Environment and Natural Resources Trust Fund

M.L. 2023 Approved Work Plan

General Information

ID Number: 2023-211

Staff Lead: Corrie Layfield

Date this document submitted to LCCMR: May 31, 2023

Project Title: Pollinator Habitat Creation at Minnesota Closed Landfills

Project Budget: $1,508,000

Project Manager Information

Name: Eric Pederson

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Project Reporting

Date Work Plan Approved by LCCMR: June 22, 2023

Reporting Schedule: April 1 / October 1 of each year.

Project Completion: November 30, 2026

Final Report Due Date: January 14, 2027

Legal Information

Legal Citation: M.L. 2023, Chp. 60, Art. 2, Sec. 2, Subd. 08o

Appropriation Language: $1,508,000 the first year is from the trust fund to the commissioner of the Minnesota Pollution Control Agency to conduct a pilot project to create pollinator habitat at closed landfill sites in the closed landfill program. This appropriation is available until June 30, 2027, by which time the project must be completed and final products delivered.

Appropriation End Date: June 30, 2027

Narrative

Project Summary: Create the maximum acres of pollinator habitat at five Closed Landfill Program sites. These sites will act as pilot projects to inform future pollinator habitat reconstruction projects in the program.

Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.

The Minnesota Pollution Control Agency's Closed Landfill Program is responsible for the long-term care and maintenance of 111 closed landfills on roughly 8,500 acres of land throughout Minnesota. These closed landfills are vegetated with non-native grasses and provide little to no beneficial pollinator habitat. The MPCA seeks to advance Executive Order 19-28 signed by Governor Walz, which included a directive to the MPCA to "manage closed landfills under its supervision to create, protect, and enhance pollinator habitat."
Pollinator species like bees and butterflies are in decline, partly due to a decline in habitat. Constructing and improving pollinator habitat on MPCA closed landfills will not only help pollinators, such as the endangered rusty patched bumble bee, but a number of species including other beneficial insects, mammals, and birds by providing food and habitat. The MPCA seeks to improve the health, sustainability, resiliency, and usefulness of the lands we manage by incorporating beneficial reuse projects, like pollinator habitat, on MPCA managed closed landfill properties. MPCA has the opportunity to provide perpetual and valuable habitat to pollinators and other wildlife but few ways of achieving this goal.

What is your proposed solution to the problem or opportunity discussed above? Introduce us to the work you are seeking funding to do. You will be asked to expand on this proposed solution in Activities & Milestones.

The MPCA is seeking funding to convert the existing, non-native vegetation at MPCA closed landfill sites to beneficial pollinator habitat. The MPCA will hire a restoration services contractor from an existing state contract to develop site-specific plans for five of the MPCA closed landfills. These landfills include Pine Lane in Chisago County, Pipestone Landfill in Pipestone County, Red Rock in Mower County, St. Augusta in Stearns County, and Woodlake in Hennepin County. The plans will include a project timeline, site preparation methods, specified seed mixes, and vegetation management for two to three years. The site plans will be implemented at all five sites and the progress will be monitored by the contractor and MPCA. Three of the five sites are located in areas identified by the Fish and Wildlife Service as areas for additional conservation efforts for the endangered rusty patched bumble bee (RPBB). This proposal seeks to utilize the MPCA Closed Landfill Program land to provide permanent, valuable, and reliable habitat for pollinators and beneficial insects including the RPBB. The information gathered from the five implemented projects will be used to inform future pollinator habitat installations at additional MPCA closed landfill sites.

What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?

The primary outcome of this project is an estimated 380 acres of new pollinator habitat on land on which reuse activities are restricted. This project will not only enhance the local ecosystem and help pollinators, but ripple out to protecting and preserving other insect, bird, and mammal populations by providing pesticide-free food sources and suitable habitat. Secondarily, the robust root structures of pollinator habitat plants will stabilize the soils on the landfill caps and prevent erosion caused by more frequent heavy-rain events. Landfill caps prevent precipitation from entering the waste and causing increased leaching of landfill contaminants into groundwater resources.

