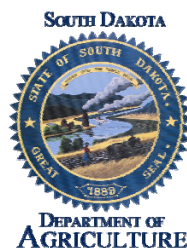


**South Dakota
Emerald Ash Borer Readiness Plan**

**Prepared by
South Dakota Department of Agriculture
Resource Conservation & Forestry Division**

April 2017



South Dakota Emerald Ash Borer Readiness Plan August 2014

<u>Acronym</u>	<u>Definition</u>
APHIS	Animal and Plant Health Inspection Service
AS	Agriculture Services
BIA	Bureau of Indian Affairs
DPC	Domestic Program Coordinator
EAB	Emerald Ash Borer
EAN	Emergency Action Notification
FHP	Forest Health Protection
FS	Forest Service
PPQ	Plant Protection and Quarantine
PSS	Pest Survey Specialist
RCF	Resource Conservation & Forestry
SD	South Dakota
SDArA	South Dakota Arborist Association
SDACD	South Dakota Association of Conservation Districts
SDCL	South Dakota Codified Law
SDDA	South Dakota Department of Agriculture
SDNLA	South Dakota Nurseryman and Landscape Association
SDSU	South Dakota State University Extension
SPHD	State Plant Health Director
SPRO	State Plant Regulatory Official
SSC	State Survey Coordinator
USDA	United States Department of Agriculture
USDI	United States Department of Interior

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South Dakota Emerald Ash Borer Readiness Plan

April 2017

Purpose

The purpose of this plan is to outline a cooperative and effective emerald ash borer detection and response protocol in South Dakota to guide federal, state, tribal, and local governments, private companies, individuals, and property owners.

Partnerships

This plan is developed with the consultation and agreement by South Dakota Department of Agriculture (SDDA) Agriculture Services Division (AS) and Resource Conservation & Forestry Division (RCF), United States Department of Agriculture (USDA) Forest Service (FS) Forest Health Protection (FHP), South Dakota State University Cooperative Extension (SDSU), USDA Animal and Plant Health Inspection Service (APHIS), and United States Department of Interior (USDI) Bureau of Indian Affairs (BIA).

Introduction

The emerald ash borer (EAB) is a new, significant threat to the urban and rural forests of South Dakota. First discovered in 2002 in southeastern Michigan, this Asian beetle has destroyed millions of ash trees in 22 states and two Canada provinces. The recent discoveries of EAB in Colorado, eastern Iowa, and eastern Nebraska within 100 miles of the South Dakota border, highlight the inevitability of the arrival of this insect into our state.

The USDA FS provides details on the identification, biology, hosts, and symptoms of the EAB in a Pest Alert (Appendix A or http://www.na.fs.fed.us/spfo/pubs/pest_al/eab/eab.pdf). This guide covers the chemical and biological controls used to dampen population growth of EAB as well as management tactics to contain new infestations.

South Dakota has a higher percentage of ash trees than most other states in the country. It is estimated by the SDDA RCF that approximately one third of public trees in South Dakota cities are ash. In some communities, green ash comprises over 70% of the public trees. The Great Plains Initiative inventory indicates that over 36 percent of the rural trees in South Dakota are green ash. That would include bottomland and upland forests, as well as planted windbreaks. Statewide, there are over 190,000 acres of upland and bottomland hardwood forest types with a large component of ash species (green, white, and black) according to the 2015 USDA FS, forest inventory data. Green ash is still being planted as a component of some windbreaks in South Dakota. SDDA RCF and SDSU have encouraged consumers to reduce the use of ash species in South Dakota's landscape through planting of other native tree species.

Removal of dead or infested ash trees will be an expensive endeavor for South Dakota's private landowners and communities. Depending on the location of the tree and the need for stump removal, the cost for removal across the state could range from \$18.7 million to \$41.3 million. Replacing the lost trees could add another \$6.8 million to the cost. This doesn't include the cost of lost ecosystem services provided by ash trees including songbird habitat, stream bank protection, shade, and wind and snow protection for livestock, farmsteads, fields, and public right-of-ways.

Specific Plan Details

I. GENERAL READINESS:

To reduce risk, minimize impact, and respond more effectively to a possible infestation of the EAB and to partner towards overall health and sustainability of the forests, both urban and rural, throughout South Dakota.

