

Nebraska Emerald Ash Borer Response Plan

First approved: March 21, 2008

Updated: May 4, 2009

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EXECUTIVE SUMMARY

- Emerald ash borer (EAB) infests and kills all types of ash trees (*Fraxinus* spp.) regardless of their health, condition, size or age.
- EAB was first detected in 2002 in a suburb of Detroit, Michigan.
- As of November 2008, EAB has been found in 10 states and two Canadian provinces (Illinois, Indiana, Maryland, Michigan, Missouri, Ohio, Pennsylvania, Virginia, West Virginia, Wisconsin, and Ontario and Quebec, Canada).
- EAB has killed over 30 million ash trees as of 2007 in Michigan, Ohio and Indiana.
- EAB is a very likely threat to Nebraska's 30 million ash trees.
- The estimated potential impact of EAB just on urban forests in the U.S. is an economic loss of \$20 - 60 billion.
- The economic impact just on the City of Lincoln's urban forest has been estimated at \$137,403,770.
 - Loss of annual net environmental, economic, and social benefits: $\$19.52/\text{tree} \times 159,861 \text{ ash} = \$3,120,492/\text{year}$
 - Removal costs of city-owned ash: $31,972 \text{ ash} \times \$400 \text{ average per removal} = \$12,788,800$
 - Replanting costs of city-owned ash (100% replacement): $31,972 \times \$280/\text{tree} = \$8,952,160$
 - Removal costs of privately owned ash: $127,889 \text{ ash} \times \$600 \text{ average per removal} = \$76,733,400$
 - Replanting costs of privately owned ash (100% replacement): $127,889 \times \$280/\text{tree} = \$35,808,920$
 - Total cost in 2008 dollars: \$137,403,770
- The Nebraska Emerald Ash Borer Working Group, representing many state, federal, and local agencies, and professional organizations, was created in 2006 to develop this Nebraska Emerald Ash Borer Response Plan, which serves to coordinate efforts to inform professionals and the public about EAB and will coordinate containment and management efforts when EAB arrives in the state.
- The Nebraska Department of Agriculture conducts EAB firewood inspections.
- The Nebraska Department of Agriculture in cooperation with USDA-APHIS-PPQ sets EAB detection traps at high risk introduction sites as part of the National EAB Survey.
- The Nebraska Forest Service conducts annual EAB surveys in areas at high risk for EAB introduction and produces and distributes EAB detection kits for citizen involvement in EAB monitoring.
- The Nebraska Forest Service, Nebraska Statewide Arboretum, and USDA Natural Resources Conservation Service in Nebraska have adopted policies recommending no ash planting.
- The Nebraska Department of Agriculture and USDA-APHIS-PPQ will take the lead, in cooperation with the Nebraska Forest Service, in planning and implementing actions taken after EAB enters the state.
- Actions taken to contain and manage EAB will include quarantines, removal of ash trees, and possibly treatments of nearby ash trees with approved insecticides.
- Municipalities and landowners of EAB infested areas will be allowed to act under their own local authorities when local ordinances are consistent with quarantine requirements.

PURPOSE AND NEED

The emerald ash borer (EAB) (*Agrilus planipennis* Fairmaire) is a new, significant threat to the urban and rural forests of Nebraska. First identified in 2002 in southeast Michigan, this exotic beetle has destroyed millions of ash trees and is now known to be present in Michigan, Illinois, Indiana, Ohio, Pennsylvania, West Virginia, Maryland, Virginia, Missouri, Wisconsin, and Ontario and Quebec, Canada. State and federal quarantines are in place and involve significant survey, containment, and eradication operations in affected areas.

The difficulty of detecting EAB infestations early in their development has led many times to the movement of EAB into new areas as ash firewood and other ash materials not known to contain EAB are transported. New EAB locations continue to be discovered beyond the main population in southeast Michigan (Table 1). Current efforts against EAB appear to be failing (“Invasive Forest Pests—Lessons Learned from Three Recent Infestations May Aid in Managing Future Efforts,” GAO-06-353, 2006 (Appendix B)), and the insect is expected to spread eventually throughout North America wherever ash is present. EAB has not yet been found in Nebraska, and we can avoid or reduce the severe financial impact it will have on our citizens if we keep the insect out for as long as possible.

