



Minnesota Forest Pest Workgroup

Report to the Legislature



September 1, 2010

2010 Minnesota Forest Pest Workgroup Report

This report is in fulfillment of Laws of Minnesota for 2010, Chapter 333, Article 1, Section 39.

This report is prepared by the Minnesota Departments of Agriculture and Natural Resources. Input was provided to this report by representatives of the USDA Animal and Plant Health Inspection Service, USDA Forest Service, Minnesota Nursery and Landscape Association, Minnesota Forest Industries, League of Minnesota Cities, Association of Minnesota Counties, and Minnesota Association of Townships.

In accordance with MS 3.197 the following estimated costs are associated with the development and delivery of this report to the legislature.

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EXECUTIVE SUMMARY

In response to the threat posed by invasive forest pests, the 2010 Minnesota legislature has charged “the commissioners of agriculture and natural resources to form a workgroup and develop recommendations on how the state should address mitigation of invasive or exotic forest pests, primarily gypsy moth and emerald ash borer” (Appendix 1). In the legislation, the following issues were identified:

1. Outline current funding sources for forest pest survey, treatment, quarantine, and outreach activities;
2. Explore alternative or additional funding options;
3. Identify public and private sector benefits of forest pest survey, detection, eradication and outreach efforts;
4. Identify potential ramifications if the state discontinues efforts to control forest pests, including but not limited to the economic and commercial impact of a statewide quarantine and the environmental consequences of forests pests left unabated;
5. Clarifying statutory and regulatory roles and responsibilities of state agencies and local units of government as well as identifying and evaluating options for consolidating these roles and responsibilities and the roles that federal agencies play in managing and regulating invasive forest pests; and
6. Make recommendations for the state to address mitigation of invasive forest pests.

The Minnesota Departments of Agriculture (MDA) and Natural Resources (DNR) have worked collaboratively since the first gypsy moth was trapped in Minnesota in 1969 to cooperate and share resources and capabilities to protect Minnesota’s forests from invasive forest pests. This collaboration has been guided by clearly identified leadership roles agreed upon in state response plans, such as the “Emerald Ash Borer Readiness Plan for Minnesota” (2008), “Minnesota Emerald Ash Borer Response Plan” (2007), and “A Strategic Plan for the Cooperative Management of Gypsy Moth in Minnesota” (2001). These plans build upon the unique statutory direction and authorities of the agencies along with historical working relationships with local governmental units, federal agencies and private interests within the state. This commitment has reduced potential redundancies in staffing and activities between the state agencies. These efforts also led to changes in statute to further clarify roles between the state agencies.

It is the position of the Forest Pest Workgroup which provided input to this report that the two agencies (i.e., MDA and DNR) are working in a strong collaborative approach with clearly defined roles (e.g., Appendix 2). Minnesota’s current structure and success in controlling invasive forest pests has allowed the state to leverage a significant amount of federal funding to slow the spread and lessen the impacts of pests such as emerald ash borer and gypsy moth. Benefits offered by the efforts span environmental, economic, human health and social realms. Changes to this structure and funding could accelerate the spread of gypsy moth, emerald ash borer and their associated devastating impacts on the trees and forests of Minnesota.

When an invasive forest pest becomes widely established (i.e., to a point where eradication and/or quarantine are no longer feasible) the pest mitigation responsibilities at the state level will transition from an MDA regulatory role to a DNR pest management role. Along with this transition between state agencies, the responsibility of the local units of government, private property owners and industry will also change. The DNR’s responsibility for mitigation of a pest

in the generally infested status will likely take the form of a technical advisor, with the burden of the cost of actually conducting the mitigation work (e.g., removal of hazard trees, treatment for protection of trees and replanting to replace lost trees) will fall on local units of government, private landowners and industry in the absence of cost share funding. Preventing or postponing the widespread establishment of new invasive forest pests is of considerable benefit to Minnesota as it prevents or postpones this new burden with which local units of government, private landowners and industry will need to contend.

Table 1: State structure for management of invasive forest pests in Minnesota

	Pest Status		
	Undetected	Detected & Spreading	Widespread¹
Management tactics	Prevention & early detection	Rapid response (eradication & quarantine)	Management and restoration
Pest examples	Asian long-horned beetle	Emerald ash borer; gypsy moth	Oak wilt; Dutch elm disease
Lead state agency	MDA	MDA	DNR
Authorities	MN Statutes 18G, 18H, 18J	MN Statutes 18G, 18H, 18J	MN Statutes 89
Local responsibility	-	-	Local units of government, private landowners & industry
Primary federal partner ²	USDA APHIS	USDA APHIS, USDA FS	USDA FS

¹ Pest is at a level of infestation where MDA’s eradication and/or regulatory efforts are no longer feasible.

² USDA APHIS = United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine; USDA FS = United States Department of Agriculture, Forest Service.

Recommendations: The Forest Pest Workgroup compiled the following recommendations for mitigation of invasive forest pests in Minnesota.

1. Maintain the current MDA and DNR division of responsibilities for mitigation of invasive forest pests (see section below entitled, “Clarifying Statutory and Regulatory Roles & Responsibilities” and Appendices 3 and 4).
2. Aggressive management action against invasive forest pests will be taken by state agencies only when biologically and economically appropriate and in consultation with federal partners and local units of government.
3. Restructure/reconcile firewood laws among state agencies to reduce confusion experienced by public and industry and to increase effectiveness of enforcing these laws.
4. Establish an emergency fund for responding to new infestations of invasive forest pests, as was recommended in Minnesota’s “Forest Protection Plan” (2008).

5. Explore options for additional funding (see section below entitled “Potential Alternate or Additional Sources of Funding”).
6. Increase coordination and communication among cooperators and stakeholders.
7. Define the role of local units of government in the management of invasive forest pests (see section below entitled, “Clarifying Statutory and Regulatory Roles & Responsibilities.”)

BACKGROUND

Invasive species are defined as “exotic or nonnative species whose introduction and establishment causes, or may cause, economic or environmental harm or harm to human health” (MN Statutes 18G). In other words, these are pests from other countries or other parts of the U.S. that have invaded or may invade Minnesota and cause economic and environmental problems here.

Impacts of invasive species include:

1. Among primary threats to biodiversity (Wilcove et al. 1998);
2. A leading causes of native species extinction (Clavero & Garcia-Berthou 2005); and
3. \$137 billion per year in losses, damages and control costs for invasive species in the United States (Pimentel et al. 2000).

More than 1,500 nonnative species have invaded the United States (Sailer 1983). At least 386 of these species are forest pests (Mattson et al. 1994). The emerald ash borer and gypsy moth are two notorious examples of invasive forest pests threatening Minnesota (See Appendices 5 and 6).

1. Emerald ash borer
 - a. Native to Asia and first detected in the U.S. in 2002
 - b. Kills ash trees by feeding underneath the bark
 - c. Already killed millions of ash trees in the U.S.
 - d. First detected in MN in 2009; currently found in Ramsey, Hennepin and Houston Counties
 - e. Minnesota has over 900 million ash trees at risk
2. Gypsy moth
 - a. Native to Europe and first detected in the U.S. in 1869
 - b. Larvae consume the leaves of over 300 species of trees and shrubs
 - c. Already defoliated 78 million acres in the U.S. since 1970
 - d. First detected in Minnesota in 1969; despite continual invasion pressure, Minnesota has managed to prevent widespread establishment of this pest

Three major industries depend on Minnesota’s forestlands and community tree infrastructure and may be severely impacted by invasive forest pests:

1. Forest industry
 - a. Fourth largest manufacturing industry in Minnesota
 - b. Employs more than 89,500 people
 - c. Value of the forest products manufactured in Minnesota is around \$7 billion (15 percent of all manufacturing dollars generated)
 - d. Non-timber forest products, important to indigenous culture and folk arts (e.g., black ash baskets), supplement incomes of many Minnesotans
2. Tourism industry
 - a. Minnesota’s second largest employer (140,000 people) with payroll in excess of \$3 billion
 - b. Gross receipts from tourism exceed \$6 billion
3. Nursery and landscape industry
 - a. Employs 10,000 full-time and 18,200 seasonal and part-time employees with a payroll in excess of \$697 million

b. Gross receipts from nursery and landscape sales is around \$2.1 billion

The urban/community forests are also susceptible to impacts from invasive species. Trees in developed areas provide environmental benefits and energy savings and add to the quality of life.

Example: Benefits provided by the City of Minneapolis’ urban forest (979,000 trees) in 2005 (Nowak et al. 2006):

- Pollution removal: 384 tons/year (\$1.9 million/year)
- Carbon storage: 250,000 tons (\$4.6 million)
- Carbon sequestration: 8,900 tons/year (\$164,000/year)
- Building energy reductions: \$216,000/year
- Avoided carbon emissions: \$16,000/year
- Structural value: \$756 million

FUNDING FOR INVASIVE FOREST PEST MITIGATION

Funding for invasive forest pest mitigation in Minnesota comes from a variety of sources and serves various purposes (Table 2 and Figure 1).