- A. Establish a network of agencies and organizations that may be affected by the EAB into an executive council (Appendix B) made up of a Technical Team for prompt evaluation and action, and a Communications Team for providing uniform and accurate information and education. The following agencies have, by law, been assigned the responsibility of managing an exotic pest infestation and have been granted the legal authority to act by the federal, state, or local government
 - SDDA AS [South Dakota Codified Law (SDCL) 38-24A]
 - SDDA RCF [SDCL 41-21]
 - USDA APHIS PPQ [7 USC 7701]
 - USDA BIA
 - Affected Tribal Governments
 - USDA FS
 - Affected local government(s) at site(s) of infestation

1. Technical Team – Lead in monitoring, confirmation, quarantine and management efforts to slow the spread EAB populations.
 - SDDA AS [Co-Lead Organization]
 - SDDA RCF [Co-Lead Organization]
 - SDSU
 - USDA APHIS PPQ
 - USDA FS
 - USDI BIA
 - Affected Tribal Government
 - Affected Local Government

2. Communication Team – Lead in communicating accurate information, quickly and broadly in a manner that supports the Technical Team to prevent and control EAB infestations.
 - SDDA AS [Co-Lead Organization]
 - SDSU
 - SDDA RCF
 - USDA APHIS PPQ [Co-Lead Organization]
 - USDA FS
 - USDI BIA
 - Affected Tribal Government
 - South Dakota Arborist Association (SDArA)
 - South Dakota Nurseryman and Landscape Association (SDNLA)
 - South Dakota Association of Conservation Districts (SDACD)
 - South Dakota Municipal League
 - Governor’s Representative, State of South Dakota
 - South Dakota State Association of Counties
- B. Administrative Readiness – to ensure that current, relevant, and achievable policies are in place that allow the actions described in this plan to occur quickly and unencumbered.
1. Draft EAB Readiness Plan [Technical Team]
 - a) Distribute plan to Technical Team
 - b) Technical Team members to distribute condensed plan to constituencies
 - c) Foster cooperation among agencies for implementation
 2. Identify resources and needs [Technical Team]
 - a) Evaluate staffing needs in regulatory agencies
 - b) Discourage firewood movement
 - c) Identify sources of funding for readiness activities
 - d) Assess human and technical resources (e.g. tree climbers)
 3. Take proactive steps to speed administrative processes [Technical Team]
 - a) Analyze SDDA AS and SDDA RCF procedures to identify streamlining opportunities
 - b) Analyze PPQ and FS procedures to identify streamlining opportunities
 - c) Technical Team to communicate EAB status to South Dakota Homeland Security and Emergency Management
 - d) Technical Team to encourage communities to examine local administrative processes for streamlining opportunities

4. Educate the media to ensure accuracy of information
[Communications Team]
 - a) Issue a press release on the final plan
 - b) Coordinate Public Information Officers
 - c) Identify key sources of current information
 - d) Develop/distribute EAB posters to primary public and private campgrounds and roadside rest areas

5. Explore wood waste utilization opportunities with SDDA RCF to reclaim ash material to its highest possible use should a volume of material suddenly become available [Technical Team]

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

1. Review and distribute scientific guidelines to advise actions [Technical Team]
2. When issued, operate under New Pest Response Guidelines or other relevant USDA technical guidelines
3. Advocate for continued research for greater understanding of EAB and management options
4. Participate in annual and/or regional forest pest meetings [Technical Team]
5. Transfer technology to field foresters, arborists, and nursery professionals as it becomes available [Technical Team]
6. Participate in PPQ EAB Tabletop Exercises to evaluate readiness and response efforts. [Technical Team]

II. REDUCE RISK OF INFESTATION:

To assure that all means of EAB introduction are known and controlled, as soon as possible.

A. Assess Risk – Determine the size and scope of the ash resources within South Dakota forests and urban areas and determine the severity of new and existing EAB infestations [Technical Team]

1. Identify possible sources of EAB importation (i.e., ash logs, chips, firewood, and nursery stock) from affected areas
2. Assess the scope of the resource at risk (number of ash trees)

3. Analyze density of ash populations to determine high risk areas
4. Track spread of EAB and distribute to Communications Team

B. Reduce Risk

1. Raise public awareness about risk from firewood importation [Communications Team]
 - a) Install educational posters at federal, state, county and large private campgrounds and highway rest areas along I-90 and I-29
 - b) Promote “EAB-free” firewood from reputable firewood dealers
 - c) Implement “burn what you bring” firewood policy in South Dakota’s private and public campgrounds
2. Technical Team to convene a Firewood Committee to analyze the firewood market and find ways to reduce the risk of importation with representatives from:
 - SDDA AS
 - USDA APHIS PPQ
 - SDDA RCF
 - SDArA
 - South Dakota Conservation District Boards
 - South Dakota Department of Tourism
3. Ensure planting selections contribute to a diverse and sustainable urban forest [Communications Team]
 - a) Educate municipalities and large property managers about diversity in planting
 - b) Assist local governments in tree assessments and inventories to analyze diversity and guide planting decisions
4. SDDA coordinate state efforts with Governor’s Representative