Table 1. Emerald Ash Borer History in North America

July 2002:	EAB is first identified in Detroit, MI.
October 2002:	Confirmed in Windsor, Canada.
By end of 2002:	Michigan quarantined 6 counties, estimated 6,000,000 ash trees killed.
In 2003:	Confirmed in 3 counties in Ohio. EAB was first detected in Fairfax County, Virginia but was successfully eradicated.
September 2003:	An infestation was confirmed in Maryland, and an attempt was made to eradicate it. (It was rediscovered in August 2006.)
In 2004:	Found in two northeastern Indiana counties.
January 2006:	Confirmed near Indianapolis, IN; infestation believed to be 7 years old.
Early 2006:	Indiana declares they will be ceasing eradication efforts and will concentrate on management, the first state to do so.
June 2006:	Confirmed in Kane County, IL, near Chicago.
August 2006:	Confirmed in Maryland three years after the eradication effort.
June 2007:	Confirmed near Pittsburgh, PA, and the infestation appears to be as large as 30 square miles.
July 2007:	Confirmed in Peru, IL.
August 2007:	Illinois drops plans to eradicate EAB and declares it a management issue.
October 2007:	Confirmed in Fayette County, WV, southeast of Charleston.
In 2007:	Thirteen additional infestations were discovered in Illinois. Several were determined to have existed for 5 to 7 years.
In 2008:	Reconfirmed in Fairfax County, Virginia, July 14. Confirmed in Wayne County, Missouri (southeast Missouri), July 25. Confirmed in Ozaukee County, Wisconsin, August 1.

The USDA Forest Service has produced a Pest Alert bulletin on the emerald ash borer that gives details on its biology, distribution, hosts, and symptoms. It is available on the Internet at http://www.na.fs.fed.us/spfo/pubs/pest_al/eab/eab.pdf. Additional information about the insect and its control can be found at <http://www.emeraldashborer.info>.

The Nebraska Forest Service (NFS) estimates that 26% of public trees in cities in Nebraska are green ash (*Fraxinus pennsylvanica*), white ash (*F. americana*), and/or black ash (*F. nigra*). In some communities, green ash comprises over 40% of the public trees. In rural forested areas, approximately 7% of trees overall are ash according to a recent USDA Forest Service survey, but up to 60% are ash in some areas (Appendix F). Enhanced surveys are needed and will be done as funding allows to gain more precise information about Nebraska's ash resource and allow a better assessment of the economic impact the borer will have on communities and rural areas.

The Nebraska Department of Agriculture (NDA) has been proactive in preventing EAB introduction into Nebraska since 2003. Visual surveys of ash nursery stock during nursery dealer and grower inspections have been and will continue to be conducted by NDA nursery inspectors, and inspections of firewood dealers have been and will continue to be conducted to determine the sources of the firewood and to ensure that it is in compliance with all state and federal quarantines. In addition, since 2006 the NFS has conducted trapping and visual surveys in ash areas at sites considered to be the highest risk for an EAB introduction in the state. Outreach and educational materials on EAB have been prepared by NDA, NFS, and USDA-APHIS-PPQ and are distributed widely to the nursery industry, arboriculture industry, cooperating agencies, related trade organizations and the general public.

The Nebraska Emerald Ash Borer Working Group was formed in 2006 to develop this response plan to reduce the likelihood of an EAB introduction into Nebraska and to find, contain, delimit, and minimize the impact of EAB if it is introduced into the state. Much of this plan was modeled after regional EAB programs and plans from other states. In particular, this plan closely follows the EAB response plan produced by Illinois, a state currently dealing with newly discovered EAB infestations and that was previously successful in controlling another serious exotic tree pest, the Asian longhorned beetle. This plan is intended to be an evolving one and will change as new, important information becomes available.

SPECIFIC PLAN DETAILS

1. GENERAL READINESS – to reduce risk, minimize impact, and respond more effectively to a possible infestation of the emerald ash borer (EAB), *Agrilus planipennis*, and to work collaboratively towards overall health and sustainability of the forests, both urban and rural, throughout Nebraska.

A. Establish a network of agencies and organizations that may be affected by EAB into the Nebraska Emerald Ash Borer Working Group. The group is responsible for drafting the response plan and will advise, advocate and lead in the implementation of the plan.

Nebraska EAB Working Group:

- USDA Animal and Plant Health Inspection Service (APHIS) Plant Protection and Quarantine (PPQ)
- Nebraska Department of Agriculture (NDA)
- Nebraska Forest Service (NFS)
- Nebraska Game and Parks Commission (NGPC)
- University of Nebraska-Lincoln (UNL), Department of Entomology
- University of Nebraska-Lincoln, Department of Agronomy and Horticulture
- Nebraska Statewide Arboretum (NSA)
- Nebraska Arborists Association (NAA)
- Nebraska Nursery and Landscape Association (NNLA)
- Lincoln Parks and Recreation, Forestry Department
- Natural Resources Conservation Service (NRCS)
- USDA Forest Service
- Great Plains Tree and Forest Invasives Initiative (GPTFII)

Working Group special teams:

1. Administrative Team – agencies that have, by law, been assigned the responsibility of managing an exotic infestation and have been granted the legal authority to act by the federal, state, or local government; or that have oversight and general supervision in the State of Nebraska for education, management and protection of forest resources. These agencies are responsible for leading the implementation of the response plan and have major roles in the administration and coordination of policies, programs, and staff:
 - NDA
 - USDA APHIS PPQ
 - NFS
 - Affected local governments at sites of infestation (Prior to an EAB infestation, a representative from the City of Lincoln will serve as an advisor on this team.)
2. Core Communication Team – agencies responsible for providing accurate information and updates to the media in the event of an EAB discovery and the eventual management and recovery efforts in Nebraska:

- NDA – primary for discovery and management efforts
 - NFS – primary for recovery and restoration efforts
 - USDA APHIS PPQ
 - Affected local governments or agencies at sites of infestation
3. Firewood Team – agencies responsible for analyzing the firewood market and finding ways to reduce the risk of EAB importation
 - NDA
 - USDA APHIS PPQ
 - NFS
 - NGPC
 - NAA
 - NNLA
 - GPTFII
 4. Surveying Team – agencies responsible for coordinating the surveying and monitoring of ash populations to determine the presence of the emerald ash borer
 - NDA
 - USDA APHIS PPQ
 - NFS
 - NGPC
 - NAA
 - GPTFII
 - Eventually expand to emergency personnel who have received training
 5. Public Education Team – agencies responsible for educating the general public about ash health and EAB
 - NDA
 - USDA APHIS PPQ
 - NFS
 - NGPC
 - UNL Dept. of Entomology
 - UNL Dept. of Agronomy and Horticulture
 - NSA
 - NAA
 - NNLA
 - NRCS
 - GPTFII
 6. Wood Utilization Team – agencies responsible for analyzing and facilitating the development of wood product and energy markets for trees removed due to EAB
 - NDA
 - NFS
 - Lincoln Parks and Recreation, Forestry Department
 - NAA
 - GPTFII

B. Administrative Readiness – to assure that resources and policies are in place in regulatory agencies that allow the actions described in this plan to occur quickly and unencumbered

1. Preparation of EAB Response Plan [Administrative Team and Working Group]
 - a) Administrative Team distributes draft response plan to working group
 - b) Working Group discusses plan with constituencies and provides input to final plan
 - c) Working Group fosters cooperation among agencies for implementation of the plan
2. Identify resources and needs [Administrative Team]
 - a) Identify needs in staffing and technical resources in Administrative Team agencies
 - i) Monitoring nursery operations
 - ii) Tracking firewood movement
 - iii) Surveying
 - iv) Risk assessment (inventories)
 - v) Education
 - vi) Wood market identification and development
 - b) Identify sources and securing funding for response activities
3. Take proactive steps to speed administrative processes [Administrative Team]
 - a) Analyze NDA procedures to identify streamlining opportunities
 - b) Analyze APHIS procedures to identify streamlining opportunities
 - c) Communicate EAB status to Nebraska Emergency Management Agency (NEMA)
 - d) Encourage communities to examine local administrative processes for streamlining opportunities
 - e) Develop Community EAB Management Plan Guidelines and encourage communities to develop plans
4. Educate the media and assure accuracy of information [Core Communications Team]
 - a) Issue a press release on the final plan
 - b) Coordinate Public Information Officers from Administrative Team
 - c) Identify key sources of current information
5. Explore wood waste utilization opportunities to reclaim ash wood residues to their highest possible use should a volume of material suddenly become available [Wood Utilization Team]

C. Technical Readiness – to assure that policy decisions, actions, and educational initiatives are guided by the best and most current science

1. Review and distribute up-to-date scientific information related to EAB biology and control to Working Group members, who may share the information with their constituencies [Administrative Team and Working Group]
2. Coordinate with the national EAB plan when one is available [Administrative Team]

3. Operate under any required USDA technical guidelines [Administrative Team]
4. Use scientifically sound guidelines and technology when monitoring for and controlling EAB infestations [Administrative Team]
5. Advocate for continued research for greater understanding of EAB and its control [Working Group]

II. REDUCE RISK OF INFESTATION – to assure that all means of EAB introduction are known and blocked, whenever possible

A. Assess Risk – to determine the size and scope of the ash resource and the severity of a potential EAB infestation

1. Analyze potential sources of EAB importation (i.e., ash logs, firewood and nursery stock from Michigan and other affected areas) [Administrative Team]
2. Assess the scope of the resource at risk (number of ash trees) [Administrative Team]
3. Analyze ash populations to determine high risk areas [Administrative Team]
4. Track the spread of EAB [Administrative Team]

