PREVENTION AND RESPONSE PLANS TO ADDRESS INVASIVE SPECIES ATTACKS ON URBAN FORESTS IN COLORADO – Colorado Department of Agriculture

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EXECUTIVE SUMMARY

Strategies to cope with the introduction and spread of invasive species need to be identified and implemented prior to introduction and establishment to best alleviate negative consequences. Invasive forest pests such as Emerald Ash Borer (EAB), Gypsy moth, and Asian Longhorned Beetle (ALB) are most likely to be introduced into Colorado via firewood, logs, or nursery stock. Existing diseases and pests such as Thousand Canker Disease and Mountain Pine Beetle may need to be deterred from spreading from one region of our state to another.

Colorado Urban Forest Management Goals:

- Base management decisions on an inventory of trees and community resources
    - Acceptable tree inventories include:
        - Partial Inventory: data are from a sample (or samples) and information is extrapolated to the whole forest.
        - Complete Inventory: the entire tree population is inventoried but it is time consuming and expensive.
        - Canopy Cover Analysis: information is gathered by at least partial use of aerial photographs and sometimes with geographical information system (GIS).
- Reduce the risk of introduction and spread of exotic-invasive species
- Minimize the impact of exotic-invasive species
- Create a more diverse and resilient urban forest

Management tactics to be employed PRIOR to a confirmed infestation (appropriate for EAB and ALB)

- Inventory the urban forest as budgets allow to determine potential impact of invasive species
- Determine costs and resource for treatment, removal, disposal/utilization
- Determine costs and resources for replanting of community trees
- Prepare specific pest readiness plans
- Enact or strengthen tree planting and removal ordinances
- Facilitate early detection of invasive pests
- Plant existing vacant planting spaces with diverse species
- Improve conditions of all trees through maintenance
- Develop disposal and utilization methods and markets before quarantines are imposed
- Educate and involve private property owners by providing technical fact sheets, chemical protection, alternative and proper disposal of residual wood.

Additional management tactics to be employed after a confirmed infestation (containment)

- Remove infested trees when practical
- Treat high value trees with labeled systemic or contact pesticides
- Selectively remove uninfested trees based on size and condition factors
- Treat, dispose and/or utilize wood within infested area through BMPs or compliance agreements entered into with Colorado Department of Agriculture.

- Compliance agreements are contracts between a responsible party and the Colorado Department of Agriculture outlining the specific steps and requirements necessary to meet quarantines, certification, or other restrictions.

STATE OF COLORADO AND INDIVIDUAL COMMUNITY PEST MANAGEMENT GOALS FOR INDIGENOUS AND INVASIVE PESTS

1. Diversify urban forest species
2. Spread the "USE LOCAL FIREWOOD; DON'T MOVE PESTS" message
3. Designate collection yards for tree removal, utilization and disposal
4. Develop Community Pest Response Plans based on the State guidelines and the examples provided below.

1. DIVERSIFY URBAN FOREST SPECIES

Trees are major capital assets in cities across the United States. Just as streets, sidewalks, public buildings and recreational facilities are a part of a community's infrastructure, so are publicly owned trees. Public trees, collectively with privately owned trees, constitute the urban forest -- important assets that require management, care and maintenance. Colorado's urban forests provide many environmental benefits to our communities. Aside from the obvious aesthetic benefits, trees within our urban forests improve our air, protect our water, save energy, and improve economic sustainability.

The tree resource in each community is the engine that drives the urban forest. Its composition, extent, distribution and health define the limit of the benefits provided. Sustainable urban forests must possess a mix of species, sizes and ages that allows for continuity of benefits while trees are planted and removed.

A mix of young and mature trees is essential if canopy cover is to remain relatively constant over time. To insure sustainability, an on-going planting program that promotes species diversity should go hand in hand with the removal of trees in the community. Species diversity is an important element in the long-term health of urban forests. Experience with species-specific pests has shown the folly of depending upon one species. Unusual weather patterns and pests may take a heavy toll on trees in a city as well. It is recommended that no more than 10% of a city's tree population consist of one species. To maintain proper diversity in an urban forest some level of inventory is needed to periodically monitor the status and diversity of urban forests.

