

**Environment and Natural Resources Trust Fund
2019 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 161-D

Elimination of Target Invasive Plant Species Transition Phase

Category: D. Aquatic and Terrestrial Invasive Species

Sub-Category:

Total Project Budget: \$ 772,871

Proposed Project Time Period for the Funding Requested: June 30, 2022 (3 yrs)

Summary:

To prevent environmental and economic damage, we will: 1) Train people to find target invasives; 2) Engage communities and 3) Survey for and control these species before they spread.

Name: Monika Chandler

Sponsoring Organization: Minnesota Department of Agriculture

Title:

Department:

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Location

Region: Statewide

County Name: Statewide

City / Township:

Alternate Text for Visual:

Map of target species location and images of training volunteers, a bittersweet infestation, a forestry mower controlling bittersweet and CCM crews

| | | | |
|---|-------------------------|-----------------------------|----------------------|
| _____ Funding Priorities | _____ Multiple Benefits | _____ Outcomes | _____ Knowledge Base |
| _____ Extent of Impact | _____ Innovation | _____ Scientific/Tech Basis | _____ Urgency |
| _____ Capacity | _____ Readiness | _____ Leverage | _____ TOTAL _____% |
| _____ If under \$200,000, waive presentation? | | | |



Environment and Natural Resources Trust Fund (ENRTF)
2019 Main Proposal Template

PROJECT TITLE: Elimination of Target Invasive Plant Species – Transition Phase

I. PROJECT STATEMENT

Eliminating highly damaging target invasive plants before they become widespread prevents ecological and economic damage. Currently, these species have limited distributions in Minnesota. It is feasible to control them before they proliferate by continuing the strategic effort initiated in Phase 1 and 2 and work with communities to build local early detection and rapid response networks.

- Outreach and survey efforts in Phases 1 and 2 led to the detection and mapping of numerous previously unknown infestations enabling us to begin managing them. To extend outreach beyond this grant, we will develop high quality, online target plant identification training materials.
- We will work with communities to create local networks of professionals, volunteers and engaged citizens to facilitate long-term eradication efforts and respond quickly to new invasive threats.
- Control tactics are effective. Infestations of black swallow-wort, Dalmatian toadflax, teasels, and foxglove have been successfully reduced in Phases 1 and 2. We will continue to manage these infestations.
- Control treatments for Oriental bittersweet and Japanese hops are effective but need continued work. Hazardous conditions resulted from bittersweet vines completely engulfing some forested areas resulting in trees breaking and falling. Heavy equipment is needed to deal with these infestations. For hops, high water levels in 2016 prevented treatments and the infestations expanded. We will utilize contractors with needed equipment and rotate Conservation Corps Minnesota (CCM) crews to the southeast to greatly reduce these infestations.

Target Invasive Plant List: Species include but are not limited to the following. They are listed in order of feasibility to eradicate based upon their abundance and distribution. All target species are prohibited noxious and invasive weeds on the eradicate list (Minnesota Statutes, Sections 18.75-18.78) and must be eradicated on all lands within the state. Our long-term goal is to eradicate these problematic species from Minnesota to protect forest and grassland habitats and human health.

1. **Palmer amaranth** outcompetes crops and prairies. Management efforts are funded in a separate project. Our focus would be outreach and education.
2. **Black swallow-wort** is a milkweed vine that overgrows other vegetation. Small infestations have been reported in Hennepin and Ramsey Counties and are being controlled.
3. **Dalmatian toadflax** forms dense stands in grasslands and reduces biodiversity, wildlife habitat, and livestock production. Infestations in the Halma and Lutsen areas have been reduced to managing the seedbank.
4. **Cutleaf and common teasels** overtakes grasslands and riparian areas reducing species diversity and wildlife habitat. There are scattered infestations and all are being controlled.
5. **Grecian foxglove** is highly toxic to humans, wildlife, and livestock. It also displaces native plants. As of spring 2018, most infestations are in Washington County.
6. **Japanese hops** are annual vines that grow so rapidly that they smother other plants. There is an extensive infestation along the Root River and a small infestation on the Mississippi.
7. **Diffuse, brown and meadow knapweeds** are spreading across meadows in northern Minnesota.
8. **Oriental bittersweet** is a woody vine that is destroying swaths of forest in Red Wing and Winona by girdling and breaking the trees then covering and shading the remains so that little else grows.
9. **Poison hemlock** is very toxic to mammals and is new to Phase 3.