B. Reduce Risk

1. Identify target groups/organizations for outreach [Working Group] [Appendix C]
2. Raise public awareness about the risk from firewood importation [Firewood Team]
 - a) Install educational posters at state and private campgrounds, and state and county fairs
 - b) Install educational billboards along highways in areas at high risk for firewood importation
 - c) Include information about how to report suspected quarantine violations in posters, billboards and other materials
 - d) Promote "EAB-free" firewood from reputable firewood dealers and campgrounds
3. Analyze the firewood market and find ways to reduce the risk of importation [Firewood Team]
4. Survey or inspect firewood dealers [Administrative Team]
5. Initiate trace-back process for firewood transport [Administrative Team]
6. Educate industries about the risk of ash importation [Firewood Team]

- a) Educate wood products manufacturers about current quarantines and threats related to the importation of wood materials
 - b) Educate contractors and municipalities about the importance of knowing the source of ash trees and assure they are NDA inspected
 - c) Educate garden centers, firewood dealers, and businesses that regularly use firewood, such as in fireplaces and for barbequing, about the risk
 - d) Reach out to trucking associations to help track movement of ash
7. Inform the Nebraska State Patrol and other appropriate law enforcement agencies about existing ash quarantines and the possibility that ash firewood or other materials could be brought into or carried across Nebraska [Core Communication Team]
 8. Continue full and thorough analysis of ash nursery stock movement and effective inspection of current ash stock [Administrative Team]
 9. Assure planting selections contribute to a diverse and sustainable urban forest [Working Group]
 - a) Educate municipalities and the green industry about the advantages of diversity in plantings
 - b) Encourage the use of tree inventories to analyze diversity and guide planting decisions
 10. Encourage communities to do preemptive removals of declining and problematic ash to spread removal costs over additional years [Working Group]
 11. Seek legislative support to reduce risk and secure funding for prevention, control and recovery [Working Group]
 - a) Assure Nebraska's prevention and control efforts are well funded
 - b) Advocate for funding for response activities and proactive ash replacement plantings
 - c) Advise federal legislators of the hardship of state required match of federal funds
 - d) Identify potential funding mechanisms

III. DETECT INFESTATIONS PROMPTLY – to minimize the spread and improve odds of containing an infestation

A. Survey urban and rural ash populations - to quickly find EAB infestations

1. Survey and monitor ash populations, particularly in high risk areas, to determine the presence of EAB [Survey Team]
2. Enable municipal, commercial green industry, and natural resources professionals to participate in monitoring and reporting in a systematic way [Survey Team]
3. Communicate survey results to stakeholders and the media [Core Communication Team and Working Group]

B. Educate professionals and the public with current and accurate information in a targeted manner to aid in the rapid identification of symptoms of an infestation

1. Provide training and outreach based on current information to arborists, nurserymen and other green industry workers to assess ash health and accurately identify EAB [Public Education Team]
2. Educate the general public about ash health and EAB [Public Education Team]
 - a) Develop simple educational materials for the general public
 - b) Pursue opportunities for speaking, educating, and exhibiting educational displays that include EAB identification
3. Recruit and enable volunteer scouting [Public Education Team]
 - a) Promote awareness through the media with regular press releases and public appeals for help in scouting
 - b) Prepare kits to support volunteer scouting by both individuals and groups

C. Coordinate state and national information to address professional and public inquiries from Nebraska and foster cooperation and communication

1. Have working group members with websites link to USFS, APHIS and Michigan State EAB websites [Working Group]
2. Coordinate with <http://www.emeraldashborer.info/> to add information about Nebraska and the Great Plains Tree and Forest Invasives Initiative [Core Communication Team]

D. Guide inquiries and possible sightings through the following process for the most effective use of resources and quickest response [Public Education Team]

1. Develop a pre-screening checklist to follow when attempting to determine if EAB or an EAB-infested tree has been found, (e.g. assure the suspect tree is an ash, rule out similar but common insects). Indicate in the checklist how people with possible EAB samples could send digital photographs to help in the pre-screening process.
2. Provide the EAB pre-screening checklist to UNL Extension, municipal forestry programs and other professionals to help pre-screen inquiries.
3. If pre-screening rules out other pests and EAB is suspected, contact:
Nebraska Department of Agriculture, (402) 471-2394
or
USDA APHIS PPQ, (402) 434-2345
Officers from these agencies will collaborate to inspect the suspected ash tree and identify the specimen. NDA and APHIS may ask NFS to inspect the evidence if NDA and APHIS cannot do it quickly.