2. SPREAD THE "USE LOCAL FIREWOOD; DON'T MOVE PESTS" MESSAGE

To protect Colorado's trees from invasive and harmful tree pests, the Colorado Firewood Task Force is recommending that people use firewood from Colorado whenever possible, and to always ensure that their firewood is properly seasoned (see below). In addition, when camping, people should try to buy firewood near their destination campground, to help prevent transporting pests elsewhere.

- Colorado firewood

Exotic pests such as the emerald ash borer, gypsy moth, Asian longhorned beetle, Sirex woodwasp, and the water mold causing sudden oak death can be transported on or in firewood. To help keep these pests out of Colorado, we're encouraging people to use local firewood, rather than firewood from out of state. In the cases where local firewood does not meet the needs of the homeowner, we encourage people to ensure that their firewood has been properly seasoned at the point of origin (see below).

- Cut, debark, and dry

Allowing adequate drying time of at least 2 years improves the quality of the firewood, helps kill insects and pathogens in the firewood, and discourages re-infestation. Cutting (and properly stacking) the wood before drying significantly quickens the drying process. Debarking the firewood will help kill insects, remove egg masses, pupae, or fungal spores attached to the bark, and quicken the drying process. Debarking the firewood may be difficult for individuals to accomplish, but should be done whenever possible.

- Use Local Firewood/Don't Move Pests

Colorado has tree pests that are unwanted elsewhere, including mountain pine beetle and thousand cankers disease, among others. To protect tree resources everywhere, we encourage people to buy firewood near their destination campground.

For additional information on firewood and the potential for spreading harmful exotic and native pests, we recommend the following websites:

Don't Move Firewood: http://www.dontmovefirewood.org/

CSU Extension: http://www.ext.colostate.edu/pubs/insect/05563.html

USDA Forest Service: http://na.fs.fed.us/firewood/

For a listing of firewood dealers providing at least 50% of their wood product from Colorado forests, please go to the Colorado Forest Products website at:

http://csfs.colostate.edu/cowood/cfp.html

USE LOCAL FIREWOOD; DON'T MOVE PESTS educational materials, signage, invasive pest costumes and other items available for check out and distribution may be obtained by contacting: CAPS State Survey Coordinator at the Colorado Department of Agriculture- 303-869-9070.

3. REQUIREMENTS AND COMPONENTS OF COLLECTION YARDS FOR WOOD RESIDUES VIA COST-EFFECTIVE TREE REMOVAL AND UTILIZATION

Wood collection or marshaling yards have proven to be an effective way to collected infested wood harvested by various groups into one accessible location where it can be sorted, processed, treated and merchandised. These yards will also play a regulatory role by enabling state and local officials to contain large amounts of affected material and inspect finished products efficiently.

Definition

A marshaling yard is a disposal site whose purpose is to help prevent wood that could potentially house invasive species from being transported out of a known infested area. They can be used for wood process, such as chipping, grinding, debarking, sawing and heat treatment or other related marketing activities. The yards also serve as a temporary or emergency storage sites when trees are removed.

Purpose

Marshaling yards are set up with utilization in mind and are used to merchandise or dispose of wood materials which may or may not be infested. They allow municipalities, tree service companies, utilities, and individuals to drop off wood material for processing and disposal in a manner to prevent artificial spread. Marshaling yards or wood recycling centers may accept various species of trees and can make wood disposal more efficient and economical.

