1 for supplies was not added to the total for Amount Spent. Project Manager Betsy Daub spoke with Michael McDonough about this on 2/23/18 and was advised to make these adjustments in the final budget summary. We have done that here with this budget.

Metro Conservation Corridors Phase VIII

ML 2015, Ch. 76, Sec. 2, Subd. 08e

Prairie, Forest and Savanna Restoration in the Greater Metropolitan Area

Restored prairie plants at Ole Olson Park



PROJECT INFORMATION

6 sites within conservation corridors in and near the Mississippi Flyway

Restoration of 260 acres:
198 acres prairie
62 forest and savanna

Friends of the Mississippi River improved 260 acres of forest, savanna and prairie habitat at six sites in the Twin Cities Metro Area. The sites are situated within the Mississippi River flyway, a corridor that is vital for migratory birds. Site restoration improved habitat connectivity for wildlife dispersal and enhanced the quality of habitat for native pollinators and Species of Greatest Conservation Need.

Prairie Restoration

Prairie restorations returned deep-rooted plant species to sites along the Mississippi River that help retain and filter water runoff, benefit pollinator species, and add wildlife habitat.

Hastings Sand Coulee SNA

Prescribed burn

Healthy prairie after burn

Activities: establishment mowing, herbaceous weed control, site preparations, seeding, removal of woody plants, prescribed burn

Ole Olson Park

Site preparation

Removing non-native woody plants

Volunteers help plant native species

Prescribed burn

Restored prairie in the heart of Minneapolis

Prairie and Woodland Restoration

Spring Lake Park

East prairie after restoration

Activities in savanna and woodland: herbicidal treatments, site discing, removal of invasive woody plants, seeding, mowing, prescribed burn

Grey Cloud Dunes SNA

Prairie immediately after wildfire and two months later

Both forest and prairie restoration were planned for this site, including a prescribed burn on 10 acres of prairie. In April 2018, a wildfire burned 90 acres of woodlands and prairie. FMR shifted resources to assist in restoring habitat after the wildfire.

Healthy forest understory following restoration to remove invasive plants

Old Mill Park

Side-by-side restored and non-restored savanna woodland

Activities in prairie and woodland: Prairie mowing and prescribed burn; woodland invasive buckthorn cutting, removal and stem treatments

Forest Restoration

Removal of invasive woody plant species from the forest established healthier woodlands, allowing native plant species to thrive.

Hampton Woods WMA

Dense buckthorn hedge before removal

Yellow Lady's-slipper in restored forest understory