Table 2: Explanation of funding received by state agencies for invasive forest pest mitigation. (EAB=emerald ash borer; GM=gypsy moth)

EAB AND GYPSY MOTH DIRECT FUNDING SOURCES ¹ : FY2006 – 2010				
Funding Source	MN Recipient	Purpose	Restrictions	Years of Funding
State: General Fund	MDA DNR	Agency operations, salaries & outreach products	EAB and GM activities competes with all other agency priorities.	2006-10
State: Bonding	DNR	Grants for tree removals & replacement	For public trees only; cannot be used on private lands limitations on use on boulevard trees	2008 & 2010
State: Outdoor Heritage	MDA	To provide funding and information for local units of government and other entities to prepare for and respond to infestations of EAB	Grant program did not provide direct funds for private lands.	2009
State: Lottery-In-Lieu	DNR	Invasive species monitoring, control & outreach	Activities were focused on state lands	2010 & 2011
Federal: Animal Plant Health Inspection Service	MDA	Survey, regulation & outreach	Funds support agency activities, not communities	2006-10
Federal: Forest Service, State & Private Forestry	MDA DNR	Outreach, special studies, survey	Funds support agency activities, not communities. 1:1 match	2006-10

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			required	
Federal: Slow the Spread Foundation ²	MDA	GM survey & intervention to reduce spread	Follow foundation protocols; once an area is generally infested, funds are not available	2006-10

¹ Sources of funding that went directly to MDA and DNR. University of Minnesota received related funding during this time. Also, the USDA Forest Service and Animal and Plant Health Inspection Service expended funds in Minnesota that did not go directly to the state agencies.

² The Slow the Spread Foundation is an independent, non-profit foundation of 10 participating states and is funded through the USDA. This foundation promotes the regional management of gypsy moth on the leading edge of its infestation.

Figure 1: Spending within Minnesota for mitigation of emerald ash borer (figure 1a) and gypsy moth (figure 1b). This includes state funds spent by MDA and DNR. State funds include general funds to MDA in 2006 to 2010 and to DNR in 2006 to 2009, and lottery-in-lieu funds to DNR in 2010. Federal funds passed through to the state agencies for work on this pest as well as federal funds used directly by the federal agencies within the state are also presented.

Figure 1a: Emerald ash borer

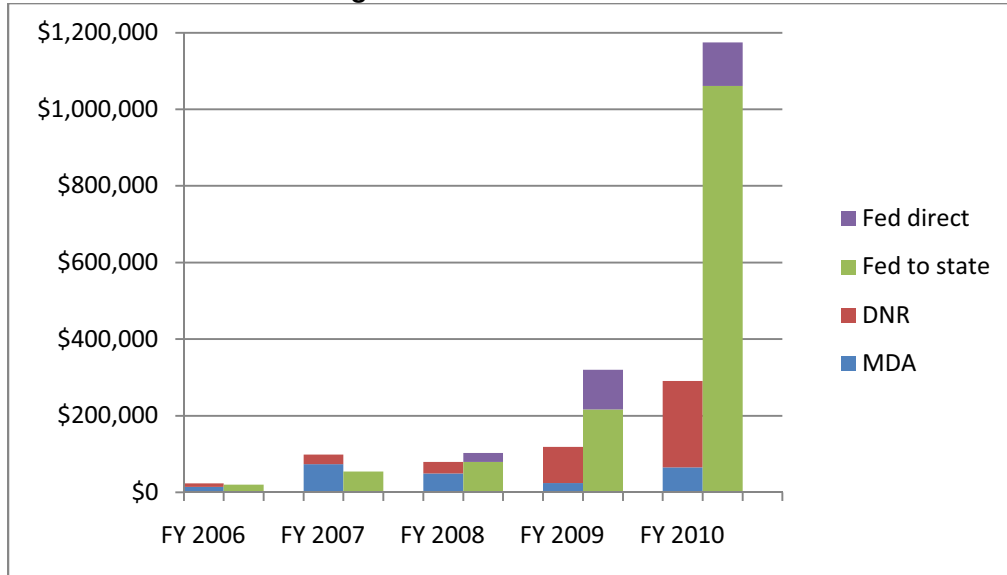
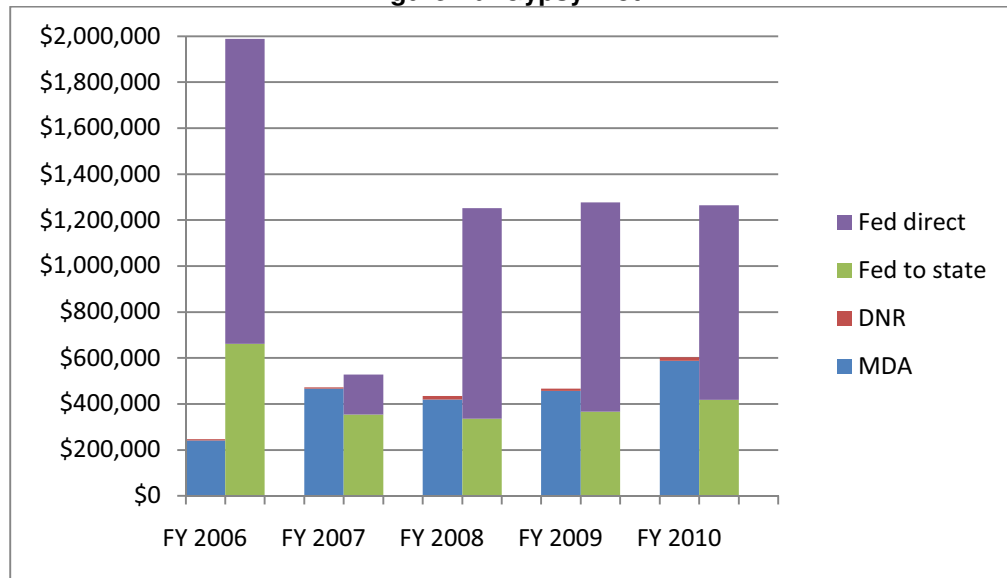


Figure 1b: Gypsy moth



Detailed budget summaries for emerald ash borer and gypsy moth mitigation can be found in Appendix 7 and 8.

POTENTIAL ALTERNATE OR ADDITIONAL SOURCES OF FUNDING

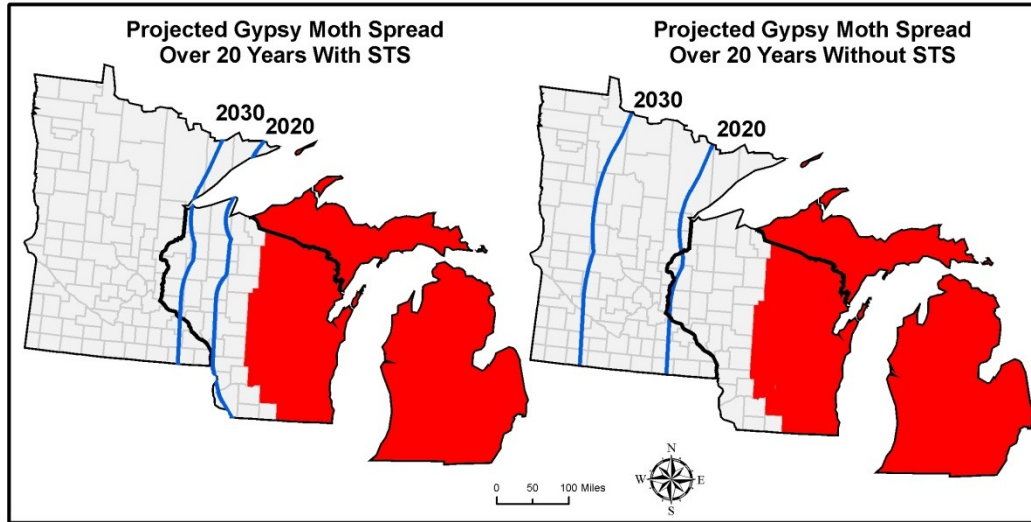
1. Continue state general funds to support these efforts, since benefits will be realized by the state's populace.
2. Pursue additional federal funds and reduction of match requirements for state actions which directly affect federal regulatory responsibilities.
3. Pursue other sources of state funding (e.g., Legislative Citizen Commission on Minnesota Resources, lottery funds, Lessard-Sams Outdoor Heritage Council).
4. Explore feasibility of establishing fees for various services (e.g., hunting/fishing fee, camping fee, firewood purchase fee, fee for retail purchase of nursery stock, etc.).
5. Explore feasibility of establishing a fee on imported materials (e.g., firewood) which pose the greatest threat for the movement of invasive forest pests.
6. Solicit contributions from private entities.
7. Expand the role of local units of government.