Project Location

What is the best scale for describing where your work will take place?

County(s): Chisago, Pipestone, Mower, Stearns, Hennepin,

What is the best scale to describe the area impacted by your work?

County(s): Chisago, Hennepin, Mower, Pipestone, Stearns,

When will the work impact occur?

During the Project

Activities and Milestones

Activity 1: Develop Site-Specific Reconstruction Plans

Activity Budget: $15,000

Activity Description:
The restoration contractor will create site-specific reconstruction plans for five MPCA state-owned closed landfill sites: Pine Lane Landfill in Chisago County, Woodlake Landfill in Hennepin County, Red Rock Landfill in Mower County, St. Augusta Landfill in Stearns County, and Pipestone County Landfill in Pipestone County. The contractor will visit each of the five landfills to assess the current conditions, taking note of current vegetation, site topography, and any low-lying or wetland areas. Taking into consideration current site conditions, the contractor will draft site plans. Site plans will include detailed recommendations for site preparation, current vegetation removal method, seed mixtures and quantities, project timelines, planting process, description of yearly vegetation management and maintenance, post project plant maintenance, and cost estimate. A seed mix designed specifically for landfill caps will be developed by BWSR staff and used in this project. Other BWSR developed seed mixes may be used as an opportunity to track the success of different mixes and inform future use on other closed landfills. Conducting site visits and developing site plans is estimated to cost $3,000 per site for contractor time and resources. Site plans will be given to MPCA for review and approval.

Activity Milestones:

Description	Approximate Completion Date
MPCA gets project price estimates from restoration contractors listed on S-910(5) state contract.	July 31, 2023
MPCA award contract to contractor(s).	August 31, 2023
Contractor conducts site visits and completes site reconstruction plans.	October 31, 2023

Activity 2: Implement Reconstruction Plans at Five Closed Landfill Sites

Activity Budget: $570,000

Activity Description:
The restoration contractor(s) will implement the reconstruction plans at all five chosen MPCA closed landfill sites. Reconstruction plans may include site preparations such as one to three rounds of spraying herbicide, light disking or mowing of existing vegetation, removing small trees and shrubs, seeding the land with specified seed mixes, and planting an annual cover crop to protect the project during the first year of establishment. The specific process for reconstructing the site to pollinator habitat may be different at each site due to factors such as the aggressiveness of existing vegetation, percentage of area that is the waste cap or buffer lands, and site slope. If appropriate for the site, the vegetation will be sprayed with a herbicide in late fall 2023. In spring of 2024, another application of herbicide will be sprayed on the site to kill any remaining vegetation. A cover crop may be planted until the site is ready for the native seed mix. Seeding will begin as soon as possible after the herbicide application. By the end of November 2024, all five sites will be seeded with the specific native seed mix and if necessary, the new vegetation will be mowed once.

Activity Milestones:

Description	Approximate Completion Date
Site preparation begins with first application of herbicide. Some tree and shrub removal may occur.	November 30, 2023
Second application of herbicide to site vegetation.	June 30, 2024
Seed the site with specified native plant seed mix and first growing season plant management.	November 30, 2024

Activity 3: Perform Yearly Vegetation Management at the Sites

Activity Budget: $923,000

Activity Description:

Yearly vegetation management, which is vital to the success of establishing the pollinator habitat, will consist of two to three years of activities depending on when in 2024 the specific site is seeded. Vegetation management may include full site mows, animal grazing, any necessary reseeding, and integrated plant management (IPM) services. IPM services such as spot herbicide spraying, spot mowing, and hand weeding, are used to control weed species developing within the project area. During each vegetation management visit, the contractor will assess if there are areas of the site that need to be reseeded, take notes on the growth of new vegetation and number native plant species growing, and provide the updates to the MPCA. If appropriate for the site, animal grazing would occur later in the project in place of a site mowing. Animal grazing is beneficial for the project in that it reduces the build up of vegetative material that crowds out slower growing native plants. By the end of year three of the project, the native vegetation should be nearing establishment and include a diverse array of native plants. The five MPCA closed landfill sites combined will create an estimated 380 acres of new pollinator habitat.

