

# **Pierre South Dakota Emerald Ash Borer Preparedness and Response Plan**



**Green ash tree showing decline from EAB infestation**

**December 23, 2013**

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# **Managing the threat posed by Emerald Ash Borer (EAB)**

## **Purpose:**

The purpose of this plan is to outline the preparations, cost distribution methods and response actions necessary to mitigate the potential effects in the event of an introduction of emerald ash borer. This plan is a living document that complements the “South Dakota Emerald Ash Borer Readiness Plan,” (Appendix A) and is intended to be modified as necessary, with the ultimate goal of preserving the benefits of the City of Pierre’s community forest.

## **Applicability:**

The scope of this plan is confined to EAB infested trees on private or public lands within the city limits of Pierre. Public lands include city owned lots, parks, Hillsview Golf Course, Riverside Cemetery, Pierre Native Plant Arboretum, Pierre Sports Complex, tennis courts, baseball and softball fields and boulevards between curbs and sidewalks.

## **Administration:**

This plan will take affect once EAB is detected within Hughes County. Entities responsible to implement the plan are:

- City of Pierre Parks and Recreation Department (P&R)
- Pierre City Arbor Board (AB)

In cooperation with the following agencies as outlined in the South Dakota Emerald Ash Borer Plan:

- South Dakota Department of Agriculture, Resource Conservation and Forestry Division (RCF)
- South Dakota Department of Agriculture, Agriculture Services Division (AS)
- SDSU Extension Service (SDSU Ext)
- United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine (PPQ)

## **Executive Summary:**

This plan outlines the preparations, cost information and actions to be taken in the event of an infestation of EAB within Hughes County and/or the city limits of Pierre, South Dakota. The plan includes eight elements related to EAB including detection, reporting and monitoring, applicable ordinance, ash management plan, incident organization, authority, communication and outreach and a contact list.

PPQ, AS and RCF will continue monitoring for EAB infestations. All suspected specimens should be sent to the SD Division of Resource Conservation and Forestry, Rapid City Field Office – EAB Screener, 3305 ½ West South Street, Rapid City, SD 57702, phone (605) 394-2395, APHIS, 314 South Henry Street, Pierre, SD 57501, phone (605) 224-1713 and SDSU Extension, SDSU, Dept of HFL&P, PO Box 2140A, Brookings, SD 57007, phone (605)688-4737.

Pierre City Ordinance: Section 6-4-120. Dead or diseased tree removal on private property will apply in the event of an infestation. An Ash Tree Management Plan will be implemented that addresses information about Pierre’s ash tree population from the 2005 Pierre Street Tree Inventory, EAB infestation cost assessment, ash tree removal plan, insecticide treatment, wood disposal and utilization options, permits and licenses required and a tree planting and reforestation plan.

In the event of an infestation, The Incident Command System, Unified Command type of organization, will be implemented. Decisions on actions to be taken will be made by the City of Pierre in coordination with representatives of RCF, PPQ and Hughes County. Local, state and federal authorities and regulations will be followed.

At the point where EAB arrives in South Dakota, workshops will be scheduled to inform tree care professionals and the public on safety and techniques related to tree removals and how to minimize the spread of EAB to areas outside quarantined boundaries.

## **Detection, Reporting and Monitoring:**

In preparation for a possible infestation, RCF and SDSU Ext will provide training to interested parties on detection techniques and proper reporting protocols where EAB is suspected. This training will be requested for P&R employees, AB members and interested groups and individuals.

PPQ, AS and RCF will implement a pheromone trapping program to assist in the detection effort.

Contact information for EAB information and suspected infestations:

- South Dakota Division of Resource Conservation and Forestry  
[www.sdda.sd.gov/conservation-forestry](http://www.sdda.sd.gov/conservation-forestry)
- SDSU Extension  
[www.sdstate.edu/sdsuextension](http://www.sdstate.edu/sdsuextension)
- South Dakota Division of Agriculture Services  
[www.sdda.sd.gov](http://www.sdda.sd.gov)
- USDA-APHIS  
[www.aphis.usda.gov](http://www.aphis.usda.gov)

Specimen Submission Protocol:

All suspected specimens should be sent to the SD Division of Resource Conservation and Forestry, Rapid City Field Office – EAB Screener, 3305 ½ West South Street, Rapid City, SD 57702, phone (605) 394-2395, APHIS, 314 South Henry Street, Pierre, SD 57501, phone (605) 224-1713 and SDSU Extension, SDSU, Dept of HFL&P, PO Box 2140A, Brookings, SD 57007, phone (605)688-4737.

If a find is confirmed, a delimiting survey will be conducted by the SD Department of Agriculture and/or PPQ to determine the extent of the infestation. The extent of the infestation will determine boundaries of any necessary quarantine. Intrastate quarantines will be determined by the SD Department of Agriculture. Interstate quarantines will be determined by PPQ. P&R will monitor any work being conducted to minimize the spread of the infestation.