PUBLIC AND PRIVATE SECTOR BENEFITS OF INVASIVE FOREST PEST MITIGATION

Stopping the arrival of new invasive species is considered the most effective and cost efficient means for managing invasive species (Hulme 2006). Delaying the arrival of an invasive species even one year can result in substantial savings. Early detection enables timely response and expanded capability for local eradication and/or containment, both of which can result in substantial savings (Brockerhoff et al. 2010).

1. If damage caused by the emerald ash borer is delayed by just one year, a potential savings of about \$140 million in management costs (i.e., tree treatment, removal and replacement) and property value reductions could be realized by Minnesota communities (Kovacs et al. 2010, and calculations by Dr. Andow, U of MN).
2. The benefits of operating the Slow the Spread (STS) program for gypsy moth control have been shown to be at least three times greater than the costs of operating the program (STS 2009). The Slow the Spread Program is operated by the Slow the Spread Foundation, which is an independent, non-profit foundation of 10 participating states and is funded through the USDA. This foundation promotes the regional management of gypsy moth on the leading edge of its infestation.
3. Slow the Spread program efforts against the gypsy moth have reduced pest spread from 13–15 miles per year to 3–5 miles per year, which will protect more than 150 million acres over the next 20 years (STS 2009) (compare maps below).
4. In just eight years, Slow the Spread program efforts for gypsy moth have prevented impacts that would have occurred on more than 75 million newly infested acres (STS 2008).

Figure 2. Predicted spread rates of the gypsy moth under scenarios with or without the Slow the Spread Program. The Slow the Spread Program focuses on the regional management of gypsy moth on the leading edge of its infestation. Funding is provided through the Slow the Spread Foundation, and independent foundation of 10 participating states funded through the USDA. Map provided by USDA Forest Service.



RAMIFICATIONS IF INVASIVE FOREST PEST MITIGATION IS DISCONTINUED

If the state agencies discontinue efforts to mitigate the invasion of gypsy moth and/or emerald ash borer, the entire state will likely become federally quarantined and the rate of pest spread and associated adverse impacts within the state will accelerate.

Economic ramifications:

1. Increased costs to state agencies. For example, federal funds for gypsy moth management will require a 1:1 State:Federal cost share after the pest becomes established and not regulated at the state level, instead of the current approximate 1:3 State:Federal cost share received through the gypsy moth Slow the Spread Foundation.
2. Increased costs to local units of governments for removal, replacement and treatment of trees on public property (Fig. 3, USDA 1995; Kovacs et al. 2010).
3. Increased costs to homeowners and private land owners for treatment, removal, and replacement of trees on private property (USDA 1995; Kovacs et al. 2010). An example of the magnitude of costs for suppression programs can be drawn from Pennsylvania. Over the last 30 years, annual treatment



Figure.3: Removal of trees infested with an invasive species in an urban area. Photo credit: USDA ARS, bugwood.org.:

costs for participants in a federal:private cooperative arrangement have averaged nearly \$2.5 million dollars per year (maximum of \$9.8 million in one year). The cost share for these costs has been 1:1 between the federal government and private land owners. In addition, generally 2 to 3 times this amount of land is treated in private programs each year.

4. Increased indirect costs to home owners and business owners as loss of trees increases cooling and heating costs.
5. Decreased property values as trees are lost. For example, one medium-sized hardwood tree in the front lawn of a single-family home can increase property value by 0.8 percent (Kovacs et al. 2010).
6. Impacts of transitioning from a system of county-level quarantines to a statewide federal quarantine are difficult to predict and are dependent upon the individual business practices.
 - a. Businesses that rely on exporting potentially regulated items to uninfested states would likely be negatively impacted by a statewide quarantine (See statements from Law's Nursery and Bachman's Nursery in appendix 9).
 - i. Potentially increased costs incurred by the nursery industry for inspections and treatments to comply with statewide quarantine.
 - ii. Potentially reduced market availability and profit margins for Minnesota forest products if the quarantine goes statewide.
 - iii. Potentially increased costs incurred by the forest industry as they try to meet quarantine requirements (e.g., fumigation, heat treatment, debarking)
 - b. However, a statewide quarantine could be favorable to other businesses that rely more in importing and within-state movement of potentially regulated items (see statements from Sappi Cloquet LLC and Verso Paper Corp in appendix 9).
7. Decrease in trees considered usable by the forest industry to produce value-added products, as dead trees are generally not considered suitable.
8. Adverse impacts to the forest industry due to lack of particular desired tree species.
9. Exceed current market capacity to utilize dead and dying wood, resulting in higher impacts economically and potentially environmentally due to increased waste wood management demands.
10. Decreased revenues associated with tourism industry in Minnesota as some vacation areas become less desirable due to dying trees and nuisance factors of invasive forest pests (e.g., caterpillar hairs and feces falling from trees) (USDA 1995).

Environmental ramifications:

1. Loss of tree communities in sensitive ecological sites (e.g., black ash swamps of northern Minnesota converting to cattails and sedges) (Fig. 4).
2. Increased risk of forest fires due to increased number of dead trees (USDA 1995).
3. Loss of urban trees, which affects energy requirements, water demand, quality of life, and property values (USDA 1995, Nowak et al. 2006, Kovacs et al. 2010).

4. Degradation of water quality and fisheries may result due to increased storm water runoff, loss of shade and increased amounts of detritus in waters. Feces from gypsy moth caterpillars can contaminate surface water and affect water quality (USDA 1995).
5. Increased pesticide use as local units of government and private land owners protect trees with pesticides (USDA 1995, Kovacs et al. 2010) and as industry increases the amount of material (e.g., nursery stock) treated to comply with requirements for moving materials out of quarantines.



Figure 4: Black ash swamp in Minnesota at risk to being lost due to emerald ash borer and potentially converted to cattails. Photo credit: Anoka Conservation District.

Human health and social ramifications:

1. Human health threat as hairs from gypsy moth larvae in large infestations can cause allergic reactions in humans (e.g., skin lesions, eye irritation and respiratory reaction) (USDA 1995).
2. Falling limbs and trees in areas impacted by gypsy moth or emerald ash borer are a hazard in public areas (USDA 1995).
3. Human safety hazards may occur as feces from gypsy moth larvae can make roads and sidewalks slippery (USDA 1995).
4. Decreased ability to enjoy outdoor activities due to immense amounts of insect feces, shed caterpillar skins, and leaf parts “raining” down from the canopies of infested trees (fig. 5) (USDA 1995).
5. Threat to cultural resources such as the Native American use of black ash for basket making.



Figure 5: Picnic table covered with gypsy moth feces, shed caterpillar skins, and leaf parts. . Photo credit JH Ghent, USDA, bugwood.org.

CLARIFYING STATUTORY AND REGULATORY ROLES & RESPONSIBILITIES

Management of invasive forest pests generally follows the “National Strategy and Implementation Plan for Invasive Species Management” (USDA 2004). This strategy for pest management contains four elements:

1. Prevention: Preventing new invasive pests from entering Minnesota.

2. Early Detection and Rapid Response: Detecting new infestations of invasive pests soon after arrival, and responding rapidly to eradicate or contain these new infestations.
3. Management and Control: Suppressing invasive pest population densities to tolerable levels after they become established and widespread.
4. Recovery and Restoration: Restoring the ecological qualities to sites that have been impacted by invasive pests.

In Minnesota, the MDA monitors and responds (i.e., prevention, early detection and rapid response) to the introduction of exotic and invasive plant pests including forest pests, while the DNR has overall forest management responsibility (i.e., management and control, and recovery and restoration) including invasive pests when exclusion and eradication are no longer possible. The MDA and the DNR work together and in consultation with partners and stakeholders to create criteria for defining when pests are considered established and widespread (i.e., at a level of infestation where the MDA's eradication and/or regulatory efforts are no longer feasible), which is the trigger point for transition of responsibility from the MDA to the DNR. These trigger points need to be determined on a pest-by-pest basis.

Detailed summaries of agency and partner roles and responsibilities are found in Table 1 and Appendices 3 and 4.

The division of responsibilities between the two state agencies provides for an effective structure for mitigation of invasive forest pests.