III. ONGOING MONITORING PROGRAM:

To minimize the spread and improve odds of containing an infestation

A. Survey urban, rural, and campground ash populations to find or rule out the presence of EAB following USDA FS FHP and APHIS survey protocols [Technical Team]

1. Continue USDA FS FHP partnership surveys [Technical Team]
2. Continue APHIS trapping

3. Convene Technical Team to survey and monitor ash populations to determine the presence of the EAB including representatives from:
 - SDDA AS [Lead Organization]
 - SDSU
 - SDDA RCF
 - USDA APHIS PPQ
 - USDA FS
 - SDArA
 - SDNLA
 - SDACD
 - South Dakota Parks & Recreation Association
 - Tribal Representative
 - Affected City and County representatives
4. Enable municipal and commercial green industry professionals to participate in monitoring and reporting [Technical Team]
5. Communicate survey results to stakeholders and the media, including an informational Web site [Communications Team]

B. Educate the public and professionals to provide stakeholders with current and accurate information in a targeted manner to aid in rapid identification of symptoms of an infestation [Communications Team]

1. Offer First Detector training and outreach based on current information to landscapers, arborists, Master Gardeners, nurserymen and other green industry workers to assess ash health and accurately identify EAB [Communications Team]
2. Educate the general public about EAB [Communications Team]
 - a) Secure/develop simple educational materials for the general public
 - b) Pursue opportunities for speaking, educating, and exhibiting educational displays, including EAB identification material
 - c) Broadly distribute public education materials
3. Recruit and enable volunteer scouting for First Detector program [Technical 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 (e.g. Master Gardeners, youth groups, etc.)

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

1. Technical Team members are requested to link to USDA FS, PPQ and Web sites in quarantined states
2. Coordinate with <http://www.emeraldashborer.info/> to add South Dakota information [Communications Team]
3. Support full staffing of participating agencies so that vital information about South Dakota forest health is readily available [Technical Team]

D. Guide public inquiries and possible sightings through the process outlined in Appendix C. [Technical Team]

E. Guide *professional* (arborist, entomologist, pathologist, plant health care specialist) inquiries and possible sightings through the following process. [Communications Team]:

1. If a suspected EAB is found, contact one of the following:
SDDA AS 605.773.3724
SDDA RCF 605.394.2395
SDSU 605.688.4737 or
USDA APHIS PPQ 605.224.1713

Personnel from these agencies will inspect the suspected ash tree(s) and identify the specimen(s)

2. Collected specimen will be sent or delivered to the State Entomologist's Office or South Dakota's USD APHIS PPQ office and will include the information requested in Appendix E, who will then forward the specimen to a PPQ identifier:

State Forest Entomologist:

John Ball
Rm 230 Berg Agricultural Hall, Box 2207A
South Dakota State University
Brookings, SD 57007-0996

South Dakota USDA APHIS PPQ:

David Hirsch
State Plant Health Director
3509 Miriam Ave, Ste. A
Bismark, ND 58501

3. If collected specimen is initially confirmed to be EAB by a USDA APHIS PPQ Identifier, the specimen will then be sent to the National Systematic Entomology Laboratory to make final identification.

4. All Technical Team Members are notified that a suspect EAB is in the system for identification. **However, at this point, all information is NOT for public dissemination.**

5. The result, either positive or negative for EAB, is received from the Systematic Entomology Laboratory by PPQ, who will notify the Technical Team

IV. IN THE EVENT OF AN INFESTATION, MANAGE THE EAB POPULATION:

The Technical Team, with cooperation of the affected local government(s), will implement coordinated efforts to slow the spread of the infestation according to New Pest Response Guidelines established by USDA, the [South Dakota EAB Response Plan Field Procedures](#), or from research conducted by state or federal agencies.

