



Environment and Natural Resources Trust Fund (ENRTF)

M.L. 2013 Work Plan

Date of Status Update Report:

Date of Next Status Update Report: November 27, 2013

Date of Work Plan Approval: June 11, 2013

Project Completion Date: November 25, 2015

Is this an amendment request? No

PROJECT TITLE: Elimination of Target Invasive Plant Species

Project Manager: Monika Chandler

Affiliation: Minnesota Department of Agriculture

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Web Address: www.mda.state.mn.us/plants/badplants/noxiouslist.aspx

Location: Statewide

Total ENRTF Project Budget:

ENRTF Appropriation: \$350,000

Amount Spent: \$0

Balance: \$350,000

Legal Citation: M.L. 2013, Chp. 52, Sec. 2, Subd. 06d

Appropriation Language:

\$350,000 the first year is from the trust fund to the commissioner of agriculture to train volunteers and professionals to find, control, and monitor targeted newly emergent invasive species. This appropriation is available until June 30, 2016, by which time the project must be completed and final products delivered.

I. PROJECT TITLE: Elimination of Target Invasive Plant Species

II. PROJECT STATEMENT:

It is cheapest, easiest, and least harmful to find and control small populations of invasive plants before they become widespread and damaging. We propose to detect, survey, control, and monitor target invasive plant species with the goal of protecting forest and grassland (including prairie) habitats. This is a statewide project on public and private lands that will stop target species before they proliferate.

Target Species 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.

1. **Dalmatian toadflax** overtakes grasslands and reduces biodiversity, wildlife habitat, and livestock production. It is beginning to spread in northwestern Minnesota.
2. **Cutleaf teasel** forms dense stands in grasslands and riparian areas reducing species diversity and wildlife habitat. There are scattered infestations in different areas of the state.
3. **Japanese hops** are annual vines that grow so rapidly that they smother other plants. There are two known infestations in southeastern Minnesota.
4. **Oriental bittersweet** is a woody vine that is destroying swaths of forest in Stillwater, Red Wing and Winona by girdling and breaking the trees then covering and shading the remains so that little else grows.
5. **Grecian foxglove** is highly toxic to humans, wildlife, and livestock. It also displaces native plants. As of spring 2012, most infestations are in Washington County.

Prevent and Detect Target Species: The University of Minnesota Extension (U of M) will train professionals and volunteers to identify, report, and prevent the spread of target species using a combination of field-based training sessions, workshops, and a new annual statewide "InvasiveBlitz" (similar to BioBlitz plant and animal survey events but with a focus on removing invasive species).

Survey and Delineate: The Minnesota Department of Agriculture (MDA) will use established survey methods to search areas surrounding known infestations and delineate infestations.

Control Target Species: Conservation Corps Minnesota (CCM) field crews will be contracted for target species control including initial containment and control of extensive Oriental bittersweet infestations. Crews are located throughout the state and can work across property lines.

Monitor Sites and Follow-up: After initial control of target species at a site, the site will be adopted by volunteers. U of M will train these volunteers in workshops to monitor the sites long-term, collect and enter data, and provide follow-up control such as missed plants or re-sprouting.

III. PROJECT STATUS UPDATES:

Project Status as of November 27, 2013

Project Status as of May 30, 2014

Project Status as of November 26, 2014

Project Status as of May 29, 2015

IV. PROJECT ACTIVITIES AND OUTCOMES:

ACTIVITY 1: Prevent and Detect Target Species

Description: Terrestrial invasive species detection and monitoring hinges on being able to identify species of concern; the University of Minnesota Extension will deliver training to three different audiences:

- A. Natural resource professionals will be trained to identify terrestrial invasive species of special concern and native plant species that could be confused with these invasives (2 workshops per year),

- B. Forest and tree care professionals and master volunteers will be trained to become First Detectors to look for and report new infestations (6 workshops per year), and
- C. Master volunteers will be trained to recognize common invasives and strategies to coordinate volunteer work days to effectively remove target species (4 workshops per year). These master volunteers will also be asked to host local invasive species removal events in the spring and/or fall with a goal of 5 "Invasive Blitz" removal events each year.

This work will be done across the state. An effort will be made to find free workshop locations. It may be necessary to charge workshop participants a registration fee to cover room rental (if free room is not available) and food costs for all day workshops. Registration fees would go to Extension. In the event that workshop registration received exceeds workshop costs, Extension will use these funds for outreach for Environmental and Natural Resources Trust Fund projects. Trainings partners include the University of Minnesota, Extension, Minnesota Departments of Agriculture and Natural Resources and various local partners.

Summary Budget Information for Activity 1:

ENRTF Budget: \$ 27,200
Amount Spent: \$ 0
Balance: \$ 27,200

Activity Completion Date:

Outcome	Completion Date	Budget
1. 24 Training sessions/workshops throughout state conducted and evaluated	06/30/2015	\$21,200
2. Hold InvasiveBlitz events at 10 or more locations statewide	06/30/2015	\$6,000

Activity Status as of November 27, 2013

Activity Status as of May 30, 2014

Activity Status as of November 26, 2014

Activity Status as of May 29, 2015

Final Report Summary November 25, 2015:

ACTIVITY 2: Survey and Delineate Target Species Then Coordinate Control

Description:

Survey: MDA will perform a comprehensive survey of target species distribution and infestation density. A handheld GPS unit will be used to mark infestation points. These data will be entered into a GIS and will be available on the web at EDDMapS (www.eddmaps.org/), a national database.