1. A similar division of responsibilities is utilized at the federal level and in the majority of other states.
2. State statutes mandating this division of responsibilities have been thoroughly reviewed and revised over time by state agencies, federal partners and key stakeholders to optimize efficacy and minimize redundancy (see Appendix 2 for statements from partners and stakeholders).
3. The Incident Command System is used to respond to forest pest emergencies and provides a structure to facilitate coordination and communication among responding agencies and groups during all phases of the response. It has provided an effective structure for multi-agency responses to the emerald ash borer and gypsy moth in Minnesota.
4. Strategic planning and preparedness documents have been created to define specific agencies' responsibilities in the event of a plant pest emergency and are generally carried out using the structure of the Incident Command System.
 - a. "Emerald Ash Borer Readiness Plan for Minnesota" (2008)
 - b. "Minnesota Emerald Ash Borer Response Plan" (2007)
 - c. "A Strategic Plan for the Cooperative Management of Gypsy Moth in Minnesota" (2008)
 - d. "Plant Health Emergency Response Plan" (2007)
5. A memorandum of understanding exists between the USDA Animal and Plant Health Inspection Service and the MDA, to identify the MDA as the state agency with roles and responsibilities for management of invasive plant pests before they become established widespread.

6. The MDA and the DNR work as partners in consultation with federal agencies and stakeholders to create criteria for defining when pests are considered established and widespread (i.e., at a level of infestation where MDA's eradication and/or regulatory efforts are no longer feasible), which triggers the transition in responsibility from the MDA to the DNR.
7. MDA and DNR staffs are specialized in tasks related to the respective responsibilities of each agency. Their understanding of the statutes and continued communication between the agencies prevents duplication of efforts.

As an invasive pest becomes widely established and eradication and regulatory efforts are no longer feasible, state leadership responsibilities in regards to that pest will transition from an MDA regulatory role to a DNR management role. This transition between state agencies will initiate a different approach to controlling populations of the invasive pests. Although ecological and economic benefits to the state as well as meeting regional and national goals will be important, direct response actions supported in part or whole by state funds will likely diminish, and the burden to respond to invasive pest outbreaks will be greater for local units of government, private property owners, and industry.

The DNR's responsibility for mitigation of a pest in the generally infested status will be that of a technical advisor. The burden for the cost of conducting mitigation work (e.g., removal of hazard trees, treatment for protection of trees, and replanting to replace lost trees) will fall on private citizens and local units of government. Cost-share funds will likely be limited to non-existent. Preventing or postponing the widespread establishment of new invasive forest pests is of considerable benefit to Minnesota as it prevents or postpones this new burden with which local units of government, private landowners and industry will need to contend.

RECOMMENDATIONS OF THE FOREST PEST WORKGROUP

The Forest Pest Workgroup compiled the following recommendations for mitigation of invasive forest pests in Minnesota.

1. Maintain the current MDA and DNR division of responsibilities for mitigation of invasive forest pests (see section below entitled, "Clarifying Statutory and Regulatory Roles & Responsibilities" and Appendices 3 and 4).
2. Aggressive management action against invasive forest pests will be taken by state agencies only when biologically and economically appropriate and in consultation with federal partners and local units of government.
3. Restructure/reconcile firewood laws among state agencies to reduce confusion experienced by public and industry and to increase effectiveness of enforcing these laws.
4. Establish an emergency fund for responding to new infestations of invasive forest pests, as was recommended in Minnesota's "Forest Protection Plan" (2008).
5. Explore options for additional funding (see section below entitled, "Potential Alternate or Additional Sources of Funding").
6. Increase coordination and communication among cooperators and stakeholders.

Define the role of local units of government in the management of invasive forest pests (see section below entitled, "Clarifying Statutory and Regulatory Roles & Responsibilities").

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Appendix 1: Legislation from 2010 Minnesota Legislature to create the Forest Pest Workgroup Report (Laws of Minnesota 2010, Chapter 333, Article 1, Section 39)

*Sec. 39. **FOREST PEST WORKGROUP; REPORT.***

(a) The commissioners of agriculture and natural resources shall form a workgroup and develop recommendations on how the state should address mitigation of invasive or exotic forest pests, primarily gypsy moth and emerald ash borer. The commissioners shall consult with representatives of the Forest and Animal and Plant Health Inspection Services of the United States Department of Agriculture, local units of government, the nursery industry, and the timber industry. The commissioners shall report to the legislature under Minnesota Statutes, section 3.195, no later than September 1, 2010.

(b) The recommendations must outline current funding sources for forest pest survey, treatment, quarantine, and outreach activities and must explore and evaluate alternative or additional funding options. The workgroup shall also report on:

(1) the public and private sector benefits of forest pest survey, detection, eradication and outreach efforts;

(2) potential ramifications if the state discontinues efforts to control forest pests, including but not limited to the economic and commercial impact of a statewide quarantine and the environmental consequences of forests pests left unabated;

(3) clarifying statutory and regulatory roles and responsibilities of state agencies and local units of government as well as identifying and evaluating options for consolidating these roles and responsibilities; and

(4) the roles that federal agencies play in managing and regulating invasive forest pests.

Appendix 2: Statements from cooperators and stakeholders



Minnesota Nursery & Landscape Association

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September 1, 2010

Rep. Al Juhnke
Chair, Agriculture, Rural Economies and Veterans Affairs Committee
Minnesota House of Representatives
485 State Office Building
St. Paul MN 55155

Dear Chairman Juhnke:

The Minnesota Nursery & Landscape Association appreciated the opportunity to serve on the Forest Pest Workgroup. MNLA's members are committed to protecting the state's natural and urban environments, as well as the economic interests of our members. The state's \$2.1 billion nursery and landscape industry employs approximately 10,000 year-round, full-time employees and another 18,000 seasonal and part-time employees. Best of all, these sales and jobs are generated by locally-owned and family-owned businesses.*

MNLA supports the conclusions of the Forest Pest Workgroup. Minnesota's current structure and success on controlling invasive forest pests has allowed the state to highly leverage federal dollars to slow the spread of gypsy moth and emerald ash borer. **The Minnesota Department of Agriculture and the Minnesota Department of Natural Resources, along with their federal and local partners, are to be commended for their collaborative efforts to fight invasive species of all types.** Just as the layman can be confused by the crossover between state agencies for responsibility on water regulations, the same can occur with invasive species. But state and federal partners are fully aware of the where the dividing line is on responsibilities between agencies.

Changes to the current structure or reductions in funding will accelerate the spread of pests such as Gypsy moth and emerald ash borer – and accelerate damage to the environment. Once the pests are widespread and the state is "generally infested," the largest portion of the financial burden for pest control and management will shift from the federal government to state, local and private sources. **The best way to maximize environmental protection and minimize the impact on state and local budgets is to leave the current structure intact.** Minnesota is on the leading edge of these pests and so it is wise to take full advantage of the federal government's interest in suppression for as long as possible.

If, for example, the state becomes designated as generally infested with Gypsy moth, local jobs, farms and businesses will be in jeopardy. If the state surrenders to Gypsy moth, Minnesota will be placed in a federal quarantine. That means that agricultural operations such as nurseries, Christmas tree farms and timber producers will be faced with additional treatment and inspection costs before being allowed to export their products. These additional costs will hurt Minnesota-based nursery growers who already are burdened with some of the highest production costs in the nation (because of our climate) as well as slow sales from the sagging construction market.

Again, MNLA thanks you for the opportunity to take part in the Forest Pest Workgroup and our organization looks forward to working with you to protect the interests of Minnesota's farmers and Minnesota's environment.

Sincerely,

Bob Fitch, Executive Director
Minnesota Nursery & Landscape Association

*MNLA believes that an important footnote to this discussion is the fact that the production of horticultural crops is agriculture, just like the production of corn, soybeans, or sugar beets. Horticultural crops include but are not limited to trees, shrubs, perennials, and annuals. In Minnesota Statutes 297A, horticulture is recognized as agriculture in its treatment of sales tax on nursery equipment and production consumables. Minnesota Statutes 273.13 cites nursery stock as an agricultural product in several instances; horticultural products are included in the Census of Agriculture performed by the National Agricultural Statistics Service; nursery crops are covered in the federal crop insurance program; and Internal Revenue Code Section 263(A)(d)(3) allows nurseries to use cash basis accounting instead of accrual basis accounting because of their unique circumstances in agriculture.



MINNESOTA FOREST INDUSTRIES

903 Medical Arts Building • 324 West Superior Street • Duluth, MN 55802 • 218-722-5013 • Fax 218-722-2065 • www.minnesotaforests.com

September 27, 2010

Rep. Al Juhnke
Chair, Agricultural Rural Economies and Veterans Affairs Committee
MN House of Representatives
485 State Office Building
St. Paul, MN 55155

Dear Chairman Juhnke:

Minnesota Forest Industries (MFI) appreciated the opportunity to serve on the Forest Pest Workgroup. MFI is an association representing the state's forest products companies. MFI members are part of an \$8.6 billion forest products industry and are dependent on the timber harvested from healthy and productive forests of Minnesota.