Environment and Natural Resources Trust Fund (ENRTF)
2019 Main Proposal Template

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Engage communities to identify, report and help with target species management

ENRTF BUDGET: \$ 210,871

U of M Extension will engage communities to identify, report and develop long-term management plans for target species. Additional high quality online materials will be developed for target species and wild parsnip.

| Outcome | Completion Date |
|---|------------------------|
| 1. Create and implement a plan to engage 9 communities on invasive plant topics | 05/31/2022 |
| 2. Conduct 18 training workshops/events | |
| 3. Develop 7 online species identification and management videos including 360° viewing and digital images. Imagery will show multiple growth stages. | 06/30/2022 |

Activity 2: Survey, Coordinate Control, Monitor and Manage Data

ENRTF BUDGET: \$ 216,800

Minnesota Department of Agriculture (MDA) will verify reports, survey potentially infested areas and delineate infestations. MDA will coordinate control efforts with over 100 landowners, CCM, LGUs and contractors.

| Outcome | Completion Date |
|---|------------------------|
| 1. Surveys are conducted and infestations are documented. | 06/30/2022 |
| 2. Control efforts are coordinated with stakeholders | 06/30/2022 |
| 3. Treated sites are monitored to determine whether additional control is needed. | 06/30/2022 |

Activity 3: Control Target Species

ENRTF BUDGET: \$ 345,200

MDA will contract with CCM for trained and equipped field crews to control target invasive species. MDA will utilize contractors for forestry mowing bittersweet in areas too dangerously infested for crews and for on river Japanese hops treatments.

| Outcome | Completion Date |
|----------------------------------|------------------------|
| 1. Acres treated are documented. | 06/30/2022 |

III. PROJECT PARTNERS:

A. Partners receiving ENRTF funding

Angela Gupta (Extension) will lead outreach and education. Dorian Hasselmann and Dustin Looman (CCM) will lead control of target species. Monika Chandler (MDA) will lead detection, survey and coordinate control.

B. Partners NOT receiving ENRTF funding

Laura Van Riper (DNR) and David Hanson (MnDOT) will facilitate project activities. We will collaborate with other federal and state agencies, counties, municipalities and private landowners.

IV. LONG-TERM- IMPLEMENTATION AND FUNDING: Preventing highly destructive invasive plant species from spreading throughout the state has an enormous impact. Phase 1 & 2 built infrastructure to respond to emerging threats. This Transition Phase will utilize that infrastructure and engage communities to maximize control of target species and create online resources to sustain training. This infrastructure will continue to serve the state and communities as new threats emerge. MDA will submit a budget initiative for the upcoming biennium requesting funds to adopt this infrastructure into regular program operations. With ENRTF assistance, we created a robust approach to protecting citizens and natural resources from target species more effectively than through weed law enforcement alone.

V. TIME LINE REQUIREMENTS: This project will run for 3 years from 07/01/2019 to 06/30/2022.

VI. SEE ADDITIONAL PROPOSAL COMPONENTS:

2019 Proposal Budget Spreadsheet

Project Title: Elimination of Target Invasive Plant Species - Transition Phase

IV. TOTAL ENRTF REQUEST BUDGET 3 years

| BUDGET ITEM | AMOUNT |
|--|-------------------|
| MDA Personnel: Two 3 year 50% time Plant Health Specialist soft funded positions. Mean salary \$25,000 per year and 31% fringe. One position will be in Rochester and one in Duluth for survey, monitoring, coordination and data management (Activity 2). | \$ 191,700 |
| Professional/Technical/Service Contracts: University of Minnesota for One 3 year 50% times program coordinator (\$90,367), subcontract for video and digital content work (\$92,414), invasive plant displays (\$1,200), training supplies and materials (\$8,800), travel (\$3,090) and education (billboards, radio and newspaper \$15,000) | \$ 210,871 |
| Professional/Technical/Service Contracts: Conservation Corps Minnesota for control of target species (\$25.00/hr per crew member and equipment, training and travel costs) | \$ 295,200 |
| Professional/Technical/Service Contracts: Private companies for forestry mowing bittersweet in hazardous areas and on river Japanese hops treatments | \$ 50,000 |
| Equipment/Tools/Supplies: Includes flags, herbarium supplies, etc. for Activity 2 | \$ 1,500 |
| Travel: Mileage (\$14,800) and approximately 180 days of meals and 45 overnight lodging for Activity 2 | \$ 23,600 |
| TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST = | \$ 772,871 |