Verification: MDA will continue to follow up on target species reports from the public and partner agencies.

Control Coordination: MDA will contract and coordinate with landowners and CCM for target species control. This will include writing agreements with landowners where CCM will do control work. Agreements will specify that landowners will monitor the site to prevent reinfestation for at least three years after the control work is completed. The coordinator will train the landowners how to identify and monitor for the species and report any reinfestation issues that arise.

A new position will be created in the Plant Protection Division at MDA for Activity 2 work.

Summary Budget Information for Activity 2:

ENRTF Budget: \$ 135,000
Amount Spent: \$ 0
Balance: \$ 135,000

Activity Completion Date:

Outcome	Completion Date	Budget
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1. Preliminary survey completed of known infestations and infestation control effort coordinated with CCM	12/15/2014	\$ 100,000
2. Data are available on the web in a national database to promote data sharing	06/30/2015	\$ 35,000

Activity Status as of November 27, 2013

Activity Status as of May 30, 2014

Activity Status as of November 26, 2014

Activity Status as of May 29, 2015

Final Report Summary November 25, 2015:

ACTIVITY 3: Control Target Species

Description: CCM crews trained in identification and control of target species will conduct control work starting with known infestations of Oriental bittersweet and continuing with control of other target species. Large infestations of Oriental bittersweet will be controlled using basal bark and/or cut-stump treatment with a systemic triclopyr based herbicide in basal oil which is specific to broadleaf plants and will reduce potential impact on non-target species. Smaller infestations of young plants or infestations in sensitive areas that prohibit use of herbicides will be controlled by hand or mechanical pulling with a focus on removing and properly disposing of all plant parts including all roots and fruit to prevent re-sprouting and/or seeding. Timing of control will focus on late fall and winter when non-target species are dormant to reduce impacts on desirable species. Control of additional target species will involve mechanical and chemical control methods following established best management practices for each species based on size and location of infestations.

Summary Budget Information for Activity 3:

ENRTF Budget: \$ 150,000
Amount Spent: \$ 0
Balance: \$ 150,000

Activity Completion Date:

Outcome	Completion Date	Budget
1. Initial control of target Oriental bittersweet infestations completed	04/30/2015	\$100,000
2. CCM crews controls remaining target species (Dalmatian toadflax, cutleaf teasel, Japanese hops, and Grecian foxglove)	06/30/2015	\$50,000

Activity Status as of November 27, 2013

Activity Status as of May 30, 2014

Activity Status as of November 26, 2014

Activity Status as of May 29, 2015

Final Report Summary November 25, 2015:

ACTIVITY 4: Monitor Sites and Follow-up

Description:

We will develop a convenient and user-friendly internet based system for trained volunteers to report presence and growth and development of target invasive as well as associated species. Because an important component of site rehabilitation after eradication is the establishment of native species on the site, the monitoring and reporting will include species in addition to those targeted for eradication. In addition to training volunteers on in-field site monitoring, we will train them on the use of the online reporting system. We will also gather feedback from volunteers on ideas to improve the system.

Summary Budget Information for Activity 4:

ENRTF Budget: \$ 37,800
Amount Spent: \$ 0
Balance: \$ 37,800

Activity Completion Date:

Outcome	Completion Date	Budget
1. A planning tool and resource manual will be created and provided to volunteers in print and online	06/30/2014	\$4,000
2. Internet based reporting system developed	06/30/2014	\$25,200
3. Volunteers are trained in 6 workshops	06/10/2016	\$6,300
4. Volunteers monitor sites, report observations, and control target species (budgeted amount is for invasive plant signage)	Ongoing after project	\$2,300

Activity Status as of November 27, 2013

Activity Status as of May 30, 2014

Activity Status as of November 26, 2014

Activity Status as of May 29, 2015

Final Report Summary November 25, 2015:

V. DISSEMINATION:

Description: We will communicate about target invasive plant species with the public, tree care professionals, County Agricultural Inspectors, Cooperative Weed Management Areas, and land managers. The web will be used for communication with all www.mda.state.mn.us/plants/badplants/noxiouslist.aspx and www.myminnesotawoods.umn.edu/. Communication with the public will be via workshops, news media (print, television, and radio) and social media such as Facebook and Twitter. We will communicate updates at County Agricultural Inspector meetings and in trade publications such as “The Scoop” published by the Minnesota Nursery Landscape Association. The final project report will be presented at Upper Midwest Invasive Species Conference (LCCMR funds will not be used for registration and any out-of-state travel).

