

**Environment and Natural Resources Trust Fund
2020 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 160-D

Tactical Invasive Plant Management Plan Development and Implementation

Category: D. Aquatic and Terrestrial Invasive Species

Sub-Category:

Total Project Budget: \$ 658,137

Proposed Project Time Period for the Funding Requested: June 30, 2023 (3 yrs)

Summary:

We will systematically identify, prioritize, coordinate control and eliminate high priority invasive plant infestations.

Name: Monika Chandler

Sponsoring Organization: Minnesota Department of Agriculture

Job Title: _____

Department: Plant Protection

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St. Paul MN 55155

Telephone Number: (651) 201-6537

Email Monika.Chandler@state.mn.us

Web Address: www.mda.state.mn.us/weedcontrol

Location:

Region: Statewide

County Name: Statewide

City / Township:

Alternate Text for Visual:

Map of predicted common buckthorn distribution shows populations concentrated in the central and southeastern areas of the state. A map of garlic mustard distribution shows populations concentrated in the Twin Cities area and southeastern Minnesota. Japanese barberry infestation image shows the forest understory overtaken by barberry. Conservation Corps Minnesota image shows invasive plant control team.

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	_____ %



PROJECT TITLE: Tactical Invasive Plant Management Plan Development and Implementation

I. PROJECT STATEMENT

We will systematically identify, prioritize, coordinate and eliminate target infestations. This continuation project informs decision-making and coordinates priority infestation management. Previously, we modeled distribution of common and glossy buckthorns, Canada thistle, garlic mustard, Japanese knotweed, leafy spurge, multiflora rose, narrowleaf bittercress, plumeless thistle, purple loosestrife, spotted knapweed, tansy and wild parsnip. We are conducting an economic analysis for these weed species with quantifiable damages and control costs. This work enables us to understand invasion fronts and economic costs on statewide and regional scales. We propose to similarly analyze the following species with bold indicating an economic analysis will be done.

- Asian bush honeysuckles, Barberries, Black locust, Black swallow-wort, Dalmatian toadflax, Grecian foxglove, Japanese hops, Brown/meadow knapweed complex, Oriental bittersweet, Palmer amaranth, Poison hemlock, Teasels

We began eradication on a statewide scale with the LCCMR project Elimination of Target Invasive Plant Species. We will expand that effort to include regional priorities like eliminating isolated buckthorn infestations in northern Minnesota before they spread. We will create online videos about identifying and safely managing infestations. We will improve ISMTrack, an Invasive Species Management Tracking system in development, and add capacity for biocontrol data. Our previous ENRTF projects enabled us to build capacity for early detection and rapid response and to assess widespread infestations and prioritize control. Our first Elimination of Target Invasive Plant Species project started with 5 species. We are growing this effort to work with 29 species.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1 Title: Model invasive plant distribution, conduct economic analyses, communicate management priorities and develop online training

Description: Utilize and refine methods developed in the initial Tactical Invasive Plant Management Plan Development to build distribution models for all species listed above and conduct an economic analysis for species listed in bold. Create online maps and videos to show invasion fronts and priority infestations and how to safely control them. Hold workshops to inform vegetation managers about plant identification, invasion fronts and management priorities.

ENRTF BUDGET: \$ 222,937

Table with 2 columns: Outcome, Completion Date. Rows include: 1. Model distribution of species listed above. (06/30/22), 2. Conduct economic analysis of Asian bush honeysuckles, barberries, oriental bittersweet and Palmer amaranth. (01/15/23), 3. Six workshops are held and online maps and videos are created. (05/30/23)

Activity 2 Title: Communicate management priorities, coordinate efforts to control priority infestations

Description: MDA coordinators will engage public and private landowners on priority infestation management, compile best management practices and participate in the development of outreach materials. Project partners will develop and provide job skill training to Conservation Corps AmeriCorps members related to identifying, tracking, and controlling priority infestations to prepare the next generation of natural



**Environment and Natural Resources Trust Fund (ENRTF)
2020 Main Proposal Template**

resource professionals with the in demand certifications and experience to protect green infrastructure in public parks, inland waterways and other natural spaces from the damaging effects of invasive species.

ENRTF BUDGET: \$ 400,200

Outcome	Completion Date
1. Coordinate control with public and private landowners on 50 priority infestations.	06/30/23
2. Outreach materials with best management practices are developed.	06/30/23

Activity 3 Title: Continue to improve and implement ISMTrack and add capacity for tracking biological control agent releases and bioagent population management.

Description: ISMTrack is an Invasive Species Management Tracking System originally developed with ENRTF support. In the initial Tactical Plan project, we refined ISMTrack, built queries and created an app. Next we will add more users, improve the app and add biocontrol release point and monitoring tracking.