MFI supports the conclusions of the Forest Pest Workgroup. We believe the current structure on controlling invasive forest pests will work best to control the spread of invasive species. Further, we believe that changes to the current structure will accelerate the spread of invasive species, threatening the overall health of Minnesota's forestlands.

Again, thank you for the opportunity to serve on the Forest Pest Workgroup.

Sincerely,

A handwritten signature in black ink, reading "Tim J. O'Hara". The signature is written in a cursive style and is placed on a light gray rectangular background.

Tim J. O'Hara
Vice President of Forest Policy

APPENDIX 3: Roles and responsibilities for management of invasive forest pests in Minnesota*

(A = lead entity; B = critical partner; C = supporting player)

	MDA	DNR	USDA APHIS	USDA FS	LUGs	U of MN
PREVENTION <i>(Undetected pests)</i>						
Regulate interstate trade including nursery & wood products	B	C	A	C	.	.
Regulate intrastate trade including nursery & wood products	A <i>MN Statutes 18G, 18H</i>	C	B	C	.	.
EARLY DETECTION <i>(Undetected pests)</i>						
Survey for invasive pests not yet permanently established in MN	A <i>MN Statutes 18G, 18H</i>	B	A	B	C	C
Inspection of goods in commerce for invasive pests not yet permanently established in MN	A <i>MN Statutes 18G, 18H, 18J</i>	C	A	C	.	.
Response to reports of new invasive pests	A <i>MN Statutes 18G, 18J</i>	B	A	B	B	B
RAPID RESPONSE <i>(Detected & spreading pests)</i>						
Regulate interstate trade including nursery & wood products	B	C	A	C	.	.
Regulate intrastate trade including nursery & wood products	A <i>MN Statutes 18G, 18H</i>	C	B	C	.	.
Eradicate isolated infestations of invasive pests not yet permanently established in MN	A <i>MN Statutes 18G</i>	C	A	C	C	.
Treat spreading populations of invasive pests not yet permanently established in MN	A <i>MN Statutes 18G</i>	C	C	A	C	.

Continued on next page

2010 Minnesota Forest Pest Workgroup Report

	MDA	DNR	USDA APHIS	USDA FS	LUGs	U of MN
MANAGEMENT <i>(Widely established pests)</i>						
Survey for invasive pests permanently established in MN	C	A <i>MN Statutes 89</i>	C	A	A	C
Manage general infestations of invasive pests permanently established in MN (tree removal, treatment, etc.)	C	A <i>MN Statutes 89</i>	C	A	A	C
RESTORATION <i>(Widely established pests)</i>						
Wood utilization and reforestation in impacted areas	C	A <i>MN Statutes 89</i>	C	A	A	B
OUTREACH AND EDUCATION <i>(All invasive forest pests)</i>						
Educate public and stakeholders regarding prevention, early detection, rapid response, management and/or restoration	A	A	B	B	B	A

* MDA = Minnesota Department of Agriculture; DNR = Minnesota Department of Natural Resources; USDA APHIS = United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine; USDA FS = United States Department of Agriculture, Forest Service; LUGs = local units of government; U of MN = University of Minnesota

Appendix 4: Roles and responsibilities for mitigation of invasive forest pests

Management of invasive forest pests in Minnesota consists of four principal elements:

1. **Prevention:** preventing new invasive pests from entering Minnesota.
2. **Early Detection and Rapid Response:** detecting new infestations of invasive pests soon after arrival, and responding rapidly to eradicate or contain these new infestations.
3. **Control and Management:** suppressing invasive pest population densities to tolerable levels after they become established and widespread.
4. **Recovery and Restoration:** restoring the ecological qualities to sites habitats that have been impacted by invasive pests.

The state agencies work together with federal agencies, local units of government, tribes, the University of Minnesota, private industry and other entities to leverage resources and authorities to carry out management of invasive forest pests in a coordinated manner.

PREVENTION

The MDA has primary responsibility for prevention, early detection and rapid response to terrestrial plant pests, including forest pests, in Minnesota. The tactics of prevention, early detection and rapid response (i.e., quarantine and eradication) contribute to delaying the arrival and establishment of new invasive species can result in substantial savings. To accomplish these goals, the MDA collaborates closely with stakeholders and other agencies, particularly the USDA Animal and Plant Health Inspection Service for financial and technical support (via a Memorandum of Understanding), to prevent, detect, and respond to invasive pests in public and private forests in natural, urban, rural and agricultural settings.

For prevention, the MDA leads multiagency efforts to educate the general public, industry, and other stakeholders about the importance of, and how not to, move new invasive forest pests into and within Minnesota. Minnesota Extension plays an important role in information dissemination. USDA Forest Service assists USDA Animal and Plant Health Inspection Service in the role of providing educational materials and messaging to states. The MDA and USDA Animal and Plant Health Inspection Service conduct inspections of commodities with high risk for moving pests into Minnesota. For example, the MDA conducts inspections at nurseries to ensure that nursery stock coming into Minnesota is not harboring invasive pests. From a regulatory angle, the MDA works closely with USDA Animal and Plant Health Inspection Service to maintain quarantines to prevent the movement of pests from infested areas in other states into Minnesota or from infested areas in Minnesota into non-infested areas in Minnesota.

EARLY DETECTION AND RAPID RESPONSE

For early detection of new invasive pests, the MDA, in close cooperation with USDA Animal and Plant Health Inspection Service, leads survey efforts for invasive pests. Such surveys may include, for example, the use of traps and visual inspection of trees. The DNR and USDA Forest Service assist with surveys on public forest land. In addition to formal pest surveys, the MDA responds to reports of suspect infestations via the Arrest the Pest Hotline. Furthermore, many of the first detections of forest pests in other parts of the country have stemmed from reports from the general public. To facilitate such a response, the MDA has worked with the DNR and

University of Minnesota to train volunteers from the general public and industry to be on the lookout for new invasive pests.

If a new invasive forest pest is detected, the MDA rapidly responds to mitigate the new pest threat. Emergency response plans are written by the MDA in cooperation with other agencies and stakeholders for pests expected to reach Minnesota. Such plans include the “Emerald Ash Borer Readiness Plan for Minnesota” (2008), “Minnesota Emerald Ash Borer Response Plan” (2007), “A Strategic Plan for the Cooperative Management of Gypsy Moth in Minnesota” (2001), and a non-specific response plan, called the “Plant Health Emergency Response Plan” (2007), to addresses those pests that arrive unexpectedly. Rapid response efforts may include eradication to eliminate the pest. Federal cooperation for eradication efforts depends on the size of the infested area – USDA Animal and Plant Health Inspection Service is involved with smaller infestations and USDA Forest Service with larger infestations.

Since the first adult gypsy moth was captured in 1969, the state’s continued early detection and eradication efforts have kept this pest from becoming established. When gypsy moths do become established in some part of Minnesota, response will shift from trying to eradicate that infestation to trying to slow its spread to new areas.

In addition to eradication, the MDA uses regulatory authorities (e.g., quarantines) to contain the pest and prevent it from spreading to other areas within Minnesota. For regulatory responses, the MDA partners closely with USDA Animal and Plant Health Inspection Service who has authorities to regulate interstate commerce. If eradication is not feasible, steps may be taken to slow the spread of the pest to other areas within the state, as is the case with the emerald ash borer infestations in Minnesota: through the removal of infested trees as they are found in the Twin Cities area and exploring biological control for the infestation in Houston County.

TRANSITION IN RESPONSIBILITY FROM THE MDA TO DNR

Eventually, some pests will overcome these rapid response efforts (i.e., containment, eradication and slow-the-spread). In preparation for such events, the MDA and DNR work as partners to create criteria for defining when pests are considered established and widespread. When a pest meets these criteria for being established and at a point where eradication and containment are no longer feasible, the DNR becomes the lead agency for control, management, and recovery and restoration.

MANAGEMENT AND CONTROL

The DNR has primary responsibility for responding to populations of established widespread invasive forest pests on state, county, community and private lands when there are critical state, regional or national concerns or impacts that should and can be mitigated. The DNR works with tribal and federal land managers to coordinate and collaborate on mitigation strategies. The DNR has implemented mitigation actions related to white pine blister rust, Dutch elm disease and oak wilt. The DNR also provides technical support to local units of government and private land managers in implementing mitigation strategies to manage pest impacts.