## **Applicable Ordinance:**

Pierre City Ordinance: Section 6-4-120. Dead or diseased tree removal on private property.

The city shall have the right to cause the removal of any dead or diseased trees on private property within the city, when such trees constitute a hazard to life and property, or harbor insects or disease constituting a potential threat to other trees within the city. The Utilities Director will notify in writing the occupants of the premises or the owner of such trees. Removal shall be done by said owners at their own expense within 60 days after the date of service of notice. **In the case of an EAB infestation, removal shall be done by said owners at their own expense after Labor Day, and before Memorial Day the following year, after the date of service of notice.** In the event of failure of owners to comply with such provisions, the city shall have the

authority to remove such trees at the expense of the occupant or owner.

## **Ash Management Plan:**

### **a. Ash Tree Inventory and Assessment**

The latest Street Tree Inventory in Pierre was completed in 2005 (Appendix A). This inventory did not include park and other public area trees. At that time ash trees comprised 24.91% of the total street tree population. The total number inventoried was 1,235. Large diameter ash (13" diameter or greater) numbered 273. Medium diameter ash (7" – 12") numbered 431, and small diameter trees (0" – 6") numbered 525. The condition of the population in general was in good shape with 89% of the trees in that category.

Removal costs range from \$600 for a large mature tree to \$300 for a medium diameter tree based on fees charged by Pierre area tree removal companies. Using those figures, the cost of removal for 273 large street trees would be \$163,800. Removal cost of 431 medium diameter trees would be another \$129,300. Total street tree removal cost would be approximately \$293,100.

Replacement costs for those removals would cost an average of \$310.00 per tree according to the latest Extension Service figures. Planting 704 street trees would cost approximately \$218,240. Total cost of removal and replacement would be approximately \$511,340 over a period of years if no treatment is attempted.

Chemically treating high value trees (mature trees 13' in diameter or greater) prior to infestation is becoming more tested and viable. However, the cost of treatment can be somewhat high with no absolute guarantee of success. The cost to treat a mature ash tree can be as high as \$200 per tree, and the treatment would have to be repeated every two or three years for 20 or more years. The total treatment cost will range from \$1,200 to \$2,000 per tree over the 20 year period.

### **b. Ash Tree Removal Plan**

#### **Pre-mitigation**

At the time of this publication, no ash trees will be removed in anticipation of the arrival of EAB. Until such a time as EAB becomes imminent, ash trees are providing a public service and it is still unclear when, or even if, EAB will be successful in spreading across the Great Plains. That being said, selecting a variety of species, excluding ash, for new street, park and landscape plantings is highly recommended.

#### **Mitigation**

If or when EAB is detected in Hughes County, detection efforts for EAB will be executed by RCF, AS and PPQ. All infested trees within the community of Pierre shall be removed after Labor Day, and before Memorial Day the following year, to reduce the risk of spread during the EAB flight period. Removal of infested trees during the flight period may cause more rapid spread, if the removed trees are not treated immediately, because the emerging borers that would normally attack previously infested trees may instead move to trees that are not infested. Each homeowner will be responsible to chemically treat unaffected ash trees if they choose, and remove and properly dispose of any infested

trees on their property. The City P&R will be responsible for marking infested street trees and for the removal of trees located in the city owned lots, parks, Hillsview Golf Course, Riverside Cemetery, Pierre Native Plant Arboretum, Pierre Sports Complex, tennis courts, baseball and softball fields and boulevards between curbs and sidewalks.

If trees are not removed from private property within the Labor Day to Memorial Day period after detection, the City P&R will remove them and levy the cost of removal to the homeowner through the City billing process.

At the point of detection, RCF and PPQ will begin other control methods as well, such as using pheromone traps and trap trees in an attempt to contain beetle spread.

### **c. Insecticide Treatment of Trees**

Insecticide treatments are not recommended prior to detection of EAB within 15 miles of the City of Pierre. However, cultural practices that promote and maintain ash tree health will help deter attack from many tree pests including EAB. Healthy practices include watering, mulching, fertilizing and pruning dead wood and defects.

If EAB is confirmed in Hughes County, insecticide treatments may be an option worth considering for selected high value trees. At the point of detection, the AB and RCF will disseminate information on current insecticide options and considerations for application. Biological controls may also be considered as a viable component of EAB strategy, especially in areas sensitive to insecticide treatments.