A. Technical Team will take the lead in planning and implementing actions

1. Begin response with affected county and city government(s)
 - a) Technical Team will meet to discuss and determine the preliminary plan of action
 - b) Technical Team will schedule an emergency meeting with cooperators (e.g. regulated industries, local government, recreational areas, and Tribal representatives)
 - c) Communications Team will release verified, accurate information to the press
 - d) Municipal ordinances will be reviewed and appropriate recommendations made by the Technical Team
 - e) Local response plans will be developed by the Technical Team
 - f) Training programs will be conducted for local governmental staff by the Communications Team
2. Organize, initiate and conduct a delimiting survey to determine the outer boundary of the infestation.
3. AS implements an EAB 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 part thereof infested with the EAB as a nuisance in the State of South Dakota” as well as the establishment of a formal quarantine of the infested area(s).
 - a) A federal quarantine regulating interstate movement will be initiated by USDA APHIS PPQ following state quarantine guidelines
 - b) Communications Team will release accurate information to the press

4. Regulatory and control activities will be initiated as necessary by Technical Team.
 - a) Administer provisional quarantine established by SDDA AS consistent with SDCL 38.24A, SD Administrative Rule 12:51 and/or 12:62. Emergency rules will be issued.
 - b) Determine if removal of potential host trees is appropriate
 - c) Develop and adopt compliance agreement with stakeholders in cooperation of quarantines (see Appendix C)
5. Develop (Technical Team) and distribute (Communications Team) silvicultural guidelines
6. Coordinate activities with Governor's Representative.

B. Communicate and coordinate actions, information and response [Communications Team]

1. Provide accurate information and updates to the media through EAB Communications Team
2. Provide accurate information to affected residents
 - a) Communications Team will prepare information for customizing and distributing to affected area immediately after infestation is found
 - b) Technical Team will cooperate with local governments to host local resident/land owner meetings to share information as soon as possible after finding an infestation. Technical Team will organize these meetings.
3. Communicate with public and industry professionals to foster cooperation to maximize effective response [Communications Team]
4. Conduct training for arborists, landscape professionals, and other green industry personnel to keep this service-related business sector informed of effective management efforts for EAB. Issue a certificate of attendance for each person attending training.

C. Dispose of wood debris in cooperation with local governments [Technical Team]

- a) Establish processing facilities in the quarantine zones to efficiently handle ash debris and reclaim useable products as best as possible
- b) Market reclaimed wood products, if feasible

D. Develop and investigate the implementation of tree planting programs authorized under applicable federal, state and local authorities using available resources [Technical Team]

Appendix A:

Emerald Ash Borer Links

USDA Forest Service:

http://www.na.fs.fed.us/spfo/pubs/pest_al/eab/eab.pdf

APHIS:

http://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/index.shtml

http://www.aphis.usda.gov/import_export/plants/manuals/domestic/downloads/emerald_ash_borer_manual.pdf

http://www.dec.ny.gov/docs/lands_forests_pdf/eabfedguidelines.pdf

South Dakota Resource Conservation and Forestry:

<http://sdda.sd.gov/conservation-forestry/forest-health/invasives/default.aspx>

<http://sdda.sd.gov/legacydocs/Forestry/publications/PDF/EAB-plan-2014-Field-Procedures-08-08-2014.pdf>

General Information:

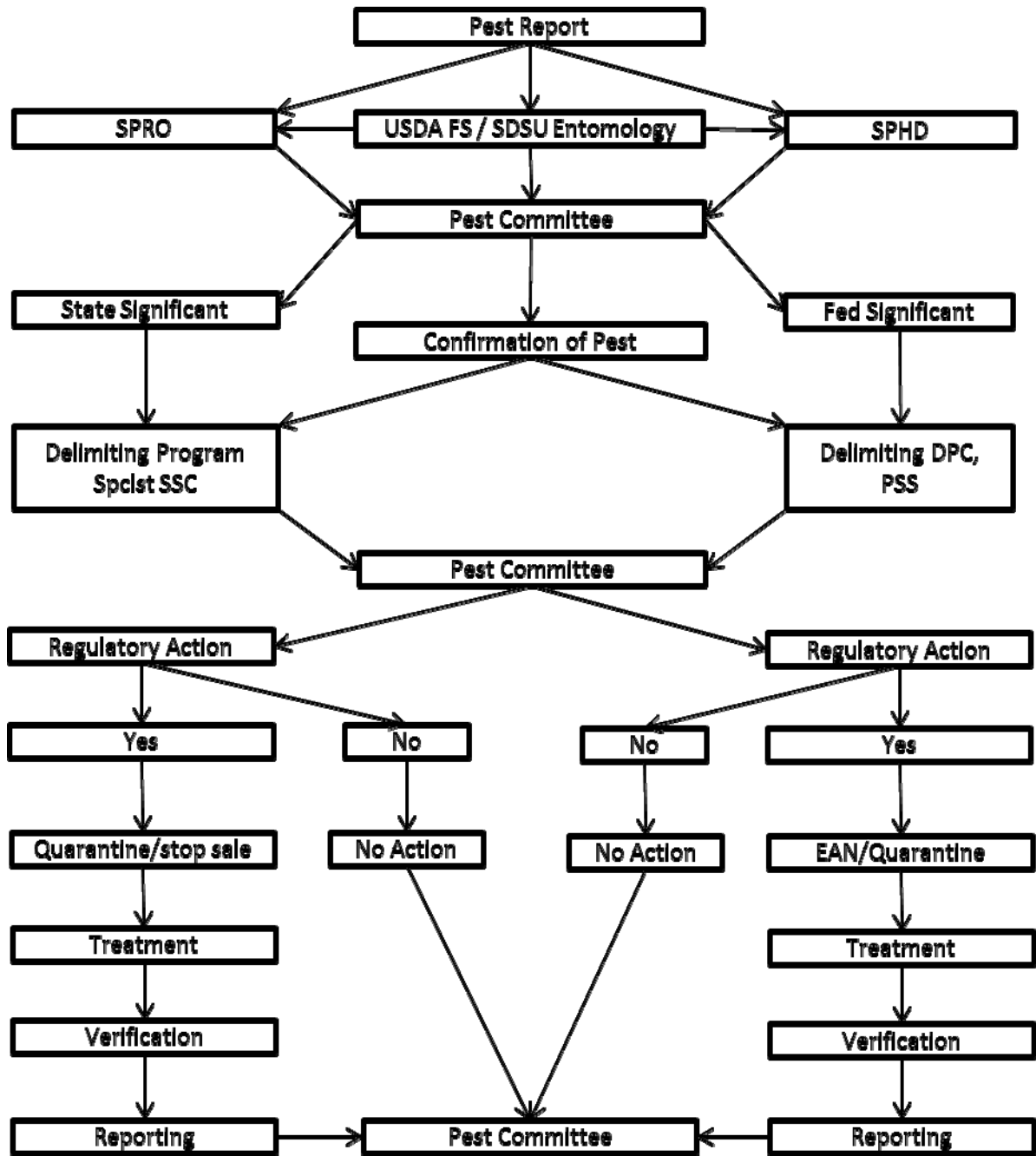
<http://emeraldashborer.info/>

Appendix B:

South Dakota Forest Insect & Disease Management Group Members

- South Dakota Department of Agriculture – Resource Conservation and Forestry Division
- South Dakota Department of Agriculture - Agricultural Services Division
- South Dakota State University Extension
- United States Department of Agriculture – Animal Plant Health Inspection Service – Plant Protection and Quarantine
- United States Department of Agriculture – Forest Service
- United States Department of Agriculture – Natural Resources Conservation Service
- Department of Interior, Bureau of Indian Affairs
- Local Governments
- Tribal Representatives
- SD Arborist Association
- SD Nurseryman and Landscape Association
- SD Association of Conservation Districts
- SD Municipal League
- SD State Association of Counties

**Appendix C:
Regulatory Action Matrix for South Dakota if Emerald Ash Borer is
Suspected or Found**



**Appendix E:
Sample Submission for Suspected Emerald Ash Borer**

- 1. Complete the form on the reverse side to the best of your ability. Give complete information pertinent to the sample, including background information.**
- 2. Send as many insect specimens as possible.**
- 3. Place insect specimen in glass vial containing the alcohol-gel sanitizer. Gently push the specimen down into the gel with a pencil. Tightly close the vial with the screw cap.**
- 4. If sending multiple site samples fill out the submission form for each sample and put specimens from different sites in different vials. Label vials accordingly.**
- 5. Place the vial in bubble wrap, packing foam, or shredded paper to cushion during shipment.**
- 6. If sending damaged wood, you will need to send as much of the material as possible.**
- 7. Ship in crush-proof container immediately after collecting. Send to:**

**South Dakota Department of Agriculture
3305 West South Street
Rapid City, SD 57702**

Sample Submission Form for Suspected Emerald Ash Borer

Client Name: _____

Client Address: _____

Submitter Name: _____

Submitter Address: _____

Client County: _____

Submitter Affiliation: _____

Client Daytime Phone: _____

Submitter Daytime Phone: _____

Client Email Address: _____

Submitter Email Address: _____

Date Collected: _____

Collection Location Details:

Number of Ash Trees Affected: _____

Type of Ash Tree: _____

Emerald Ash Borer Symptoms Present:

____ Epicormic sprouting

____ Crown dieback

____ S-shaped larval tunnels

____ D-shaped exit holes

Other: _____

For Office Use:

Date Received: _____

Tentative Identification by: _____