RECOVERY AND RESTORATION

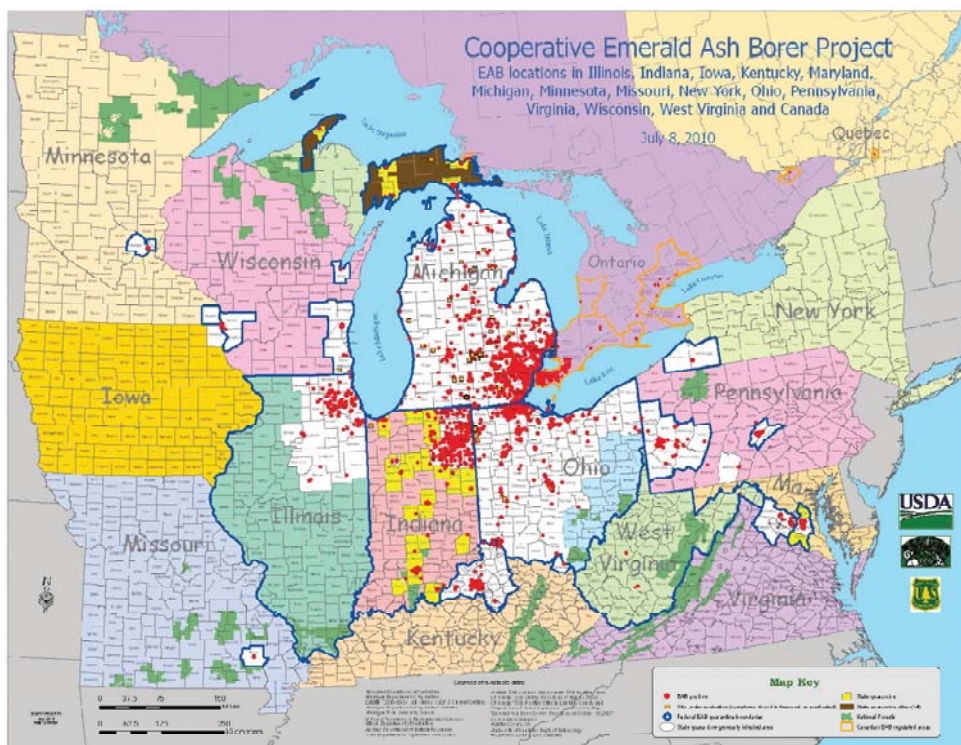
Recovery and restoration are essential for regaining and maintaining a healthy environment after it has been impacted by an invasive pest. However, the recovered system may differ from the original system. The DNR has primary responsibility for addressing recovery from invasive species and collaborates with the USDA Forest Service and other stakeholders. Recovery may include various actions from urban and shelterbelt tree replacements to native habitat restoration. Furthermore, DNR researches and advises on wood utilization once trees are removed. Such recovery and restoration efforts will be critical for dealing with future wide-scale infestations of emerald ash borer.

Appendix 5: Status of the emerald ash borer in Minnesota

BACKGROUND

Emerald ash borer (EAB) is an invasive insect pest that attacks and kills ash trees. This tiny, metallic-green beetle has killed millions of ash trees since it arrived in North America and, with more than 900 million ash trees (far more than most states), Minnesota is a prime target.

EAB larvae kill ash trees by tunneling into the wood and feeding on the tree's nutrient-carrying inner bark. While the adult EAB can fly a short distance on its own, the primary way EAB moves to new areas is when people accidentally transport infested wood products. For this reason, federal and state officials have focused on limiting the movement of potentially infested wood. Despite these efforts, EAB has infested trees in at least 15 states (see map below).



Distribution of established emerald ash borer populations in North America. Red dots on the map indicate infested areas.

EAB was first detected in Minnesota in May 2009 in St. Paul's South St. Anthony Park neighborhood. The MDA confirmed the presence after receiving a tip from a tree care company. Subsequent survey efforts by the MDA and city officials have documented infested trees in St. Paul, Falcon Heights and Minneapolis.

In April 2010, EAB was also detected on the Upper Mississippi Fish and Wildlife Refuge in Houston County, Minnesota. This find is proximal to an infestation discovered in 2009 in the town of Victory, just across the Mississippi River in Western Wisconsin. At this time, four infested trees have been discovered on the refuge.

It is important to note that while most of the state's ash trees are in northern forests, the impact of EAB will also be felt in more urban areas where ash trees are common features in homeowners' yards and on public land such as boulevards and parks. Ironically, ash was one of the species commonly planted to replace the elm trees wiped out in the past decades by Dutch elm disease.

MINNESOTA'S RESPONSE

When EAB was originally found in Wisconsin in April 2009, the MDA took the precautionary step of issuing a quarantine prohibiting the movement of ash firewood and other potentially infested materials out of Houston County. Upon confirmation of EAB in St. Paul in May 2009, the MDA issued a similar quarantine for Ramsey and Hennepin Counties. As of August 2010, these three counties are the only quarantined areas in Minnesota.

Since the St Paul find, the MDA has coordinated with affected municipalities to identify infested trees for removal by municipal partners. By removing infested trees, the MDA and its partners hope to reduce the number of ash borers in the area and thereby slow both the rate of tree mortality in infested areas and spread into new areas. Thus far this strategy has appeared to be successful – MDA monitoring data suggest that the EAB population in St. Paul and Minneapolis would have increased approximately 500 percent from 2009 to 2010 without the removal and destruction of infested trees (MDA unpublished data).

In Houston County, the US Fish and Wildlife Service and the Army Corps of Engineers own and manage the lands that are currently affected by EAB. The MDA is working with these agencies to release up to three species of stingless wasps which attack and kill developing EAB. While these wasps will not eliminate EAB from the system, the hope is that they will slow down the growth and spread of the population – much like the removal of infested trees in the Twin Cities.

In addition to work aimed directly at controlling EAB, the MDA and its partners also conducted an extensive public outreach effort that featured multiple town hall-style meetings in the quarantined counties, spent thousands of dollars in paid advertisements and provided hundreds of television, radio and print media interviews – all with the goal of informing Minnesotans about EAB and the steps they could take to help slow its spread.

In January 2010, the MDA announced the recipients of \$1.875 million in Forest Protection Reserve Grants to aid municipalities and organizations in preventing new infestations of EAB or to respond to already known infestations of the insect. The Forest Protection Reserve Grants are part of an appropriation from the Outdoor Heritage Fund. The list of grant recipients is available on the MDA's website at <http://www.mda.state.mn.us/news/fprgrantlist.pdf>.

ADDITIONAL INFORMATION

Information about the MDA's emerald ash borer survey and response efforts can be found on the MDA website at www.mda.state.mn.us/eab.

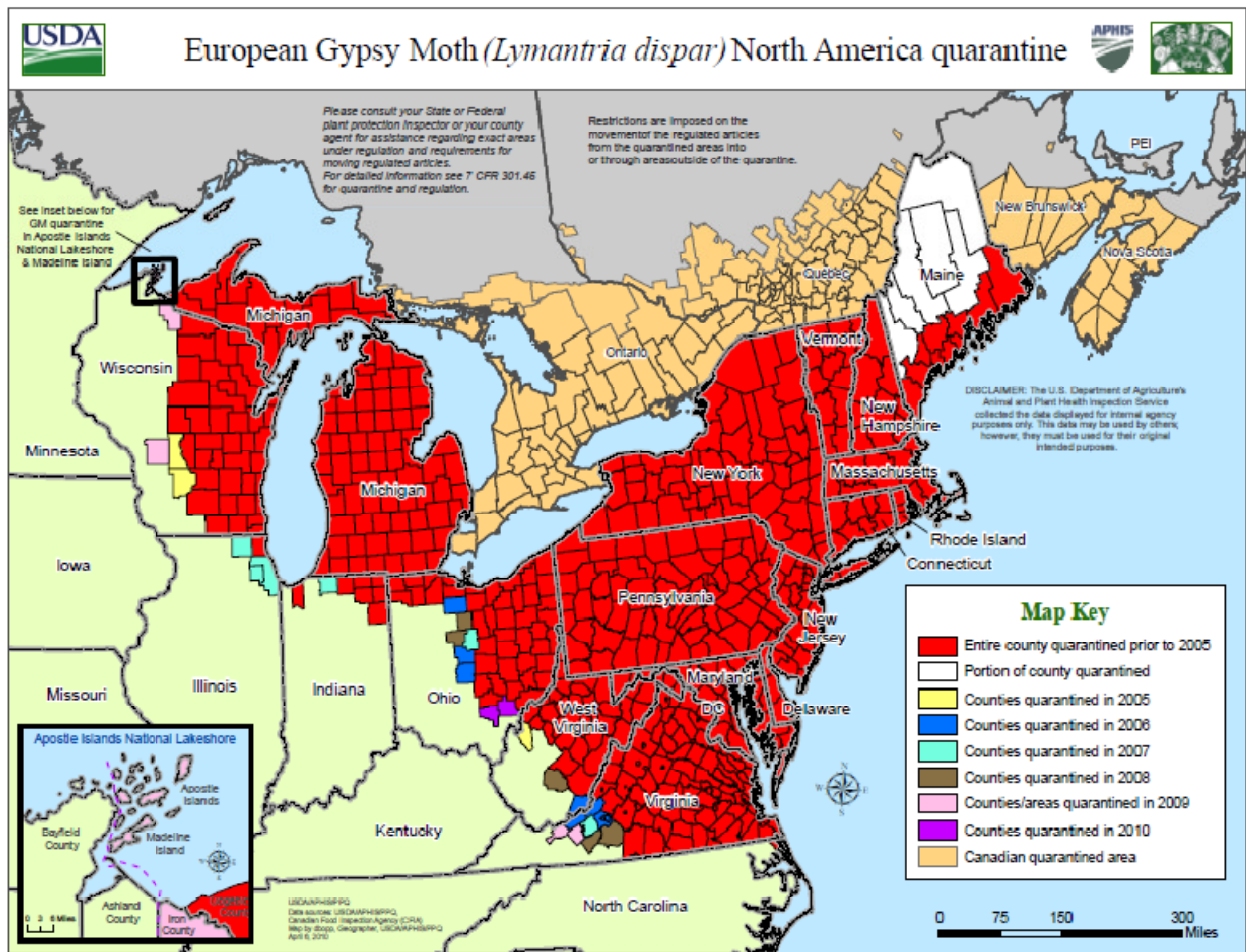
Appendix 6: Status of the gypsy moth in Minnesota