Status as of November 27, 2013

Status as of May 30, 2014

Status as of November 26, 2014

Status as of May 29, 2015

Final Report Summary November 25, 2015:

VI. PROJECT BUDGET SUMMARY:

A. ENRTF Budget:

Minnesota Department of Agriculture

Budget Category	\$ Amount	Explanation
Personnel:	\$ 119,000	One 2 year FTE Research Scientist 1 with mean salary \$40,000/yr plus fringe benefits at 52% for Activity 2 survey and project coordination
Professional/Technical/Service Contracts:	\$ 150,000	\$150,000 contract for invasive plant control with CCM
Equipment/Tools/Supplies:	\$ 1,000	Activity 2 supplies include tags, flags, and herbarium supplies for \$1,000.
Travel Expenses in MN:	\$ 15,000	Mileage for vehicle rental and fuel and approximately 120 days of meals and 20 overnight lodging for Activity 2 and project coordination is \$15,000.
TOTAL MDA BUDGET:	\$ 285,000	

University of Minnesota Extension

Budget Category	\$ Amount	Explanation
Professional/Technical/Service Contracts:	\$ 25,200	\$25,200 for web database development for invasive plant monitoring
Equipment/Tools/Supplies:	\$ 16,000	Resource manuals (\$4,000); samples, materials, and small tools for workshops (approx. \$200/workshop*30 workshops = \$6,000) and to provide to volunteers (\$6,000).
Travel Expenses in MN:	\$ 19,500	Lodging and meals (\$300/workshop) and mileage (\$350/workshop) for U of M instructors for 30 workshops for Activity 1 (24 workshops) and Activity 4 (6 workshops) = \$19,500 for at least 2 instructors/workshop
Other:	\$ 4,300	Signage to inform public about activities and raise awareness of target invasive species. Heavy-duty signs: 50 for the Activity 1 InvasiveBlitz at approx. \$15/sign = \$800 and 175 for Activities 1 and 4 at \$20/sign = \$3,500
TOTAL U OF M EXTENSION BUDGET:	\$ 65,000	

TOTAL ENRTF BUDGET = \$350,000

Explanation of Use of Classified Staff: NA

Explanation of Capital Expenditures Greater Than \$3,500: NA

Number of Full-time Equivalent (FTE) funded with this ENRTF appropriation:

One 2 year full-time Research Scientist 1 = 2 FTE

Number of Full-time Equivalent (FTE) estimated to be funded through contracts with this ENRTF appropriation:

MDA will contract with CCM for target invasive plant control. Crews will work an estimated 7,700 hours.

U of M internet based reporting system development contract will be for approximately 180 hours of labor.

Total hours = 7,700 + 180

Total FTEs = 7,880/2080 = 4 FTE

B. Other Funds:

Source of Funds	\$ Amount Proposed	\$ Amount Spent	Use of Other Funds
State			
In-kind Services During Project Period: MDA: Field equipment, computing/software, GIS and data management, and project management for 2 years (\$20,000); U of M: Two Extension Educators at 6% time for 2 years and one Extension Educator at 12% time for 2 years (\$35,000); and CCM: Approximately \$4/hr difference between actual cost per member (\$23.50/hr) and billing rate (\$19.50/hr) = \$30,000	\$ 80,000	\$	
TOTAL OTHER FUNDS:	\$ 80,000	\$	

VII. PROJECT STRATEGY:

A. Project Partners:

Receiving funds: Angela Gupta with U of M will lead the education and monitoring components. Monika Chandler with MDA will lead survey and delineation and coordination of target species control with CCM. All organizations will provide in-kind equipment, facilities, and GIS/technical support.

Not receiving funds: We will draw from Extension’s existing statewide base of volunteers in the Master Naturalist, Woodland Advisor, MN Women’s Woodland Network, Master Gardener, Tree Care Advisor, Minnesota Phenology Network, and Forest Pest First Detector programs, which together total over 103,000 active, trained volunteers. We will collaborate with DNR and Mn/DOT, other federal and state agencies, counties, municipalities, and private landowners.

B. Project Impact and Long-term Strategy:

Preventing highly destructive invasive plant species from spreading throughout the state has an enormous impact. All of the selected species would become widespread without intervention. They would overtake habitats and be prohibitively costly to control on a large scale. Controlling these target species across property lines protects the investment of agencies such as Mn/DOT to control these species on their lands and increases the probability of successful eradication.

This is the first phase of eradicating target species. Eradication is defined as target species absence for six years after the last seed was produced. Therefore, eradication must be achieved in a long-term effort and the ongoing monitoring and follow-up by volunteers is critical. The second phase involves a continuation of activities, but will not require as substantial of investment for control of existing infestations since maintenance is less labor intensive than initial control. State funds will be leveraged in proposals for federal funding for volunteer training and control of target species.