ENRTF BUDGET: \$ 35,000

Outcome	Completion Date
1. Add at least 50 ISMTrack users, including testers in other agencies	04/30/23
2. Improve ISMTrack app and add biological control tracking capacity	06/30/23

III. PROJECT PARTNERS AND COLLABORATORS: This interdisciplinary project requires a large team.

Receiving funds: Matthew Russell (Extension) will lead the invasive plant distribution analysis. William Lazarus (U of M) will lead the economic analysis. Angela Gupta (Extension) will lead outreach. Doug Ekstrom, Dorian Hasselmann and Dustin Looman (CCM) will lead priority infestation control. Chuck Barger (UGA) will direct ISMTrack development. Monika Chandler (MDA) will lead priority infestation communications and management and provide overall project coordination. All provide expertise, equipment, facilities, and technical support.

Not receiving funds: Trent McCorkle (MN Assoc. of County Ag. Inspectors), Laura Van Riper (DNR Invasive Species), David Hanson (MnDOT Vegetation Mgmt), Daniel Shaw (BWSR CWMA Program), James Calkins (MN Nursery Landscape Assoc.), Roger Becker (U of M Weed Scientist), and Robert Venette (MN Invasive Terrestrial Plants and Pests Center Director) will provide technical expertise.

IV. LONG-TERM IMPLEMENTATION AND FUNDING: Implementation began in the first Tactical Plan and Elimination of Target Invasive Plant Species projects and will continue during and after this project. Development of educational materials that synthesize research findings and best management practices into easy to understand guidelines is ongoing. These materials will be available online once this project is completed. We will collaborate with our network of private and public land managers, Cooperative Weed Management Areas and weed inspectors about managing invasion fronts and priority infestations.

MDA has a budget initiative for pass-through weed grant funds to local governments and for core weed program funding. If this initiative is fully funded, we would not need ENRTF support for MDA’s two positions and travel in this proposal. MDA would continue project coordination.

V. SEE ADDITIONAL PROPOSAL COMPONENTS:

- A. Proposal Budget Spreadsheet**
- B. Visual Component or Map**
- F. Project Manager Qualifications and Organization Description**

Attachment A: Project Budget Spreadsheet
Environment and Natural Resources Trust Fund
M.L. 2020 Budget Spreadsheet



Legal Citation:

Project Manager: Monika Chandler

Project Title: Tactical Invasive Plant Management Plan Development and Implementation

Organization: Minnesota Department of Agriculture

Project Budget: \$658,137

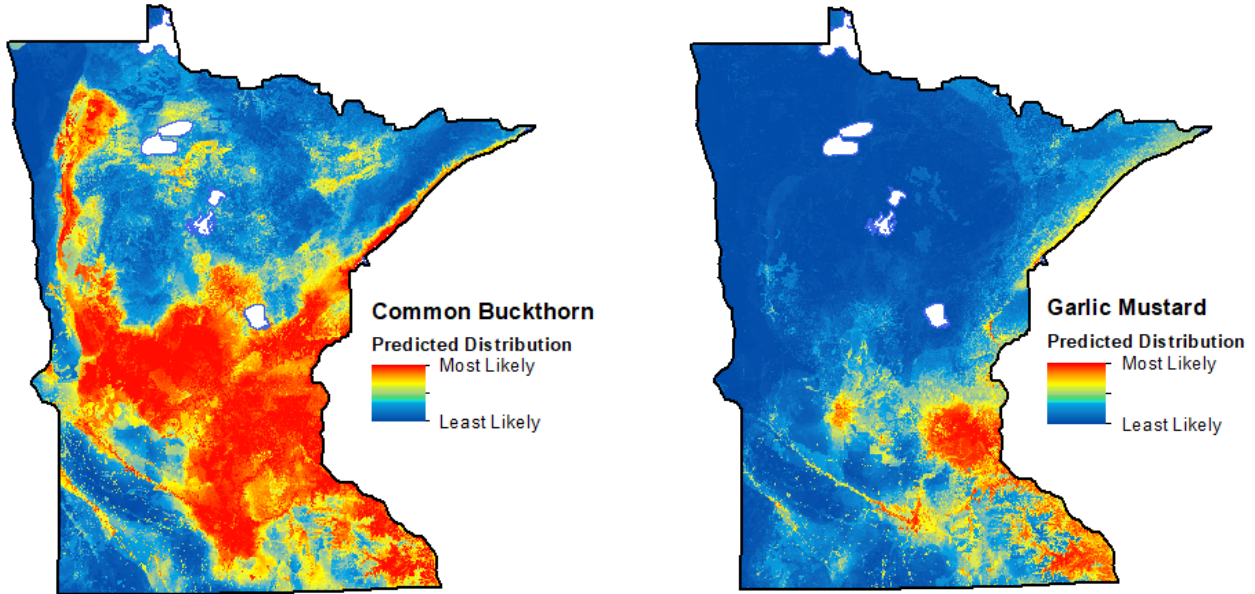
Project Length and Completion Date: 3 years, June 30, 2023

