

**Environment and Natural Resources Trust Fund  
2015 Request for Proposals (RFP)**

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**Project Title:**

**ENRTF ID: 092-D**

Minnesotas Forest Health Threats: Terrestrial Invasive Species

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**Category:** D. Aquatic and Terrestrial Invasive Species

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**Total Project Budget:** \$ 308,322

**Proposed Project Time Period for the Funding Requested:** 2 years, July 2015 – June 2017

**Summary:**

This project will assess and prioritize threats from invasive species to our forests, identify critical actions and information needs, and develop effective policy which will minimize cost and maximize outcomes.

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**Location**

**Region:** Statewide

**County Name:** Statewide

**City / Township:**

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**Alternate Text for Visual:**

The graphic is a map of Minnesota showing the proximity of a number of forest invasive species.

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



**PROJECT TITLE: Minnesota’s Forest Health Threats: Terrestrial Invasive Species**

**I. PROJECT STATEMENT**

Across the country, governments, private entities and individuals have spent billions of dollars, \$1.7 billion annually in local government expenditures alone, treating outbreaks of forest invasive species. With limited public resources, it is imperative that we make strategic and cost effective decisions in regards to minimizing threats to Minnesota’s forests. As we have learned from recent invaders, such as the Emerald Ash Borer, the ability to stay ahead of invading species through prevention, early eradication, suppression and slowing the spread is paramount in minimizing their impacts. This project would establish priorities to guide strategic management of forest invasive species.

Many invading pests and pathogens are newly arrived or are rapidly approaching Minnesota’s borders and threaten our native tree species. We are well acquainted with some challenges, such as Dutch Elm Disease and Oak Wilt, but are less familiar with new and potential species that impact:

- Ash (Emerald Ash Borer),
- Aspen and Oak (Gypsy Moth),
- Oak (Sudden Oak Death, Goldspotted Oak Borer),
- Jack, Red and White Pine (Mountain Pine Beetle),
- Maple (Asian Long-Horned Beetle) and
- Walnut (Thousand Cankers Disease).

This is not an exhaustive list and problems are expected to worsen with an average of two invasive forest pests introduced in the US each year. With a changing climate, increasing development pressure, wildlife fragmentation, increasing domestic and international trade, the need for an integrated strategy is now, more important than ever.

This project will (1) assess and prioritize the threats from invasive species to our forests; (2) identify critical actions and information needs which minimize cost and maximize outcomes; and (3) develop effective policy responses, including clear and efficient agency roles and responsibilities and needed levels of investment.

**II. PROJECT ACTIVITIES AND OUTCOMES**

**Activity 1:** Assessment of current and potential threats from terrestrial invasive species facing Minnesota’s forest and current review of agency response. Building on past efforts within the state (e.g. MN Forest Protection Plan, MN forest pest workgroup, and MN State Management Plan for invasive species) and elsewhere in the region and beyond (Great Lakes Forestry Alliance and plans by the Northeastern Area – USDA Forest Service), we propose a synthesis of threats and impacts, both economic and ecological, and an assessment of the adequacy of our collective response to terrestrial invasives affecting forests. This analysis would include an updated status of forest pests and pathogens, as well as a synthesis of risk and economic impact assessments. We would also conduct a thorough review of agency plans and responses, including a review of agency roles and responsibilities, adequacy of risk assessment activities, and current funding and infrastructure in place to deal with these problems.

**Budget: \$250,065**

Outcome	Completion Date
1. Assessment and prioritization of the current and potential extent and impacts of forest pests and pathogens in Minnesota (e.g. Emerald Ash Borer, European Gypsy Moth).	July 1, 2016
2. Determine estimates of future spread and associated economic impacts including a synthesis of impact analyses and current risk assessments.	July 1, 2016



**Environment and Natural Resources Trust Fund (ENRTF)**

**2015 Main Proposal**

**Project Title: Minnesota’s Forest Health Threats: Terrestrial invasive species**

3. Assessment of current response (federal, state, local agencies, other private and non-profit sectors) including current control strategies and monitoring efforts.	July 1, 2016
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**Activity 2: Identification of critical information needs and adequacy of response. Budget: \$ 35,042**

Utilizing the information gathered and expertise of stakeholders, we will assess the adequacy of current information used to make strategic and efficient decisions and make recommendations regarding crucial information needs. This will be assessed through interviews of experts, stakeholders and others. This analysis would include the following questions:

- Is the current response sufficient?
- What are current funding trends and what are the needs?
- Are we investing in the right areas and what are the tradeoffs?
- What are the costs of various responses including doing nothing?
- What could be done with additional funding?
- Why have some efforts been successful while others failed?