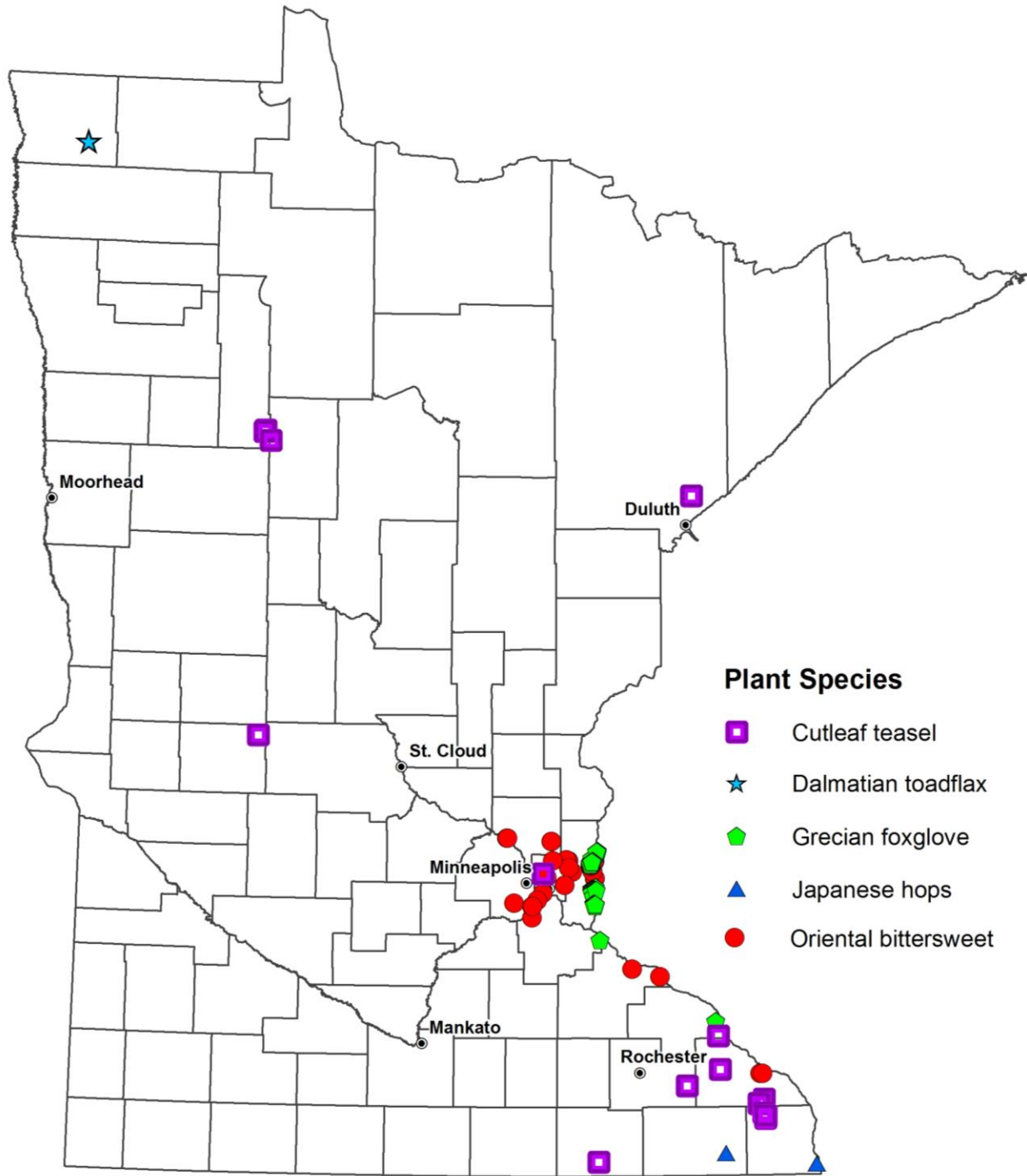
C. Spending History:

Funding Source	M.L. 2007 or FY08	M.L. 2008 or FY09	M.L. 2009 or FY10	M.L. 2010 or FY11	M.L. 2011 or FY12-13
U of M Extension received a total of \$162,000 in federal and state grant funding for the award winning MN Forest Pest First Detector volunteer program development and past activities		\$150,000 (RREA*)	\$15,000 (RREA*)		\$6,200 (RREA*)
Farm Bill					\$10,000

*RREA = Rapid Agricultural Response Fund – Extension\$

VIII. ACQUISITION/RESTORATION LIST: NA

IX. MAP(S): Target Invasive Plant Species Distribution in Minnesota



X. RESEARCH ADDENDUM: NA

IX. REPORTING REQUIREMENTS:

Periodic work plan status update reports will be submitted not later than November 27, 2013, May 30, 2014, November 26, 2014 and May 29, 2015. A final report and associated products will be submitted in November 2015 as requested by the LCCMR.



Environment and Natural Resources Trust Fund (ENRTF) M.L. 2013

PROJECT TITLE: Elimination of Target Invasive Plant Species

Project Manager Name: Monika Chandler, Minnesota Department of Agriculture

M.L. 2013 ENRTF Appropriation Amount: \$350,000 of which \$150,000 is for Conservation Corps Minnesota to control of target invasive plant species

Main activities of this project are to survey for and delimit target species infestations, determine land ownership and coordinate control with landowners and Conservation Corps Minnesota. Therefore, information on exactly which acreage will have control work done will be forthcoming. Specific locations, infestation size and landownership will be recorded. Control work will begin on a Dalmatian toadflax infestation in Kittson County and Oriental bittersweet infestations in Stillwater, Red Wing and Winona.