Approval of wood storage site and facilities

Company or municipality responsible for the site must enter into a compliance agreement with the Colorado Department of Agriculture in order to be an "Approved Wood Storage Site"

- Cost of $300/year includes
    - 2 inspections per year verifying criteria listed below
    - Certificate or permit to store infested wood

Site Requirements

- Location of site can be on public or private land.
- Size of site will be dependent on potential wood volume, proximity of other yards and merchandizing activities that will take place.
    - 3 – 5 acres for small volume and one utilization objective
    - 10 acres for large volume, multiple utilization objectives
- Fenced

Specifications for the material accepted at approved wood storage sites

- Woody debris from trees only will be accepted
- Construction debris and mixed waste WILL NOT be accepted

Approved treatments

Processing

- Chipping – wood, brush and stump grindings must be chipped or ground down to a size of no more than 1" in two dimensions (two of the three measurements- length, width, depth- must be 1" or smaller). The typical chipper used in tree care operations will not reliably create chips that meet this specification. Chippers equipped with a 1" screen will assure compliance.
- Debarking – according to established pest or disease specific BMPs (at minimum complete removal of bark). Note that the removed bark and wood must be chipped down to a maximum size of 1" by 1" in 2 dimensions.
- Heat treatment- wood must be heated according to established pest or disease specific BMPs (for regulated pests and diseases the wood temperature must reach 160 degrees F for 75 minutes in the center of the piece).
- Composting – to compost bark and the additional one-half inch wood, temperatures must reach at least 140 degrees F for four days and the compost pile must be turned after 4 days.
- Fumigation – use labeled fumigants by a process approved by state or federal agencies.

- Burning- wood, brush or chips may be burned prior to pest emergence as per specific life cycle.
- Aging – wood material that is aged for 2 years after tree death will be free of most pests. The wood will have dried to the point that the pest can no longer survive in it and a pest present when the tree died or that infested the wood shortly after cutting will have emerged during the 2 year period. If this processing method is used, it should be understood that the average pest will continue to emerge during the 2 year aging period and this wood poses a risk of infestation to living tree species in the area where it is being aged. This wood must not be moved out of the infested area during the aging period.

Storage until processing
Most adult borers can emerge from infested wood May through September. Infested wood should be processed in the spring or as dictated by pest flight season to avoid risk of emergence.

Utilization options
The following is a list of the options recommended in order for utilizing properly treated wood waste:

- Use as **lumber** (with no bark present) to produce value added products.
- Use as **chipped material** for landscaping, trail surfaces and bedding material for farmers.
- Use chipped material as a **carbon source** for compost piles.
- Use as **boiler fuel** in a boiler equipped with the appropriate air pollution control equipment. This generally means industrial and utility boilers approved to burn wood. Consult individual boiler owners for required fuel specifications.
- Use as **firewood** for wood burning stove and outdoor camp fires. Residential outdoor wood fired boilers are not recommended due to their heavy release of fine particulate matter pollution.

Disposal options

- Disposal in a **landfill.**
- Non-landfill **burial.**
- Burn in an **Air Curtain Destructor** or incinerator.

REGULATED PESTS VERSUS NON-REGULATED PESTS- WHAT IS THE DIFFERENCE?

In the United States and Internationally pests associated with plants are categorized into regulated and non-regulated. Depending on the status of an exotic-invasive pest, measures are developed for prevention and entry or establishment of regulated pests.

Regulated: Regulated pests are those pests for which measures and actions would be undertaken by the State and Federal Government if they were intercepted or detected.

In Colorado examples of regulated pests include:

- Emerald Ash borer
- Asian Long Horned Beetle
- Gypsy Moth
- Japanese Beetle

Non-regulated or unregulated pests are those pests for which action would not be undertaken by State or Federal government, however local communities may take action if they were intercepted or detected.

In Colorado examples of non-regulated pests include:

- Dutch Elm Disease
- Thousand Canker Disease
- Mountain Pine Beetle
- Pine Wilt Nematode

If a pest is intercepted and the status is unknown, contact the Colorado Department of Agriculture, uSDA- Animal Plant Health Inspection Service- Plant Protection and Quarantine or Colorado State University for information.