BACKGROUND

Gypsy moth is an invasive insect pest that feeds on over 300 species of woody shrubs and trees. The gypsy moth favors such valuable forest species as oak, birch, aspen, and basswood, and has killed millions of trees since it arrived in the country in 1869. Minnesota’s forests contain prime habitat for the gypsy moth.

Trees that are healthy do not typically die from one season of gypsy moth defoliation damage. However, an unhealthy tree that is attacked or one suffering multiple defoliation events can easily be killed. Gypsy moth caterpillars spread about a mile per year through natural dispersal in a process called “ballooning” but, with the assistance of humans, artificial spread can reach 13-16 miles per year. Gypsy moth females do not discriminate location when laying eggs and can deposit 500-1000 viable eggs on nursery stock, wood products, and outdoor household articles.

A federal quarantine exists to limit movement of these items into Minnesota. Currently, there are no quarantined counties in Minnesota for gypsy moth.



Distribution of established gypsy moth populations in North America. Federally quarantined counties are shown in this map.

In 2004, the Minnesota Department of Agriculture (MDA) became a member of the national Gypsy Moth Slow the Spread (STS) program funded by the USDA. STS has 10 state partners from Minnesota to North Carolina (see graphic above). While partnership requires a portion of state funds to match grants, it provides a systematic and scientifically based structure of large scale pest control which ultimately slows the establishment of gypsy moth by 60 percent.

Since 2007 Minnesota has seen a steady increase in the number of gypsy moths trapped annually. Established populations in Wisconsin are encroaching by natural dispersal and forming satellite infestations along the leading edge of the front. Management is aimed at these small infestations, taking away their growth momentum and slowing the pace at which satellites coalesce. All treatments in the state have been successful, as determined by the reduction of gypsy moth populations.

MINNESOTA'S RESPONSE

Gypsy moths were first discovered in Minnesota in 1969. Since this initial detection, the MDA has partnered with federal, state, and local agencies in a vigilant program to detect and eradicate new infestations and to slow the spread of this pest. An annual survey of the state using a highly effective lure indicates to program managers where treatments are required. Seasonal employees are hired each year to set, check, and remove over 20,000 traps between May and October.

Treatments for gypsy moth are effective and relatively inexpensive. The two main treatment types are chosen based on biological activity at each site. The biological insecticide *Bacillus thuringiensis* var. *kurtaki* (Btk) is used to target isolated but dense reproducing populations. This product has been used safely for over 40 years on many forestry applications worldwide. At sites where gypsy moth is found at low levels over a wide geographic area, mating disruption products may make more sense biologically as treatment options. The female gypsy moth pheromone has been synthesized in the lab and has been used for over a decade to disrupt the mating behavior of the adult moth which, in turn, reduces mating success and subsequent generations of the moth. Both products have minimal toxicity to humans and pets. The state contracts for all Btk treatments and the USDA Forest Service contracts all of the acreage treated across state lines.

Gypsy moth populations detected at regulatory sites have a high risk of being moving to uninfested areas. Chemical insecticides such as diflubenzuron formulations are routinely prescribed for eradications at sites like nurseries and mills which can tolerate broad-spectrum insecticides. Environmental consequences of all federally-funded treatment projects are explored in an environmental assessment.

Compliance agreements are written and coordinated with the USDA for businesses engaged in transporting wood products (pulp logs) and nursery stock into Minnesota from the quarantined area. Compliance agreements allow regulated articles to move out of the quarantine but come with restrictions for use and holding upon arrival to their in-state destination. For example, saw logs brought to Minnesota from Michigan may be hosting gypsy moth egg masses. A compliance agreement with the sawmill will specify what times of year those logs can safely be imported and give processing deadlines to minimize the chance that those egg masses will

survive to adulthood. Businesses under compliance are visited annually for staff training, have traps placed on and around the property each year, and may have their paperwork and grounds inspected by regulatory officials at any time. Several Minnesota businesses are under ongoing compliance agreements and more are expected as additional counties are regulated.

Regulatory sites such as campgrounds, firewood dealers, state parks, mills and nurseries are trapped at a higher density than surrounding areas. The risk of introduction is higher at these sites and careful monitoring can lead MDA officials to pinpoint the infestation sooner and respond to any introductions quickly and with minimal disruption to businesses. In addition to treatment orders, positive traps at regulatory sites may result in investigations of materials on site, stop sales, and/or criminal or civil penalties.

Being an invasive species, gypsy moth caterpillars do not have an array of natural enemies to keep their numbers from booming. However, biological control is being implemented by the MDA this year by using a species-specific fungal pathogen called *Entomophaga maimaiga*. Soil bioassays are planned to detect the presence of the fungus before and after distribution. The fungus is well adapted to Minnesota's climate and can last six years in the soil without its host. *E. maimaiga* was originally found in the U.S. in the 1980s and has been found closely following the spread of the gypsy moth ever since. Samples collected in Wisconsin were redistributed to the Arrowhead Region of Minnesota, where moth captures have been increasing.

ADDITIONAL INFORMATION

Information about the MDA's gypsy moth survey and response efforts can be found on the MDA website at <http://www.mda.state.mn.us/gypsymoth>.

Appendix 7: State agency funding for management of emerald ash borer in Minnesota

Current and past funding for emerald ash borer management in Minnesota.

	2006	2007	2008	2009	2010
State funding					
MDA - General fund ^a	\$14,064	\$73,888	\$49,491	\$24,123	\$65,798
DNR - General fund	\$10,000	\$25,000	\$30,000	\$95,000	\$0
DNR - Lottery-in-lieu	\$0	\$0	\$0	\$0	\$225,000
<i>Total state funds</i>	<i>\$24,064</i>	<i>\$98,888</i>	<i>\$79,491</i>	<i>\$119,123</i>	<i>\$290,798</i>
Federal Funding					
Funding to state agencies ^b					
USDA APHIS ^c	\$5,651	\$44,905	\$63,466	\$112,620	\$1,021,247
USDA Forest Service	\$15,000	\$9,418	\$16,254	\$104,008	\$40,000
Federal direct ^d					
USDA APHIS	\$0	\$0	\$23,050	\$103,260	\$113,600
USDA Forest Service	\$0	\$0	\$0	\$0	\$0
<i>Total federal funding</i>	<i>\$20,651</i>	<i>\$54,323</i>	<i>\$102,770</i>	<i>\$319,888</i>	<i>\$1,174,847</i>
Grand total (state+federal)	\$44,715	\$153,211	\$182,261	\$439,011	\$1,465,645

^a In 2010, the ratio of funds spent by MDA on survey, quarantine, treatment and outreach was 4.1 : 2.4 : 1.5 : 2.1.

^b Federal funds are provided to the state for outreach, survey, mitigation and regulation.

^c USDA Animal and Plant Health Inspection Service

^d Funding spent directly by federal agencies in Minnesota, without being passed through to state agencies and not requiring a match.

Appendix 8: State agency funding for management of gypsy moth in Minnesota

Current and past funding for **gypsy moth** management in Minnesota.