Target species have been confirmed in the following counties. There are additional, unconfirmed reports that will be followed up on as a part of this project.

Oriental bittersweet

Goodhue

Hennepin, Ramsey and Washington Counties in the Twin Cities

Winona

Grecian foxglove

Washington County

Cutleaf teasel

Houston

Mower

Olmsted

Ramsey

Wabasha

Washington

Winona

Japanese hops

Filmore

Houston

Dalmatian toadflax

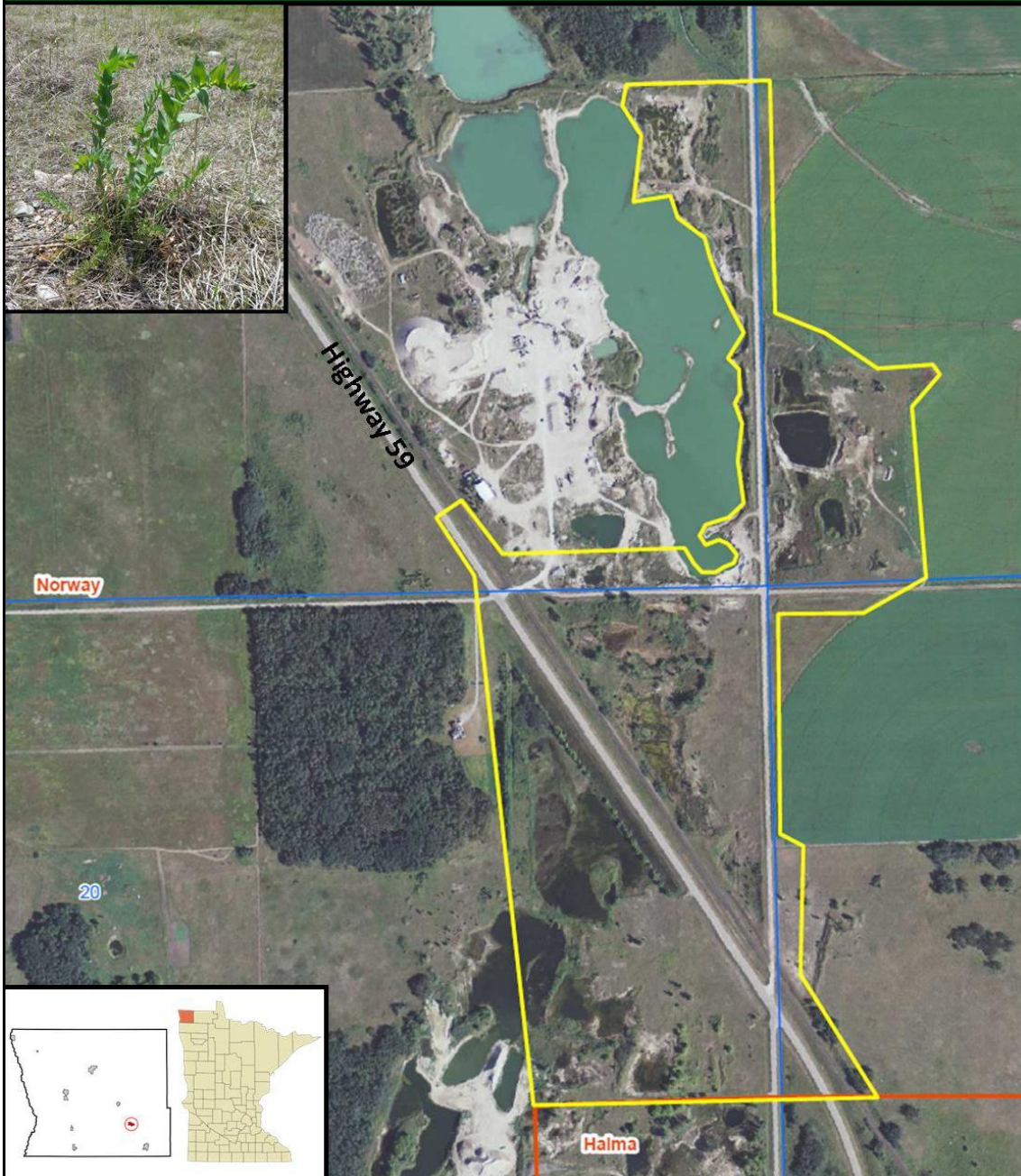
Kittson



Environment and Natural Resources Trust Fund (ENRTF) M.L. 2013

Dalmatian toadflax plants have been found scattered in the area outlined below in Halma in Kittson County. The Nature Conservancy, MnDOT and Kittson County have initiated control work across property lines and will continue controlling Dalmatian toadflax on their lands. An inventory will be taken of remaining Dalmatian toadflax plants after these initial treatments. Conservation Corps Minnesota will control remaining plants. (Map provided by Kittson County.)