REGULATED PESTS

4. DEVELOP SPECIFIC COMMUNITY PEST RESPONSE PLANS BASED ON THE STATE GUIDELINES AND THE EXAMPLES PROVIDED BELOW

4. 1 Emerald Ash Borer ID and Current Status

Identification and Current Status of Emerald Ash Borer- Emerald Ash Borer is a non-native, wood-boring beetle that can attack all native ash (*Fraxinus*) species. This insect was first found in North America, in 2002, in southeastern Michigan and adjacent Ontario. It likely arrived in the early 1990s on solid-wood packing material from Asia. It has spread quickly, largely due to human movement of firewood. To date, nineteen states and two Canadian provinces have confirmed EAB infestations, although there are still many uninfested ash trees, of all sizes, in Michigan and other affected states.

EAB adults are 1/2-inch long and metallic green. They emerge through small (1/8 inch) D-shaped holes starting in late May and may be flying until early September. Moving wood products during this time of year presents the greatest risk for spreading the insect to previously uninfested trees and/or sites. The larvae may be found year round. They bore through tree bark, and feed in the cambium, creating long serpentine galleries which get wider as the insects grow. This feeding pattern interrupts the tree's vascular system, eventually girdling and killing it. Adult beetles are more common in sunlit portions of the crown, so initial damage often occurs in upper branches, making early detection more difficult. EAB can kill stressed and healthy ash trees greater than 1 inch in diameter. In established infestation areas, most die within two to three years of becoming infested. Up to 1% of ash may survive on sites with heavy mortality. Some of these "lingering ash" show evidence of bark healing, suggesting possible host resistance.

Individual landscape trees can be protected with systemic insecticides. Research is being conducted to develop new management tools, establish biological controls, and understand why some trees have survived EAB. Experimental Slow-Ash-Mortality (SLAM) techniques, which include removing infested trees before the beetles emerge, show promise in reducing the rate of EAB spread to new locations. In

addition to native parasites and predators that have been found feeding on EAB, parasitoid wasps from Asia have been released in 12 of the 19 infested states as part of an operational biological control program. In study sites, parasitism has slowed the rate of EAB population growth.

To slow the spread of EAB, a federal quarantine restricts the movement of materials which might harbor the insect. Such materials are "nursery stock, green lumber, chips, and other woody material of the genus *Fraxinus*, plus any non-coniferous firewood and the insect itself, in any of its life stages". Ash logs have been allowed to move freely within quarantined areas. Shipping logs from within a quarantined area to a mill outside the area requires compliance with quarantine restrictions. More information is available at:
http://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/index.shtml

Thus far, strategies to address EAB in Colorado have focused on detection, such as using purple panel trap surveys, on regulatory activities, and on public awareness campaigns to assist with detection and prevent human assisted movement of the insect. Outreach efforts have emphasized the "Use Local Firewood; Don't Move Pests" message, as firewood transport is a primary method of human-aided EAB spread.

4.1 A) STATE OF COLORADO EMERALD ASH BORER READINESS AND RESPONSE PLAN

INTRODUCTION

The Emerald ash borer (*Agrilus planipennis*) is an exotic wood boring beetle that attacks ash (*Fraxinus* spp.) and its cultivated varieties. Native to eastern Asia, the beetle was first discovered near Detroit, Michigan in 2002 and has since spread to 19 states where it has killed tens of millions of ash trees. Scientists believe it was unintentionally brought to the United States through infested ash crating or pallets.

State and federal quarantines, surveys, and containment efforts are in place within affected areas. However, the main population core of EAB is well established and peripheral states cannot rely solely on the eradication of this pest. It is highly likely that containment and quarantine efforts will not be enough and EAB could come to Colorado by means of infested firewood, logs, or nursery stock.

Colorado Perspective

The Emerald Ash Borer (EAB) is the greatest threat to Colorado's community forests since the introduction of Dutch elm disease in 1969. Ash is one of the most important and abundant species within Colorado's urban forest communities, it is estimated that ash comprises 1/5th of the all deciduous trees in the urban areas. The loss of this species would have enormous economic, social, and ecological impacts in the state.