Activity Milestones:

Description	Approximate Completion Date
First year of site vegetation management.	December 31, 2024
Second year of site vegetation management.	December 31, 2025
Third year of site vegetation management.	November 30, 2026

Dissemination

Describe your plans for dissemination, presentation, documentation, or sharing of data, results, samples, physical collections, and other products and how they will follow ENRTF Acknowledgement Requirements and Guidelines.
This project will be shared on the MPCA Closed Landfill Program (CLP) webpage and incorporated into the Interagency Pollinator Protection Team's (IPPT) Pollinator Annual Report, of which MPCA is a member. We will also be sharing our progress with the local communities around each of the landfills, highlighting the benefits to the local environment of the pollinator habitat. A report with detailed information about the process will be created and shared as a model for other closed landfills in the region to follow. CLP will provide information to the Board of Soil and Water Resources on the success of different seed mixes. The information will be beneficial for their future use in developing and updating seed mixes. The Environment and Natural Resources Trust Fund will be acknowledged for making this project possible through the use of the trust fund logo or attribution language on printed information about the project, electronic media, webpages, publications, publicly visible signage at each of the landfills, and other communications.

Long-Term Implementation and Funding

Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this work be funded?
The completed pollinator habitat projects on each landfill will be maintained according to site plan specifications with MPCA's Closed Landfill Program (CLP) operation and maintenance funds. CLP funds cannot be used to create new pollinator habitat but are able to be used to maintain the site. The results from this pollinator habitat project will inform future reconstruction projects at additional MPCA closed landfill sites. CLP will work with other state agencies to track the success of the seed mixes and overall project goals by conducting vegetation surveys and pollinator and beneficial insect surveys.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	$ Amount
Personnel								
							Sub Total	**-**
Contracts and Services								
Native Plant Community Restoration Services Contract S-910(5) - Contractor TBD	Professional or Technical Service Contract	We will utilize an existing state contract to complete this project. The consultant will provide all restoration services. All contracts under State of Minnesota contract release S-910(5) were solicited by the Department of Administration's Office of State Procurement. They are in compliance with all applicable procurement laws and policies.				0		$1,508,000
							Sub Total	**$1,508,000**
Equipment, Tools, and Supplies								
							Sub Total	**-**
Capital Expenditures								
							Sub Total	**-**
Acquisitions and Stewardship								
							Sub Total	**-**
Travel In Minnesota								
							Sub Total	**-**
Travel Outside Minnesota								

							Sub Total	**-**
Printing and Publication								
							Sub Total	**-**
Other Expenses								
							Sub Total	**-**
							Grand Total	**$1,508,000**

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request

Non ENRTF Funds

Category	Specific Source	Use	Status	$ Amount
State				
			State Sub Total	**-**
Non-State				
			Non State Sub Total	**-**
			Funds Total	**-**