4. Deliver or send a collected specimen to:
Plant & Pest Diagnostic Center
448 Plant Science, East Campus
University of Nebraska-Lincoln
Lincoln, NE 68583-0722
5. If the collected specimen is initially confirmed to be emerald ash borer by a UNL identifier, the specimen will be sent to the National Systematic Entomology Laboratory to make the final identification:
Systematic Entomology Laboratory
ATTN: Communication and Taxonomic Services Unit
Bldg 005, Rm 137
BARC-West
10300 Baltimore Ave
Beltsville, MD 20705
6. Working Group members are notified that a suspect emerald ash borer is in the system for identification. However, at this point, **NO** information is for public dissemination.
7. The result, either positive or negative for EAB, is received from the Systematic Entomology Laboratory and Working Group members are notified.

IV. CONTAIN AND MANAGE EAB INFESTATIONS – the Administrative Team with the affected local governments and landowners will implement coordinated efforts to contain the infestation under the leadership of NDA and APHIS

A. APHIS and NDA will take the lead, in cooperation with NFS, in planning and implementing actions.

1. Begin collaborative response with affected county and city governments and landowners
 - a) Schedule an emergency meeting with government representatives and landowners of affected areas
 - b) Discuss and determine a preliminary plan of action
 - c) Release verified and accurate information to the press (Main Public Information Officer will be designated in the Incident Command System that will initially be put in place)
2. NDA and USDA-APHIS-PPQ conduct a thorough delimiting survey, including destructively sampling symptomless trees, to determine the extent of the infestation.
3. NDA places into effect an Emerald Ash Borer State Interior Quarantine regulating all potential host material (ash wood and ash wood products) within the quarantined area as determined by the delimiting survey. This would include the “declaration of all plants and

parts thereof infested with the emerald ash borer as a nuisance in the State of Nebraska” as well as the establishment of a formal quarantine of the infested areas.

4. NDA and APHIS determine the original source of the EAB infestation in the state to help locate other possible infestations and prevent future ones
5. Reference APHIS State Plant Health Director’s Emergency Plant Health Management Plan based on incident command.
6. Regulatory or control activities will be initiated as follows:
 - a) Administer provisional quarantines
 - b) NDA may require removal of all ash trees (both infested and not infested) up to ½ mile from the infestation, or other distance as deemed necessary, to attempt to eradicate an early and isolated infestation
 - c) For all infestations except those that fall under “b)” above, the Administrative Team will meet promptly with designated representatives of affected municipalities or landowners to discuss options for managing the infestation. The options currently include:
 - i) Remove all ash trees (both infested and non-infested) up to ½ mile from the infestation or the distance currently eligible for federal or state assistance
 - ii) Remove only the trees known to be infested
 - iii) Remove the trees known to be infested and treat trees within a prescribed area with approved insecticide applications to kill unknown infestations
 - d) Municipalities and landowners shall be allowed to act under their own local authorities when local ordinances are applicable and consistent with NDA quarantine requirements

B. Communicate information and updates

1. Provide accurate information and updates to the media [Core Communications Team]
2. Provide accurate information to affected residents [Public Education Team]
 - a) Have an informational door-hanger ready for customizing and distributing to affected area immediately after infestation is found
 - b) Host local resident meetings or visit affected residents to share information as soon as possible after finding an infestation
3. Communicate with public and industry professionals to foster cooperation to maximize effective response [Public Education Team]

C. Dispose of wood debris by establishing processing facilities/marshalling yards in the quarantine zones to efficiently handle ash debris and reclaim useable products as much as possible [Administrative Team and Wood Utilization Team]

D. Develop and implement a community forest replanting program authorized under applicable federal, state and local authorities using available resources [Working Group]

1. Identify key state-wide cooperators for the development and implementation of reforestation programs and community projects
2. Coordinate all activities where possible with existing and on-going programs including:
 - a) ReTree Nebraska Initiative
 - b) Cost-share programs including:
 - Community Enhancement Program (CEP administered by NFS)
 - Trees for Nebraska Towns (TNT administered by NSA)
 - c) Establish legislative support to re-establish and expand funding for the Nebraska Tree Recovery Act
 - d) Seek legislative support to reduce risk and secure funding for prevention, control and recovery efforts.