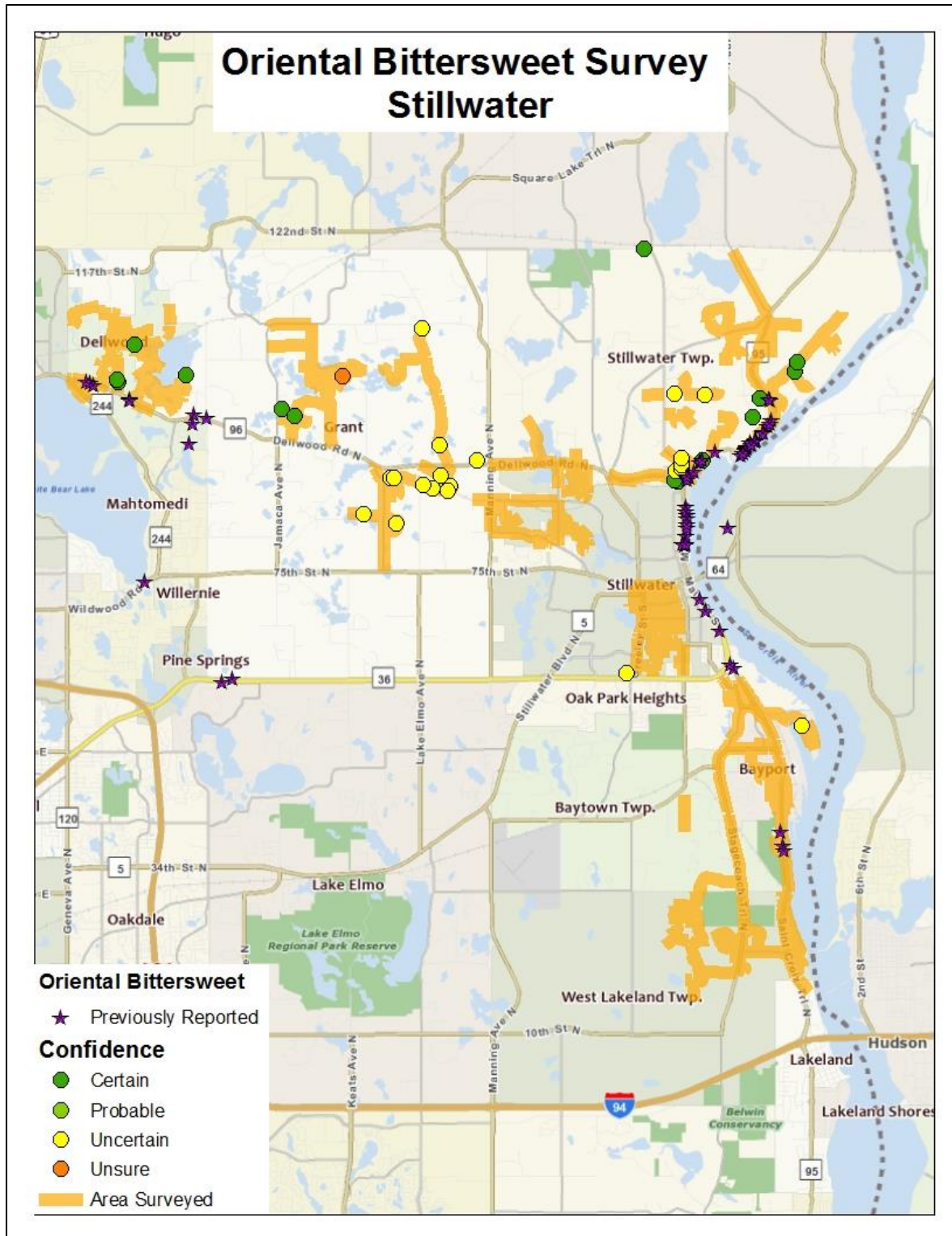
Dalmatian Toadflax, *Linnaria dalmatica*, Infestation in Kittson County MN, 2013