<b>Outcome</b>	<b>Completion Date</b>
1. Determination of priority information needs supporting more strategic decisions.	November 1, 2016
2. Analysis of public and private response to terrestrial forest invasives including a synthesis of current laws and statutes, agency programs, as well as efforts tested in other states.	November 1, 2016

**Activity 3: Development of statewide policy recommendations Budget: \$23,215**

Positioning Minnesota to be better able to move forward in a strategic and integrated manner that allows us to use resources efficiently, better recognizing when actions are warranted and when actions are fruitless. We will develop recommendations to ensure that our scarce public and private resources are used in the most efficient, strategic and coordinated manner possible.

<b>Outcome</b>	<b>Completion Date</b>
1. Development of criteria for evaluating current and potential policies (e.g. effectiveness, economic efficiency, implementable, politically palatable).	November 1, 2016
2. Development of recommendations regarding critical information needs, effective policy responses, agency roles and responsibilities, needed levels of investment, and needs for coordinated threat and impact analysis.	June 30, 2017

**III. PROJECT STRATEGY**

**A. Project Team/Partners**

The Minnesota Forest Resources Council would receive the funds, with Dr. Calder Hibbard, policy analyst, serving as Principal Investigator. Most of these funds would be used as subcontractor awards to Dr. Brian Aukema, assistant professor of entomology (UMN), Dr. Robert Venette, research biologist (USDA Forest Service), and Dr. Frances Homans, Professor in Applied Economics (UMN). We will utilize a cross-disciplinary approach, including expertise including entomology, forestry, biology, economics and policy development. The Trust Fund would fund one research technician, four graduate students, and 1 month of faculty salary. Much of the work conducted by the Principal Investigator and the sub-contractors will not be funded by the Trust Fund, contributing substantial in-kind resources.

**B. Project Impact and Long-Term Strategy**

It is important to note that though this project is of a relatively short duration, it is intended to aid in the development of a framework and inform a broad range of future efforts in activities related to forest-based terrestrial pests and pathogens.

**C. Timeline Requirements**

The project will be completed in less than 30 months: approximately 12 months for Activity #1, 16 months for Activity #2 and 12 months to complete Activity #3 (some of these activities can be conducted simultaneously).

## 2015 Detailed Project Budget

Project Title: Minnesota's Forest Health Threats: Terrestrial invasive species

### IV. TOTAL ENRTF REQUEST BUDGET 2.5 years

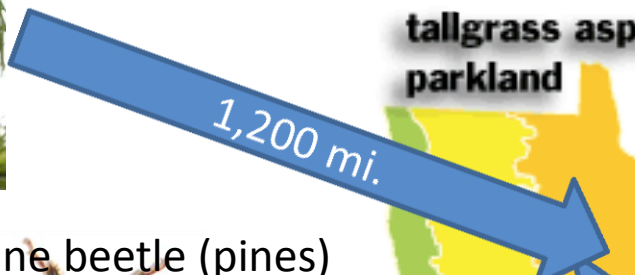
<u>BUDGET ITEM</u>	<u>AMOUNT</u>
<b>Personnel:</b> Salary for a graduate student worker for 1.5 years (1324 hrs @ \$13.25/hr)	\$ 17,543
<b>Contracts:</b> Potential sub-contractors awards: Dr. Brian Aukema 1.5 months of salary (\$18,000), One full time research technician - 1.5 yrs (\$66,750), and 1 grad student 1.5 yrs (\$60,000) to compile, update and analyze current and potential threats. One grad student - 1.5 years, (\$51,221), administered by Dr. Frances Homans to review and synthesize existing economic impact analyses. One grad student /post doc (\$91,800) administered by Dr. Rob Venette for synthesis of risk assessment modeling and other impact analysis.	\$ 287,771
<b>Travel:</b> This project will require some in-state travel for interviews and convening meetings with stakeholders	\$ 3,008
<b>TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =</b>	<b>\$ 308,322</b>