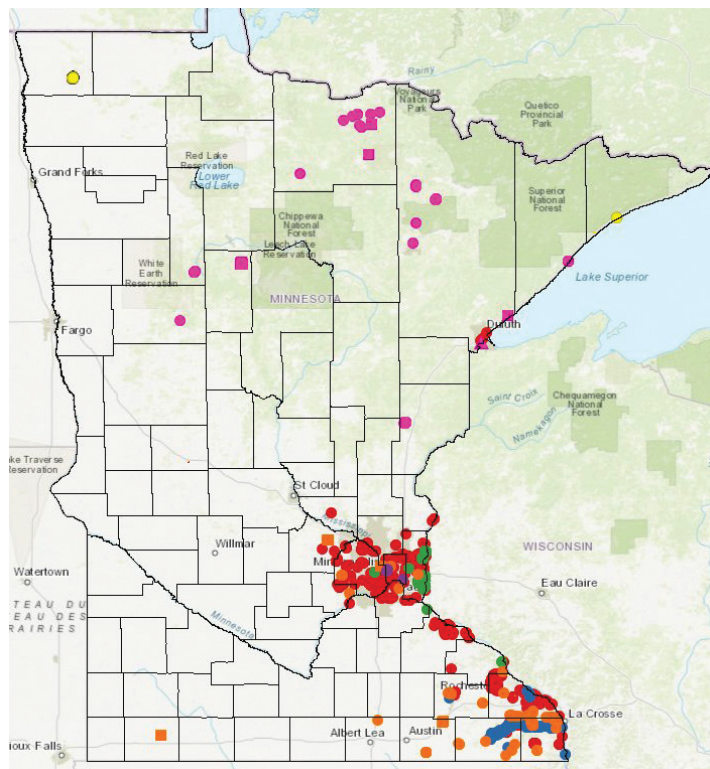
V. OTHER FUNDS

| SOURCE OF FUNDS | AMOUNT | Status |
|--|------------|---------------------|
| Other Non-State \$ To Be Applied To Project During Project Period: | NA | |
| Other State \$ To Be Applied To Project During Project Period: | NA | |
| In-kind Services To Be Applied To Project During Project Period: MDA: Field equipment, computing/software, GIS and data management, and project management for 3 years (\$30,000); U of M: One Extension Educator at 10% time for 3 years (\$27,550); and CCM: Approximately \$25,000 in unbilled staff time, project management and unbilled supplies. | \$ 82,550 | Secured |
| Current ENRTF Appropriation: Elimination of Target Invasive Plant Species Phase 2 (M.L. 2016, Chp. 186, Sec 2, Subd. 06e1 and Subd. 06e2) for \$750,000 and Palmer Amaranth Detection and Eradication (M.L. 2015, Chp. 76, Sec. 2, Subd. 10 - Emerging Issues Account) for \$173,000 | \$ 923,000 | Spent or obligated |
| Past ENRTF Appropriation: Elimination of Target Invasive Plant Species Phase 1 (M.L. 2013, Chp. 52, Sec 2, Subd. 06d) | \$ 350,000 | Spent |
| Other Funding History: MDA Emergency Funds (M.L. 2016, Chp. 17, Sec. 17.041, Subd. 1) for Palmer amranth | \$ 66,204 | Spent |
| MDA Noxious Weed and Invasive Plant Species Assistance Account (M.L. 2017, Chp. 18, Sec. 18.89) pass-through to LGU for calendar year 2018 | \$ 183,400 | Obligated |
| MDA Noxious Weed and Invasive Plant Species Assistance Account (M.L. 2017, Chp. 18, Sec. 18.89) pass-through to LGU for calendar year 2019 | \$ 200,000 | Approximate Unspent |

ELIMINATION OF TARGET INVASIVE PLANT SPECIES

Transition Phase

Minnesota Prohibited Noxious Weed Eradicate List Map



4/8/2018, 1:28:45 PM

- Black swallow wort
- Brown knapweed
- Common teasel
- Cut leaf teasel
- Dalmatian toadflax
- Diffuse knapweed
- Giant hogweed
- Grecian foxglove
- Japanese hops
- Meadow knapweed
- Oriental bittersweet
- Russian knapweed
- Yellow starthistle

1:4,622,324
0 37.5 75 150 mi
0 40 80 160 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, © OpenStreetMap contributors, and the GIS User Community

Minnesota Department of Agriculture (MDA) Web Map
Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS

PROJECT PARTNERS



Training people to identify and report target plants



Oriental bittersweet vines overwhelming and killing trees in Red Wing



Forestry mower reducing a hazardous Oriental bittersweet infestation in Winona



CCM crews at invasive plant training

4/2018

Project title: Elimination of Target Invasive Plant Species – Transition Phase

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 18 years. She is currently the project manager for the LCCMR projects titled *Elimination of Target Invasive Plant Species – Phase 2* 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).