The Colorado Department of Agriculture (CDA), Colorado State Forest Service (CSFS), Colorado State University Extension Service (CSU-EXT), United States Department of Agriculture-Animal and Plant Health Inspection Service-Plant Protection and Quarantine (USDA-APHIS-PPQ), and others have worked to raise public awareness about the threat of EAB. A more coordinated approach is needed to address the threat of EAB so a working group should be formed consisting of the prime agencies and organizations that may be affected by EAB to develop a readiness and response plan for EAB. The EAB Working Group in Colorado consists of:

- CDA – Colorado Department of Agriculture
- USDA APHIS PPQ- United States Department of Agriculture-Animal and Plant Health Inspection Service- Plant Protection and Quarantine
- CSFS – Colorado State Forest Service
- CSU-EXT – Colorado State University Extension Service
- City Foresters
- CTC - Colorado Tree Coalition
    - FRUFC– Front Range Urban Forestry Council
- COSP – Colorado State Parks
- USDA Forest Service

PURPOSE

The purpose of this plan is to provide a statewide coordinated effort to minimize the destructive effects of EAB to Colorado's ash resources. The primary goal of the Plan is to prevent or delay introduction of EAB and to detect and contain EAB and mitigate impacts if and when EAB does arrive.

This plan will result in the development of resource materials to assist in preparation for and responding to EAB introductions. Resource materials will be accessible through the following websites:

http://www.emeraldashborer.info/

GENERAL READINESS

The key components addressed by this plan include:

a. Reducing the risk of introduction of EAB

b. Preparation to minimize the potential impact of EAB

c. Detection of EAB

d. Response to an EAB detection

EAB Working Group Special Teams as listed in Table 1 will be responsible for the component(s) assigned to them.

Table 1. Working Group Special Teams						
			Plan Components			
Special Team	**Team Goals**	**Members**	**Reduce Risk of Introduction**	**Prepare & Minimize impact**	**Early Detection**	**Response**
Administrative Team	Planning and implementing EAB response activities. *Includes agencies with legal authority for managing exotic pests or responsible for education, management and protection of forest resources.*	CDA USDA APHIS PPQ CSFS Local Governments CTC				X
Regulatory Response Team	Develop and determines regulatory response protocols	CDA USDA APHIS PPQ				X
Core Communication Team	Provide official updates to the media in the event of an EAB discovery	CDA USDA APHIS PPQ				X
Education and Outreach Team	Educate the public about the threat and potential impact of EAB and how to reduce the risk of introduction.	CDA CSFS CSU-EXT COSP Local Government	X	X	X	
Community Preparedness Team	Provide guidance document to communities to assist in preparation of community plans to prepare for and respond to an EAB introduction.	USDA APHIS PPQ CDA CSFS		X		
Detection Team	Detection of EAB.	CDA USDA APHIS PPQ CSFS CSU-EXT CSU Plant Diag Lab Local Governments		X	X	
Wood Disposal and Utilization Team	Identify wood disposal and utilization options and resources available. Develop best management practices for handling wood waste.	CSFS CTC CDA USDA APHIS PPQ		X		
Diversification and Reforestation Team	Make recommendations to diversify community forests, conservation tree plantings and native forests.	CSU-EXT CSFS CTC COSP Local Government		X		

REDUCE THE RISK OF INTRODUCTION (PREVENTION)

Objective: Identify major potential pathways of EAB introduction and implement actions to reduce the risk.

A. Assess Risk
   a. Assess the ash resource at risk
   b. Identify key risk factors and high risk sites
   c. Develop recommendations for reducing the risk of EAB introduction

B. Reduce Risk
   a. Raise awareness about the risk of introducing EAB through firewood.

      Evaluate and promote implementation of the National Firewood Taskforce recommendations to reduce the risk of introduction and spread of EAB http://www.aphis.usda.gov/newsroom/hot_issues/firewood/
   b. Raise awareness about the risk of introducing EAB through ash nursery stock
      i. Educate municipalities, contractors, garden centers and landscapers about the importance of knowing the source of ash nursery stock and reducing the percentage of ash in landscapes.