### V. OTHER FUNDS

<u>SOURCE OF FUNDS</u>	<u>AMOUNT</u>	<u>Status</u>
<b>Other Non-State \$ To Be Applied To Project During Project Period:</b>	NA	<i>Indicate: Secured or Pending</i>
<b>Other State \$ To Be Applied To Project During Project Period:</b>	NA	<i>Indicate: Secured or Pending</i>
<b>In-kind Services To Be Applied To Project During Project Period:</b>	\$ 64,561	<i>Secured</i>
<b>Funding History:</b>	NA	
<b>Remaining \$ From Current ENRTF Appropriation:</b>	NA	<i>Indicate: Unspent? Legally Obligated? Other?</i>

# New and Emerging Forest Pests

Asian gypsy moth (oaks, pines)



European gypsy moth (oaks, pines)



Mountain pine beetle (pines)



Sirex woodwasp (pines)



coniferous forest



Asian longhorned beetle (maples)

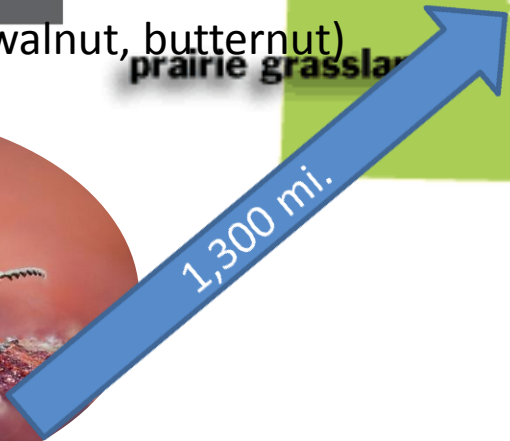
deciduous forest



Emerald ash borer (ash)

Walnut twig beetle (walnut, butternut)

prairie grassland



04/21/2014

Goldspotted oak borer (oaks)

## **Project Manager Qualifications**

Dr. Calder Hibbard, Minnesota Forest Resources Council's (MFRC) policy analyst, leads the policy development program with the MFRC and has extensive experience in project management and forest policy analysis. He has a Ph.D. in Natural Resource Sciences and Management, a M.S. in Forestry, and a B.S. in Natural Resources and Environmental Studies. He has conducted analysis of forest policy on a local, state, and national level and managed many projects. Most recently he has served as the Project Director for a project entitled 'Maintaining the forestland base in Minnesota.' His additional experiences include assessment of state forest tax policies, intergovernmental roles regarding non-federal forestland, state strategic planning for the use and management of forest resources, assessment of family forest certification, assessment of public participation and access to information frameworks, review of state legal property rights frameworks, among many other projects. Prior to his current position, Calder worked for the University of Minnesota as a research specialist, as well as in the private sector.

## **Organization Description**

The Minnesota Forest Resources Council (MFRC) is a 17-member governmental organization working to promote long-term sustainable management of Minnesota's forests by coordinating implementation of the Sustainable Forest Resources Act (SFRA) (M.S. 89a), and advising the Governor and federal, state, and local governments on sustainable forest resource policies and practices. Created in 1995, the MFRC operates within the policy framework set forth in the SFRA to (1) pursue the sustainable management, use, and protection of the state's forest resources to achieve the state's economic, environmental, and social goals, (2) encourage cooperation and collaboration between public and private sectors in the management of the state's forest resources, (3) recognize and consider forest resource issues, concerns, and impacts at the site and landscape levels, and (4) recognize the broad array of perspectives regarding the management, use, and protection of the state's forest resources, and establish processes and mechanisms that seek these perspectives and incorporate them into planning and management.

The primary responsibilities of the MFRC include: advising the Governor and public agencies on forest policies and practices that result in sustainable forest management, use, and protection; developing landscape-level forest planning and coordination processes; and developing comprehensive timber harvesting and forest management guidelines and a monitoring program. Recent accomplishments within the policy program include providing staffing to the Governor's task force on the competitiveness of the primary forest products industry, providing advice to the Governor on federal roadless areas, providing advice to the Governor and public agencies regarding invasive species, and the commissioning of a study of forestland parcelization in Minnesota.

The MFRC is made-up of a diverse group of public and private interests and is designed to encourage collaboration between those entities represented as well as many others that have an interest in Minnesota's forest resources. The MFRC plays a unique statewide role in bringing together the key interests regarding forest resources issues and policies to work collaboratively in crafting workable policies and solutions to key strategic forest resource management issues and problems.