Acquisition and Restoration

Parcel List

Name	County	Site Significance	Activity	Acres	Miles	Estimated Cost	Type of Landowner	Easement or Title Holder	Status of Work
0511823340002	Hennepin	Closed landfill - non-native grassy and wetland habitat. Wetland restoration opportunity.	Restoration	10	-	-	Public	State of Minnesota - MPCA	Has Not Begun
0811823210003	Hennepin	Closed landfill - non-native grassy and wetland habitat. Wetland restoration opportunity	Restoration	182	-	-	Public	State of Minnesota - MPCA	Has Not Begun
10.031.0200	Pipestone	Closed landfill - non-native grassy habitat. Located adjacent DNR Pheasant Terrace State Wildlife Management Area	Restoration	40	-	-	Public	State of Minnesota - MPCA	Has Not Begun
16.032.0010	Mower	Closed landfill - non-native, mowed grassy habitat. Located in rusty-patch bumblebee high potential zone..	Restoration	80	-	-	Public	State of Minnesota - MPCA	Has Not Begun
16.032.0040	Mower	Closed landfill - unmanaged prairie habitat. Located in rusty-patched bumblebee high potential zone.	Restoration	80	-	-	Public	State of Minnesota - MPCA	Has Not Begun
210006700	Chisago	Closed landfill - wetland and woody habitat. Rusty-patched bumblebee low potential zone	Restoration	7	-	-	Public	State of Minnesota - MPCA	Has Not Begun
211028500	Chisago	Closed landfill - non-native, mowed grassy habitat. Rusty-patched bumblebee low potential zone.	Restoration	12	-	-	Public	State of Minnesota - MPCA	Has Not Begun
211029700	Chisago	Closed landfill - non-native, mowed grassy habitat. Located in rusty-patched bumblebee low potential zone.	Restoration	45	-	-	Public	State of Minnesota - MPCA	Has Not Begun
82.43503.0120	Stearns	Closed landfill - non-native, mowed grassy habitat. Located along Mississippi River.	Restoration	5	-	-	Public	State of Minnesota - MPCA	Has Not Begun
82.43675.0000	Stearns	Closed landfill - non-native, mowed grassy habitat. Located along Mississippi River.	Restoration	24	-	-	Public	State of Minnesota - MPCA	Has Not Begun
82.51541.0150	Stearns	Closed landfill buffer area - savanna not mowed. Located along Mississippi River. Possible opportunity for shoreland restoration.	Restoration	35	-	-	Public	State of Minnesota - MPCA	Has Not Begun

82.51541.0190	Stearns	Closed landfill - wooded area within site	Restoration	0.5	-	-	Public	State of Minnesota - MPCA	Has Not Begun
82.51541.0200	Stearns	Closed landfill - non-native, mowed grassy habitat. Located along Mississippi River. Possible opportunity for shoreland restoration	Restoration	46	-	-	Public	State of Minnesota - MPCA	Has Not Begun
82.51541.0455	Stearns	Closed landfill buffer area - wooded. Located along Mississippi River	Restoration	8	-	-	Public	State of Minnesota - MPCA	Has Not Begun
Totals				**574.5**	**0**	**-**			

Restoration

1. Provide a statement confirming that all restoration activities completed with these funds will occur on land permanently protected by a conservation easement or public ownership.
All properties associated with this project are owned by the State of Minnesota and managed by the MPCA's Closed Landfill Program and will continue to be as such into the future.

2. Summarize the components and expected outcomes of restoration and management plans for the parcels to be restored by your organization, how these plans are kept on file by your organization, and overall strategies for long-term plan implementation.
The expected outcome of the restoration and management plans is to have an established, quality, native pollinator and prairie habitat with a high diversity of plant and animal species on all five chosen closed landfill sites. We do not have any data on the vegetative history of the sites, so we will be restoring to the highest degree of vegetative quality possible given the funding and existing conditions at each site. Another expected outcome is to reduce our carbon footprint at the sites through reduced mowing maintenance. Site specific plans will be guided by BWSR's Native Vegetation Establishment and Enhancement Guidelines and will be stored in our local files and online database that are easily accessed for review and reference. Once the vegetation is established, the site maintenance can be funded by closed landfill program funds. Closed landfill program will be working with other state agencies and organizations to maintain the habitat quality and learn from the project by conducting vegetation and pollinator surveys. The sites will be maintained by Closed Landfill Program in the long-term through practices that may including, grazing, prescribed burns, haying, and other forms of plant management.