Appendix A

Nebraska Timeline for Emerald Ash Borer (EAB) Activities

April 2003	Nebraska Department of Agriculture (NDA) begins visual surveys for EAB in ash nursery stock during nursery dealer and grower inspections.
November 2003	Nebraska Forest Service (NFS) discusses EAB with the public for the first time at a workshop.
August 2004	NFS surveys for EAB in ash trees around nurseries.
October 2005	Julie Van Meter, NDA State Survey Coordinator, attends EAB meeting in Novi, MI. NDA develops EAB dedicated tabletop display unit and Nebraska EAB handouts for outreach use.
March 28, 2006	First organizational meeting of Nebraska Emerald Ash Borer Working Group (Representatives from USDA/APHIS/PPQ; NDA; NFS, UNL Dept. of Entomology).
April 2006	Great Plains Tree Pest Council Meeting hosted in Lincoln, NE-EAB discussions.
June 2006	NFS begins annual EAB surveys.
September 2006	NFS develops “Wanted: Dead or Alive Emerald Ash Borer” pamphlets.
September 8, 2006	NE EAB Working Group meets and membership expands to include UNL Dept. of Agronomy and Horticulture; NNLA; NSA; NAA; Lincoln Parks and Recreation; Nebraska Game and Parks Commission; USDA Forest Service and Natural Resources Conservation Service (NRCS). Working group continues to meet monthly.
September 19-20, 2006	NDA employees: Julie Van Meter, Jessica Schueth, and Kathleen Pratt attend EAB Clinic in Brighton, MI.
November 2006	NDA begins conducting firewood inspections.
January 2007	Nebraska Statewide Arboretum and Nebraska Forest Service announce no funding of ash in grant projects.

March 2007	Nebraska Nursery and Landscape Association position statement released-Potential of EAB in Nebraska.
April 2007	Firewood recall situation involving Taylor Wood Products (IL).
April 2007	ReTree Nebraska 10-year Cooperative Initiative begins.
May 29, 2007	USDA/APHIS/PPQ, NDA, and UNL Dept. of Entomology participated in NPDN Exercise testing EAB specimen submission communication chain.
June 27, 2007	USDA/APHIS/PPQ and NDA participate in ash bark peeling exercise practice.
July 9, 2007	NFS position statement released, NFS no longer recommends ash for planting in Nebraska.
July 12, 2007	NRCS agrees with NFS position statement.
August 9, 2007	NE EAB Working Group Meeting, Craig Kellogg, Program Director, EAB Program-Brighton, MI in attendance.
August 10, 2007	Nebraska Arborists Association Summer Field Day, Craig Kellogg, Program Director, EAB Program-Brighton, MI presents EAB information to Nebraska Arborists.
September 19-20, 2007	USDA/APHIS/PPQ NE SPHD Vicki Wohlers attends EAB Clinic Training in Brighton, MI.
October 4, 2007	Great Plains Tree and Forest Invasives Initiative \$500,000 grant received by NFS and state forestry agencies of North Dakota, South Dakota, and Kansas to conduct ash inventories in urban and rural areas and coordinate EAB educational and management efforts.
January 2008	Lowe's planter product recall involving Lawson's Wood Products (IN).
April 2008	The Nebraska Forest Service began producing and distributing EAB detection kits to encourage and facilitate citizen involvement in EAB monitoring.
May-September 2008	The Nebraska Department of Agriculture in cooperation with USDA-APHIS-PPQ, set 138 purple panel EAB detection traps at 50 high risk introduction sites as part of the 2008 National EAB Survey.

Appendix B

Citation for GAO Report

United States Government Accountability Office. 2006. Invasive forest pests—Lessons learned from three recent infestations may aid in managing future efforts. Report to the Chairman, Committee on Resources, House of Representatives. GAO-06-353, 118 pp.

Available at: <http://www.gao.gov/new.items/d06353.pdf>

Appendix C

Nebraska EAB Working Group Member List

USDA, Animal and Plant Health Inspection Service, Plant Protection and Quarantine:

Vicki Wohlers, State Plant Health Director, Vicki.B.Wohlers@aphis.usda.gov
Tim Miller, Plant Health Safeguarding Specialist, Timothy.P.Miller@aphis.usda.gov
Jeff Marker, Plant Health Safeguarding Specialist, Jeffery.D.Marker@aphis.usda.gov

Nebraska Department of Agriculture:

Julie Van Meter, State Entomologist/Program Manager, julie.vanmeter@nebraska.gov
Kay Kromm, State Survey Coordinator, kay.kromm@nebraska.gov

Nebraska Forest Service:

Eric Berg, Community Forestry Program Leader, eberg2@unl.edu
Mark Harrell, Forest Health Program Leader, mharrell2@unl.edu
Laurie Stepanek, Forest Health Management Assistant, lstepanek2@unl.edu
Dennis Adams, Wood Utilization, dadams2@unl.edu
Jessica Kelling, ReTree Nebraska, jkelling2@unl.edu

University of Nebraska, Entomology Department:

James Kalisch, Extension Technologist, jkalisch1@unl.edu
Tom Weissling, Distance Education Director, tweissling2@unl.edu

University of Nebraska, Department of Agronomy and Horticulture:

Kim Todd, Asst. Professor, ktodd2@unl.edu

Nebraska Nursery and Landscape Association:

Todd Faller, fallerlandscape@alltel.net
Andrew Campbell, ajc@campbellsnursery.com

Nebraska Statewide Arboretum:

Justin Evertson, Assistant Director, jeverson1@unl.edu

Nebraska Arborists Association:

Stacy Hughes, Arborist, Stacy@hughestree.com

Arbor Day Foundation:

Robert Smith, Membership Services Specialist & Arborist, rsmith@arborday.org

USDA, Forest Service:

Bill Schaupp, Entomologist, bschaupp@fs.fed.us

Natural Resources Conservation Service:

Constance Miller, NRCS, Nebraska State Forester, Constance.Miller@ne.usda.gov

Lincoln Parks and Recreation, Forestry Department

Steve Schwab, City Forester, sschwab@lincoln.ne.gov

Nebraska Game and Parks Commission:

Mike Groenewold, Horticulturist, mike.groenewold@ngpc.ne.gov

Great Plains Tree and Forest Invasives Initiative

Steve Rasmussen, GPTFII Coordinator, NFS, srasmussen2@unl.edu

Appendix D

Outreach Groups and Opportunities

INDUSTRY

GROUPS

SPECIFIC OPPORTUNITY/SUBGROUP

Nursery Industry

- Nebraska Nursery & Landscape Association
 - NNLA newsletter
 - Green Expo Conference
 - Summer Field Day
- Nebraska Statewide Arboretum
 - Arboretum Publications
 - Spring Affair & other plant sales
 - Bob Henrickson's radio show
 - Curator trainings
- WESTERN Nursery & Landscape Association
 - WESTERN e-newsletter
 - WESTERN Annual meeting
- Landscape Architects
- University/Extension Educators
 - University classes
 - NebLine & other newsletters
 - Master Gardeners
 - John Fech's radio show
- National Arbor Day Foundation
 - National Arbor Day Foundation Newsletter
 - Plant List/Plant sales packets

Arboriculture/Forestry

- Nebraska Forest Service
 - Tree Care Workshop
 - ReTree meetings
 - NFS TimberTalk
 - Shady Lane
- Nebraska Arborists Association
 - NAA Newsletter
 - Winter meeting
 - Summer Field Day
- USDA, Forest Service
- NRCS
- National Arbor Day Foundation
- International Society of Arboriculture, Midwest Chapter

Government Agencies/Property Managers

- Nebraska Game & Parks Association

- Corp of Engineers
- Bureau of Reclamation
- Bureau of Land Management
- Bureau of Indian Affairs
- Mayors/City Councils
 - Council meetings
 - Proclamation/EAB Awareness Week
- League of Nebraska Municipalities
- Tree Boards/Municipalities
 - Board meetings
- Nebraska Energy Office
- Utility Companies (OPPD, NPPD, LES, Norris Public Power)
 - Public meetings
 - Bill inserts
 - Tree trimming door hangers
- Nebraska Department of Economic Development
- Nebraska Emergency Management Agency
- Nebraska Department of Environmental Quality
- Nebraska Board of Educational Lands and Funds

Parks/Recreation/Nature Groups

- Nebraska Game & Parks Commission
 - Nebraskaland magazine
 - Naturalist talks
 - Radio & television shows
 - Campground message boards
 - Park bulletin boards
 - Park/hunting license information
 - Campground reservations
 - Campground stewards
 - Visitor centers
- Private Campgrounds
 - Message boards
 - Reservation systems
 - Camp Away
- Public Campgrounds
 - Message boards
 - Reservation systems
- National Park Service
 - Camping reservation systems
- Nebraska Recreation & Parks Association
 - Newsletter
- Corps of Engineers
- Friends of Parks Groups
 - Newsletter
 - Club meetings
 - Friends of Wilderness Park
- Audubon Society, Nature/Bird watching groups, Sierra Club, Nature Conservancy
 - Newsletters
 - Club meetings

Nebraska Department of Travel & Tourism
Nebraska Association of Resources Districts
Municipal Parks & Recreation Departments
Miscellaneous outreach opportunities
 Nebraska Life magazine
 City of Lincoln Citizen Information Center
 Targeted outreach for firewood users (e.g. food vendors)

Nature Centers/Science Education

Children's Museums
Fontenelle Nature Association
 Naturalist talks
Chet Ager Nature Center
 Naturalist talks
Arbor Day Farm
Science Teachers
UNL Extension Educators
UNL Nebraska Cooperative Unit Invasives Species Project
Clubs (Scouts, FFA, 4-H, Campfire kids, science groups)
 Meetings
Envirathon
R C & D's
Zoos
 UNL Entomology Open House