Today's Date: April 15, 2018

ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET		Budget	Amount Spent	Balance
BUDGET ITEM				
Personnel (Wages and Benefits)		\$ 186,200	\$ -	\$ 186,200
Two 3 year 100% time Plant Health Specialist estimated salary \$45,800/yr plus fringe benefits @ 33% for Activities 2 and 3 communicate priorities, assess infestations and coordinate control. These are supplementary positions.				
Professional/Technical/Service Contracts				
Contract University of Minnesota: Research salary for 8 months over 3 years at \$57,137 including 34% fringe for data analysis, interpreting results and scientific writing. One faculty one week summer salary/yr for 3 yr at \$10,538 including 34% fringe for project administration and report writing. One faculty two weeks summer salary for 3 years at \$26,354 including 26% fringe for economic analysis. Graduate student salary for 2 years at \$77,908 including 34% fringe for literature review, data analysis and writing reports. Subcontract for video creation (\$40,000), training supplies and materials (\$8,800), travel (\$3,000).		\$ 222,937	\$ -	\$ 222,937
Contract Conservation Corps Minnesota for control of target species (\$25.50/hr per crew member and equipment, training and travel costs).		\$ 180,000		
Contract University of Georgia to improve ISMTrack and add biocontrol data capacity		\$ 35,000		
Travel expenses in Minnesota				
Mileage (\$25,200) & approximately 180 days of meals and 45 overnight lodging for Activity 2		\$ 34,000	\$ -	\$ 34,000
COLUMN TOTAL		\$ 658,137	\$ -	\$ 443,137
SOURCE AND USE OF OTHER FUNDS CONTRIBUTED TO THE PROJECT - this section needs to be completed for the final budget				
	Status (secured or pending)	Budget	Spent	Balance
Non-State: \$22,000 federal match of \$3.23/CCM crew member/hr from the Corporation for National and Community Service	Secured	\$ 22,000	\$ -	\$ 22,000
State:		\$ -	\$ -	\$ -
In kind: MDA - Computing/software, GIS and data management, and project management for 3 years (\$15,000); U of M - unrecovered Facilities and Administration (\$83,513)	Secured	\$ 98,513	\$ -	\$ 98,513
Other ENRTF APPROPRIATIONS AWARDED IN THE LAST SIX YEARS				
	Amount legally obligated but not yet spent	Budget	Spent	Balance
M.L. 2013, Chp. 52, Sec. 2, Subd. 06d Elimination of Target Invasive Plant Species	\$ -	\$ 350,000	\$ 350,000	\$ -
M.L. 2016, Chp. 186, Sec. 2, Subd. 06e1 Elimination of Target Invasive Plant Species Phase 2 (project deadline extension request from 06/30/2019 to 06/30/2020 is in current ENRTF bill)	\$ 45,760	\$ 750,000	\$ 558,128	\$ 191,872
M.L. 2017, Chp. 96, Sec. 2, Subd. 06e Tactical Invasive Plant Management Plan Development	\$ 106,087	\$ 296,000	\$ 105,473	\$ 190,527
M.L. 2015, Chp. 76, Sec. 2, Subd. 10 - Emerging Issues Account and M.L. 2017, Chapter 96, Section 2, Subdivision 18 Palmer amaranth detection and eradication	\$ -	\$ 173,000	\$ 145,746	\$ -
M.L. 2018, Chp. 214, Art. 4, Sec. 02, Subd. 06b Palmer amaranth detection and eradication continuation	\$ 250,872	\$ 431,200	\$ 59,682	\$ 371,518

Tactical Invasive Plant Management Plan Development and Implementation

Systematically identify, prioritize, coordinate control and eliminate high priority invasive plant infestations



Distribution maps inform management priorities by defining invasion fronts and showing areas of small, isolated infestations that could be controlled before they spread.



Japanese barberry's green leaves stand out in this infestation that overwhelmed native wildflowers and other understory plants. The infestation threatens forest regeneration and is ideal deer tick habitat.



To prepare the next generation of natural resource managers, Conservation Corps crew members learn invasive plant biology, identification, detection and management.



Project title: Tactical Invasive Plant Management Plan Development and Implementation

Qualifications

Project Manager: Monika Chandler, M.S., Biological Control and Terrestrial Invasive Plant Early Detection Programs Coordinator, Minnesota Department of Agriculture

Monika has worked with invasive plants for 19 years. She is currently the project manager for the LCCMR projects titled *Elimination of Target Invasive Plant Species – Phase 2, Tactical Invasive Plant Management Plan Development* and *Palmer Amaranth Detection and Eradication*.

Her responsibilities as a terrestrial invasive plant early detection program coordinator are to:

- Facilitate identification/species determination
- Aid infestation delineation, quantification, and mapping
- Compile suggested practices from literature, weed scientists and land managers for management recommendations
- Coordinate management efforts with public and private partners
- Communicate about species of concern with land managers in Minnesota and neighboring states.
- Write risk assessments for and present species of concern to the Noxious Weed Advisory Committee for evaluation. This committee makes formal recommendations to the Commissioner of Agriculture about listing and categorizing species as regulated noxious weeds.

Organization Description

The Minnesota Department of Agriculture's Plant Protection Division will lead the target species survey, infestation delineation and mapping, and coordinate the control effort with Conservation Corps Minnesota. The Minnesota Department of Agriculture is authorized to eradicate and prevent the spread of harmful or dangerous plants pests in Minnesota by MN Statute 18G.03 subd. 1(e) (2008).