Some excellent publications on treatment are available for review at the following websites:

Coalition for Urban Ash Tree Conservation – Emerald Ash Borer Management Statement  
<http://www.entomology.wisc.edu/emeraldashborer/EAB%20Concencus%20Document.pdf>

Insecticide Options for Protecting Ash Trees from Emerald Ash Borer  
[http://www.emeraldashborer.info/files/multistate\\_EAB\\_Insecticide\\_Fact\\_Sheet.pdf](http://www.emeraldashborer.info/files/multistate_EAB_Insecticide_Fact_Sheet.pdf)

Frequently Asked Questions Regarding Potential Side Effects of Systemic Insecticides Used to Control Emerald Ash Borer  
[http://www.emeraldashborer.info/files/Potential\\_Side\\_Effects\\_of\\_EAB\\_Insecticides\\_FAQ.pdf](http://www.emeraldashborer.info/files/Potential_Side_Effects_of_EAB_Insecticides_FAQ.pdf)

SLAM, Emerald Ash Borer Slow Ash Mortality Pilot Project  
<http://www.slameab.info/>

### **d. Wood Disposal and Utilization**

Wood generated from the removal of EAB infested trees will be stockpiled at the Pierre Solid Waste Facility site. EAB infested wood will be kept separate from the wood of other tree species. Large wood unsuitable for chipping will be piled and burned at the Landfill. Smaller wood may be chipped to a size less than one inch and may be sold or distributed for mulch.

Quarantines implemented by AS and PPQ will restrict EAB infested wood from being moved outside the quarantined area, especially during the period of adult emergence (May 1 – August 31). State and Federal rules and regulations must be followed regarding the movement of any ash material outside of the area. See “South Dakota Emerald Ash Borer Readiness Plan” (Appendix B) for details.

#### **e. Permits and Licenses**

In the event of an EAB infestation in or near Hughes County, the City of Pierre may consider adopting ordinance/s addressing permits or license requirements for contractor’s involved with treatment and/or removal of EAB infested trees.

#### **f. Tree Planting and Reforestation Plan**

Prior to planting new trees, homeowners are encouraged to consult local forestry, extension professionals or the City of Pierre/Pierre Arbor Board “Tree Landscape Planting” brochure (Appendix C) for assistance with tree selection of locally adapted tree species that will perform well in the Pierre area.

Homeowners should keep diversity in mind when selecting tree species. No one genera of tree should occupy more than 5-10% of a community’s tree population. This community forestry “rule of thumb” was established to prevent a monoculture community forest tree population where vectors, such as EAB, can decimate a community forest with the elimination of a single species.

The practice of using EAB infested wood for mulch around new trees, as long as the mulch is chipped to a size of less than one inch, can be implemented to make use of the materials accumulated during the removal process.

#### **Incident Organization:**

An Incident Command System “Unified Command” type of organization will be used to respond to EAB detection. The City of Pierre in consultation with representatives from RCF, PPQ and Hughes County will establish goals and objectives and determine what actions will be taken to mitigate the infestation. This group will oversee the finance, planning, safety, public information, operations and logistics (including communications) sections. A lead person will be assigned to coordinate each section.

Operations will define the tasks to be completed and decide on the numbers of people and resources needed for each task. Tasks may include:

- Monitoring ash tree population for EAB infestations
- Coordinating with local emergency response staff and communication team
- Removals
  1. Contractors (compile list of potential contractors)
  2. In-house (public property)
- Disposals
- Replanting
- Communication with Residents

## **Authority:**

Local authority:

Possible new city ordinances adopted relating to EAB and its management.

State and Federal regulatory authority:

Emerald ash borer is a quarantined pest under the regulatory authority of USDA-APHIS and the South Dakota Department of Agriculture. As such, areas where EAB is detected and placed under state or federal quarantines and movement of any material could pose a threat of moving EAB outside the quarantine area will be regulated. The South Dakota Emerald Ash Borer Readiness Plan (Appendix B) should be referenced for further details.

## **Communication and Outreach:**

At the point where EAB arrives in South Dakota, workshops will be scheduled to inform tree care professionals and the public on tree felling safety and techniques, rigging techniques and chemical application techniques. Appropriate officials or educators will communicate how to minimize the spread of EAB during the tree removal process. Selected officials must enforce policies and ordinances to ensure the safety and health of residents and natural resources.

The general public will be informed throughout the EAB response process. Methods may include public service messages, notices in monthly utility bills, newspaper articles and town hall meetings with question and answer sessions. The Pierre City Website will have periodically updated information available. Pierre City officials, AB members, RCF and SDSU Extension should all be involved with the education efforts.

Information on the identification of the various life stages and other signs and symptoms of EAB and related concerns can be found on the following web sites:

<http://www.emeraldashborer.info>

<http://www.mda.state.mn.us/en/plants/pestmanagement/eab.aspx>

## **Contact List:**

Plan Author – Arbor Board Chairman – Ron Schreiner  
City of Pierre – Pierre Parks and Recreation Dept. Director – Tom Farnsworth (605) 773-2527  
State Dept. of Agriculture, Agriculture Services – Dale Anderson (605) 773-3724  
State Dept of Agriculture, RCF - (605) 773-3594  
SDSU Extension – Ruth Beck (605) 773-8120  
SDSU Extension Forester – Dr. John Ball (605) 688-4737  
USDA APHIS, PPQ – (605) 224-1713