Agriculture

Nebraska Department of Agriculture
 EAB Display
 State Fair
 Governor's Ag Conference
 Husker Harvest Days
 Farm Radio Network
Nebraska State Fair
Nebraska Beekeepers
USDA, APHIS
 Local USDA offices
Other, unspecified
 Camp Creek Threshers
 Ag Commodity newsletters

Pest Control

Nebraska Pest Control Association
Nebraska Mosquito and Vector Control Association

Appendix E

Estimated Nebraska Urban Forest Summary Based on 1990 Census

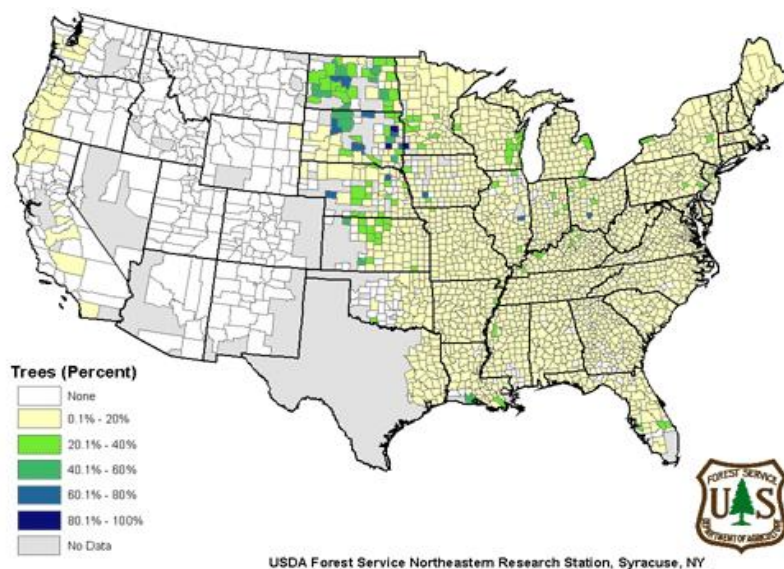
Urban Trees (all species)	11,243,000
Urban trees per capita	10
Urban tree cover	21.10%
Portion of state tree cover	0.90%
Urban area (km ²)	1,061
Portion of state that is urban	0.50%
Compensatory value (million \$)	\$7,126
Carbon storage (tonnes)	2,071,000
Carbon storage value (\$)	\$42,041,300
Carbon storage (tonnes/ha)	19.5
Gross carbon sequestration (t/year)	67,000
Gross carbon sequestration value (\$)	\$1,360,100
Gross carbon sequestration (t/ha/yr)	0.6

Source: http://www.fs.fed.us/ne/syracuse/Data/State/data_NE.htm#statesum

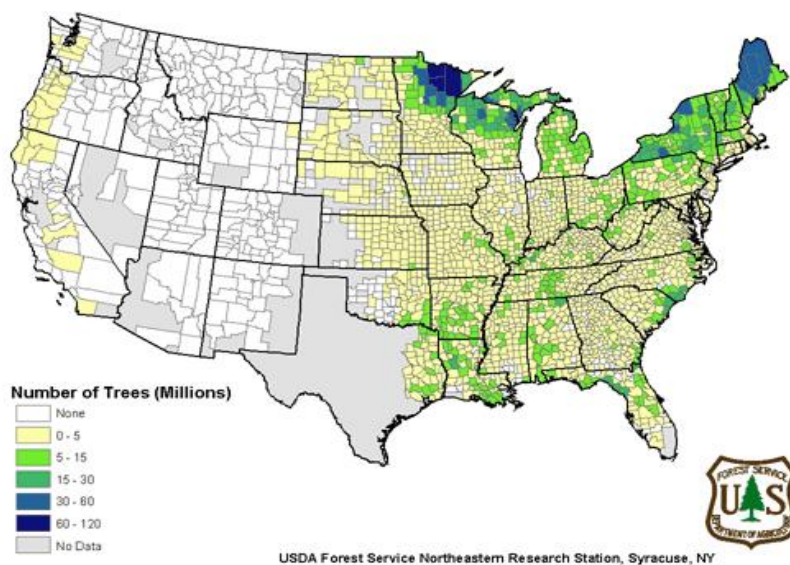
Appendix F

Estimated Emerald Ash Borer Susceptibility

Map of percent of trees on timberland* that could eventually be infested by emerald ash borer:



Map of number of trees on timberland that could eventually be infested by emerald ash borer:



Source: http://www.fs.fed.us/ne/syracuse/Data/Nation/data_list_eab.htm

* Timberland: Forest land producing or capable of producing crops of industrial wood (more than 20 cubic ft./acre/year) and not withdrawn from timber utilization. (Definition from USDA Forest Service)