	2006	2007	2008	2009	2010
State funding					
MDA - General fund	\$241,608	\$466,794	\$420,045	\$457,135	\$588,180
DNR - General fund	\$5,000	\$5,000	\$15,000	\$10,000	\$0
DNR - Lottery-in-lieu	\$0	\$0	\$0	\$0	\$15,000
<i>Total state general</i>	<i>\$246,608</i>	<i>\$471,794</i>	<i>\$435,045</i>	<i>\$467,135</i>	<i>\$603,180</i>
Federal Funding					
Funding to state agencies ^a					
USDA APHIS ^b	\$5,642	\$42,024	\$26,831	\$65,790	\$9,747
STS Foundation ^c	\$457,132	\$281,958	\$302,998	\$301,144	\$408,693
USDA Forest Service	\$198,242	\$30,290	\$6,000	\$0	\$0
Federal direct ^d					
USDA APHIS	\$76,000	\$42,400	\$41,500	\$48,160	\$50,100
USDA Forest Service ^e	\$1,251,266	\$131,000	\$874,196	\$862,248	\$796,027
<i>Total federal funding</i>	<i>\$1,531,150</i>	<i>\$245,714</i>	<i>\$948,527</i>	<i>\$976,198</i>	<i>\$855,874</i>
Grand total (state+federal)	\$1,777,758	\$717,508	\$1,383,572	\$1,443,333	\$1,459,054

^a Federal funds are provided to the state for outreach, survey, mitigation and regulation.

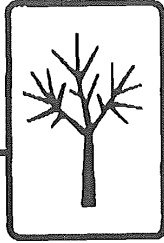
^b USDA Animal and Plant Health Inspection Service

^c The Slow the Spread (STS) Foundation is an independent foundation of 10 participating states and is funded through the USDA. This foundation promotes the regional management of gypsy moth on the leading edge of its infestation.

^d Funding spent directly by federal agencies in Minnesota, without being passed through to state agencies and not requiring a match.

^e Funding in support of STS trapping and treatments in Minnesota, which are in addition to the STS Foundation grant to the state.

Appendix 9: Statements from industry representatives regarding the impacts of county-level quarantines versus a statewide federal quarantine, which is a likely result if the state's efforts for prevention, early detection and rapid response (i.e., eradication and quarantine) are discontinued.



Law's NURSERY, INC.

13030 Maycrest Avenue Court South
Hastings, Minnesota 55033-9456

Phone (651) 437-9119
Fax (651) 438-3097

Robert Koch, PhD
Minnesota Department of Agriculture
625 Robert Street North
St. Paul, MN 55155

September 7, 2010

Dear Dr. Koch,

Thank you for the opportunity to respond to the potential impact of a statewide quarantine on nursery stock. We are no longer planting ash trees, and spring of 2011 will probably be the last we will want to ship them out of state. With the depressed economy in MN, we have shipped more trees to North and South Dakota than we have in MN. If we were hit with a quarantine we may as well turn out the lights and lock the door. There is no way we could stay in business. To date, we have had no emerald ash borers or gypsy moth trapped here. We have been trapped for gypsy moth for the last several years with none found. A statewide quarantine on nursery stock seems unnecessary at this time.

Sincerely,

Paul Morlock
President

In a phone conversation between John Daniels of Bachman's Nursery and Geir Friisoe of the Minnesota Department of Agriculture on September 13, 2010, Mr. Daniels commented that:

The State needs to continue efforts and keep gypsy moth out as long as possible. Establishment of this pest will hurt the nursery's product.

If a statewide quarantine is implemented, the nursery will have reduced efficiency, lost sales, slowed sales, and increased expenses for inspections and treatments. Furthermore, potential markets would change and the nursery would lose its ability to do business in our five-state area.

Finally, such a quarantine would increase cost and time spent.

2010 Minnesota Forest Pest Workgroup Report

From: John.Cloutier@versopaper.com [mailto:John.Cloutier@versopaper.com]
Sent: Monday, September 13, 2010 4:29 PM
To: Koch, Robert (MDA)
Cc: Tom.Stinson@versopaper.com; Bob.Bridges@versopaper.com
Subject: quarantine

Bob, thank you for the opportunity to allow Verso Paper Corp to comment on the impact of a statewide quarantine for both the gypsy moth and the emerald ash borer. Our company strongly favors a Statewide Quarantine for both the emerald ash borer and gypsy moth. Anything less than a State wide quarantine would have a negative impact on our business. We are most definitely against a county by county quarantine. Thanks again for the opportunity to comment.

Kind regards,
John

John Cloutier -Sartell Fiber Supply
(Office) 218-834-2733
(Cell) 218-341-3769
(Fax) 218-834-6163
john.cloutier@versopaper.com



September 10, 2010

Robert Koch, PhD
Research Scientist
Minnesota Department of Agriculture
625 Robert Street North
St. Paul, MN 55155

Dear Mr. Koch:

In response to your request to provide input about the potential impacts to our business of state-wide quarantines for Gypsy moth or Emerald ash borer, I offer the following:

In regards to Gypsy moths:

- Sappi consumes approximately 1,800,000 tons of wood per year – primarily aspen and maple from Minnesota, Wisconsin and Michigan
- Sappi has a compliance agreement with USDA APHIS and the Minnesota Department of Agriculture to allow our mill to receive wood from areas that are currently within the Gypsy moth quarantine areas in Wisconsin and Michigan. The compliance agreement requires us to consume all quarantined wood within 5 days during the May – June “blackout” period
- In 2010, Sappi will consume approximately 250,000 tons of wood from the Gypsy moth quarantine area in compliance with our agreement
- As the volume of quarantined wood that we handle has increased over time, it has become much more difficult to manage the wood deliveries and yard inventory to comply with the requirement that all quarantined wood be consumed within 5 days in May-June. If we see additional areas of our supply base become quarantined, it will become increasingly difficult to handle the additional volume and comply with the requirements of the compliance agreement. It is hard to predict a precise volume when it would become impossible to maintain compliance with the procedures. The volume we are currently handling is stretching our ability
 - If Minnesota chooses to quarantine specific counties in the Northeast, it will mean a significant increase in the overall quantity of quarantined wood and also increase the complexity because we would then have to handle multiple species of quarantined wood. At the current time we are primarily dealing with just maple in the compliance agreement, since we are procuring maple from the quarantine zones in Wisconsin and Michigan. We procure aspen, birch and some other species in NE Minnesota which would mean that we now need to maintain quarantine landings for each species in our woodyard
- If Minnesota chooses to quarantine the entire state for Gypsy moth, I believe it would eliminate the need for us to have a compliance agreement with the requirement that we consume all wood from a quarantine area within 5 days in May-June. A decision to quarantine the entire state would make our operations easier to manage.
 - I believe it is important to consider the results of the intensive Gypsy moth trapping that has occurred at our mill site. To my knowledge, the trapping program has not shown substantially higher numbers of Gypsy moths at our mill site or the local area when compared with the numbers of moths trapped in the general vicinity.

In regards to Emerald Ash borer:

- Sappi can consume ash as a minor component of the overall volume that we use. We believe

Fine Paper

North America

Sappi Cloquet LLC

Wood Fiber & Fuel Procurement

20 N 22nd Street, PO Box 511

Cloquet MN 55720

that we are already one of the largest consumers of ash in Minnesota. We buy pure loads of ash and we can track and know how much we receive. Pure loads could be managed with a compliance agreement. However, we believe that we receive a substantial amount of ash mixed in with our aspen and birch and that will be very difficult to manage if a compliance agreement is required. We think it might be virtually impossible to ensure that all ash is consumed within a specific time frame.

- We believe that we could increase our consumption of ash in response to the Emerald Ash borer problem, but it would be very difficult to increase our consumption within the limitations of a compliance agreement.
 - Most ash is harvested in the winter time during frozen conditions. However, ash pulpwood that is chipped in the winter time when the wood is frozen shows a substantially lower fiber recovery because the ash “shatters” more than. We usually try to blend the ash in to our system after it is thawed to ensure the best fiber recovery. We also want to blend the ash fiber in to our system over time in a controlled way to maintain a consistent fiber length and quality. If we have to consume all the ash pulpwood delivered in the winter in a short time in the spring to comply with the requirements of a compliance agreement, it will likely cause variation in our fiber length and quality with unknown consequences.
- If Minnesota chooses to quarantine the entire state for Emerald Ash borer, we believe that the decision would create the most flexibility for us to increase the volume of ash that we consume. If Minnesota chooses to continue to quarantine county by county, our most likely response is to limit as much as possible the ash that we consume since we anticipate that it would be very difficult to ensure compliance with requirements of a compliance agreement similar to the Gypsy Moth agreement.

We recommend that Minnesota enact state-wide quarantines for both Gypsy Moth and Emerald Ash borer. But please coordinate with other states in the region. We do export about 15,000 to 25,000 tons of wood per year off of stumpage contracts that we harvest in Minnesota, primarily to Wisconsin mills. It would not make much sense for Minnesota to quarantine the entire state and then see Wisconsin continue to have the western part of Wisconsin outside the quarantine area.

Thanks for the opportunity to provide some input. If you have any further questions, please do not hesitate to get in touch with me.

Sincerely,

Gary Erickson
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