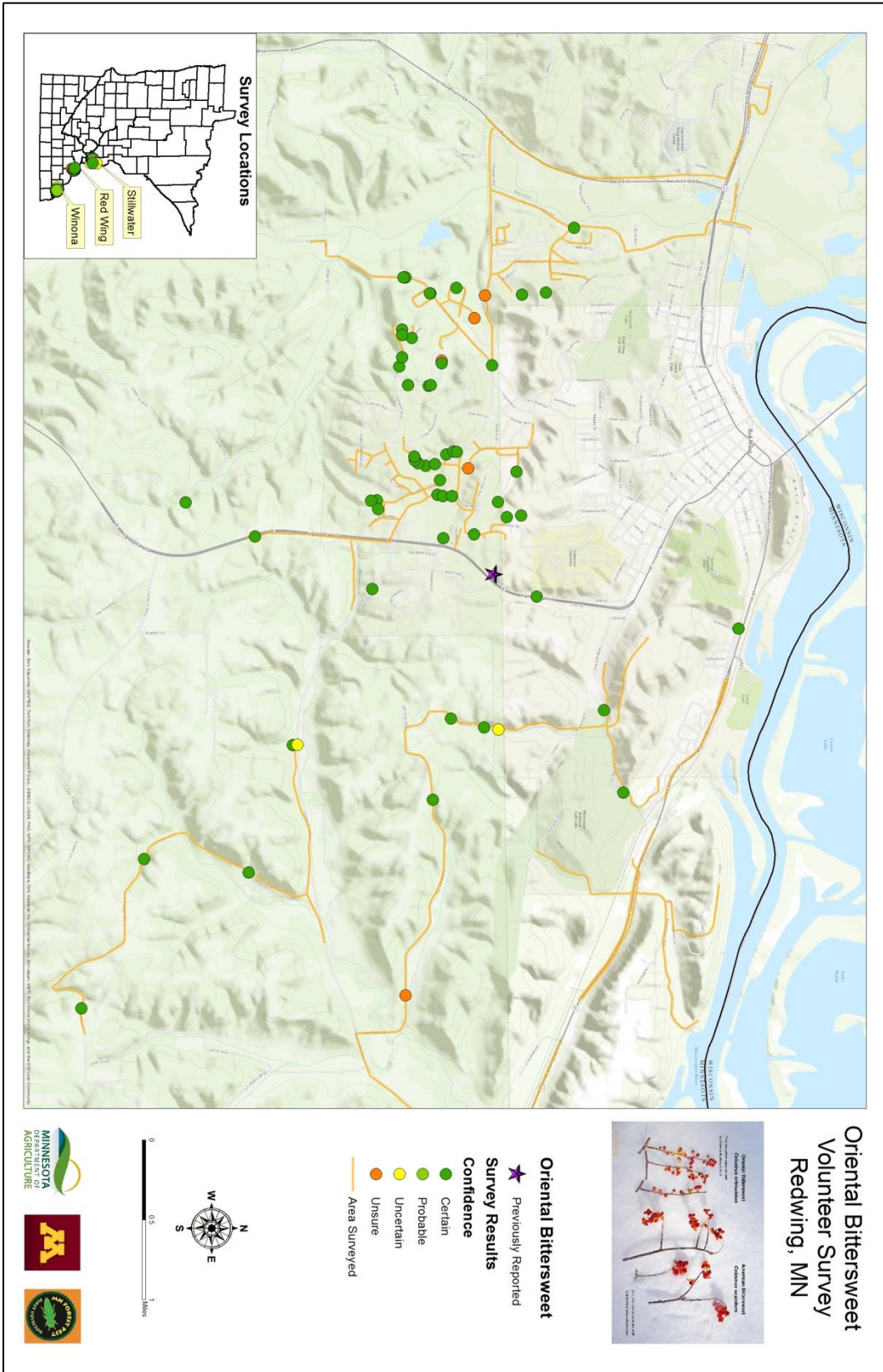
Environment and Natural Resources Trust Fund (ENRTF) M.L. 2013