3. Describe how restoration efforts will utilize and follow the Board of Soil and Water Resources "Native Vegetation Establishment and Enhancement Guidelines" in order to ensure ecological integrity and pollinator enhancement.
The Closed Landfill Program Pollinator Habitat creation project will closely follow the Native Vegetation Establishment and Enhancement Guidelines. We will be using locally sourced native seed mixes developed by BWSR staff. They will be chosen based on the region of the state the landfill is in and ecological conditions in that location with the goal of providing a high diversity of flowering plants and nesting habitat for pollinators and beneficial insects. Each landfill site will likely use several different mixes across the site. We will also we considering climate change when selecting seed mixes. Site preparation and seeding methods will be carefully chosen based on current site conditions. How the seed is installed will depend on how much of the current vegetative material can be removed and will be decided on a site-by-site basis. Each site plan will include yearly project maintenance, partially guided by the seed mixes chosen for each site (mixes with higher percentages of forbs will require more maintenance).Yearly maintenance will likely include activities such as mowing, haying, spot spraying, hand weeding, and eventually, conservation grazing and prescribed burns if possible.

4. Describe how the long-term maintenance and management needs of the parcel being restored with these funds will be met and financed into the future.
Closed Landfill Program funds will be used for the long-term maintenance of the site. CLP will contract with companies or organizations that can provide the needed services.

5. Describe how consideration will be given to contracting with Conservation Corps of Minnesota for any restoration activities.
CLP is open to partner with Conservation Corps of Minnesota to complete tasks within our project and after the project completion. CLP will contact CCMI before the project beings to discuss possible tasks, such as tree removal, tree planting, hand weeding, plant and pollinator surveys, etc. that could be completed by Conservation Corps members.

6. Provide a statement indicating that evaluations will be completed on parcels where activities were implemented both 1) initially after activity completion and 2) three years later as a follow-up. Evaluations should analyze improvements to the parcel and whether goals have been met, identify any problems with the implementation, and identify any findings that can be used to improve implementation of future restoration efforts at the site or

elsewhere.

All five sites will be evaluated before the project begins to establish baseline data of where the sites are now, after this three-year proposed project is complete, and three years after each project's completion. A plant survey, insect survey, and overall assessment of the property will be completed to show whether our goals have been met for each site. This information will be used for future pollinator habitat installations and projects in the Closed Landfill Program and shared with other organizations/agencies to inform other types of habitat installations.

Attachments

Required Attachments

Map

File: 7cc97d51-167.pdf

Alternate Text for Map

Minnesota state map showing the location of Closed Landfills chosen for the pollinator habitat pilot project and where they intersect with the rusty patched bumble bee range....

Optional Attachments

Support Letter, Photos, Media, Other

Title	File
Background Check Certification Form	4531adcd-785.pdf

Difference between Proposal and Work Plan

Describe changes from Proposal to Work Plan Stage

Changes include:
1) A modified budget.
2) The project timeline was adjusted so that the landfill seeding occurs sooner to allow for an additional year of vegetation management.
3) Activity 2 was separated into two activities. One activity is the site preparations including seeding and the second activity is the yearly vegetation management.
4) Dissemination efforts.
5) Restoration box checked and additional information added to #8 Acquisition and Restoration tab.
6) Additional statement added to Long-Term Implementation and Funding

Additional Acknowledgements and Conditions:

The following are acknowledgements and conditions beyond those already included in the above workplan:

Do you understand and acknowledge the ENRTF repayment requirements if the use of capital equipment changes?

N/A

Do you agree travel expenses must follow the "Commissioner's Plan" promulgated by the Commissioner of Management of Budget or, for University of Minnesota projects, the University of Minnesota plan?

N/A

Does your project have potential for royalties, copyrights, patents, or sale of products and assets?

No

Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?

N/A

Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?

N/A

Does your project include original, hypothesis-driven research?

No

Does the organization have a fiscal agent for this project?

No