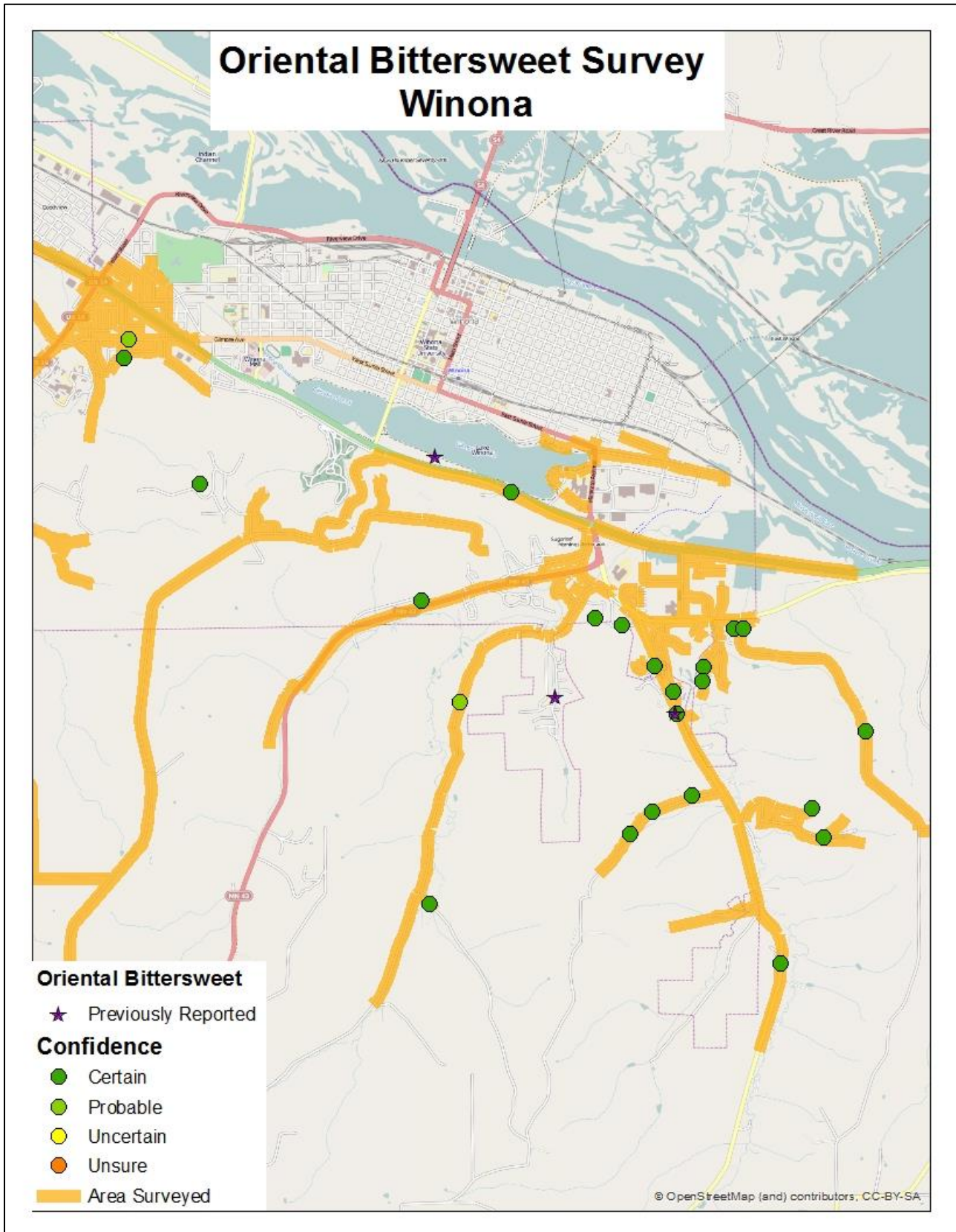
The presence/absence of Oriental bittersweet was surveyed in Stillwater, Red Wing and Winona by Minnesota Forest Pest First Detectors and DNR volunteers in March 2013. Results will be ground-truthed and infestations delimited into polygons as a part of this project.





Environment and Natural Resources Trust Fund (ENRTF) M.L. 2013





Attachment A: Budget Detail for M.L. 2013 Environment and Natural Resources Trust Fund Projects														
Project Title: Elimination of Target Invasive Plant Species														
Legal Citation: M.L. 2013, Chp. 52, Sec. 2, Subd. 06d														
Project Manager: Monika Chandler														
M.L. 2013 ENRTF Appropriation: \$ Fill in your appropriation amount														
Project Length and Completion Date: November 25, 2015														
Date of Update: Initial Budget														
ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET	Activity 1 Budget	Amount Spent	Balance	Activity 2 Budget	Amount Spent	Balance	Activity 3 Budget	Amount Spent	Balance	Activity 4 Budget	Amount Spent	Balance	TOTAL BUDGET	TOTAL BALANCE
BUDGET ITEM	Prevent and Detect Target Species			Survey and Delineate Target Species Then Coordinate Control			Control Target Species			Monitor Sites and Follow-up				
Personnel (Wages and Benefits)														
MDA: One 2 year FTE Research Scientist 1 with mean salary \$40,000/yr plus fringe benefits at 52% for Activity 2 survey and project coordination				119,000		119,000							119,000	119,000
Professional/Technical/Service Contracts														
MDA will contract with Conservation Corps Minnesota for \$150,000 contract for invasive plant control							150,000		150,000				150,000	150,000
U of M Extension will contract for web database development for invasive plant monitoring (\$25,200)										25,200		25,200	25,200	25,200
Equipment/Tools/Supplies														
MDA: Activity 2 supplies include tags, flags, and herbarium supplies				1,000		1,000							1,000	1,000
U of M Extension: Resource manuals (\$4,000); samples, materials, and small tools for workshops (approx. \$200/workshop*30 workshops = \$6,000) and to provide to volunteers (\$6,000).	9,600		9,600							6,400		6,400	16,000	16,000
Travel expenses in Minnesota														
MDA: Vehicle rental (per state contract with rental agency) and fuel and approximately 120 days of meals and 20 overnight lodging for Activity 2 and project coordination				15,000		15,000							15,000	15,000
U of M Extension: Lodging and meals (\$300/workshop) and mileage (\$350/workshop) for U of M instructors for 30 workshops = \$19,500 for at least 2 instructors/workshop	15,600		15,600							3,900		3,900	19,500	19,500
Other														
U of M Extension: Signage to inform public about activities and raise awareness of target invasive species. Heavy-duty signs: 50 for the Activity 1 InvasiveBlitz at approx. \$15/sign = \$800 and 175 for Activities 1 and 4 at \$20/sign = \$3,500	2,000		2,000							2,300		2,300	4,300	4,300
COLUMN TOTAL	\$27,200	\$0	\$27,200	\$135,000	\$0	\$135,000	\$150,000	\$0	\$150,000	\$37,800	\$0	\$37,800	\$350,000	\$350,000