PREPARATION AND MINIMIZE POTENTIAL IMPACTS

Objective: Assist forest resource managers to prepare for the introduction of EAB.

A. Develop a template for community response plans and provide access to resources for incorporation into their plans.

B. Conduct training programs for local governmental agencies.

C. Obtain and distribute information for homeowners to prepare and respond to EAB.

D. Obtain preparedness plan guidance or templates for other federal, state, local and private land managers.

E. Promote diversification of community forests and other plantings
   a. Develop resources to aid in diversification recommendations (e.g. species lists…)
   b. Pursue grant opportunities to assist communities with reforestation.

F. Catalog wood disposal and utilization option and identify resources that would aid in development or expansion of options.

G. Communicate best management practices for disposal to minimize the spread of the EAB infestations.

DETECT EAB INFESTATIONS PROMPTLY

Objective: Monitor to detect infestations EAB of promptly; Implement delimitation survey to minimize spread of EAB and improve the chance to contain and slow the spread.

A. Educate professionals and the public to elicit their assistance in early detection.
   a. Develop and provide training to community forestry staff, arborists, nurserymen, green industry professionals, public land managers, CSU Extension agents, Soil Conservation District staff, Colorado State Parks staff, Colorado DOW staff, other state agencies, campground managers, master gardeners and others.
   b. Educate the general public through meetings, events, media, press releases and public appeals to assist in detection of EAB
   c. Develop web-based resources facilitating EAB detection and reporting.

B. Utilize current detection technology in partnership with appropriate agencies to survey community forests identified as high risk for introduction of EAB.

C. Utilize team of highly trained individuals to investigate highly suspicious reports of possible EAB infestations.

D. Communicate protocols for reporting possible EAB sightings, official confirmation and official announcement of a detection

   a. Reporting Possible EAB Sightings
      - Reports of suspect EAB infestations should be submitted to one of the following individuals:
        1. Colorado Department of Agriculture (303-869-9050)
        2. Colorado State Forest Service (970-491-6303)
           Colorado State University Extension
           http://www.ext.colostate.edu/cedirectory/
        3. USDA-APHIS State Plant Health Director (303-371-3355)

   b. Specimen submission protocol
      - Specimens should be sent to:
        Colorado State University Plant/Insect ID & Diagnostic Clinic
        E-215 Plant Sciences Building
        Colorado State University
        Fort Collins, CO 80523-1177
        (970-491-6950)
        http://plantclinic.agsci.colostate.edu/index.html

        (CSU PDC will forward samples to Boris Kondratieff)

   c. Specimen confirmation protocol
      - If the specimen is initially identified as EAB by CSU, the Colorado Department of Agriculture State Plant Regulatory Official and USDA APHIS PPQ State Plant Health Director will be advised and the specimen will be sent to the official USDA APHIS identifier for confirmation.

- Members of the Administrative Team will be advised that a suspect EAB is in the system for official confirmation. At this time, **NO** information will be for public dissemination.
- This process will be followed each time EAB is found in a new county.

d. Notification and Official Announcement protocol
   - Initial communication of official confirmation of an EAB detection will go to the USDA APHIS PPQ State Plant Health Director and immediately to the Colorado Department of Agriculture State Plant Regulatory Official.

   - Official public announcement of an EAB detection will be made by the Colorado Department of Agriculture and USDA APHIS PPQ per the response guidelines below.

RESPOND TO DETECTION OF EAB (Contain and Manage an EAB Infestation)

Objective: Contain and delay the spread of an Emerald Ash Borer infestation. (Determine if eradication is possible).

The Colorado Department of Agriculture (CDA) and the United States Department of Agriculture-Animal and Plant Health Inspection Service – Plant Protection and Quarantine (USDA-APHIS-PPQ) have the responsibility and authority for regulatory and quarantine actions to prevent or delay the spread of Emerald Ash borer.

Upon official confirmation and notification of an EAB detection an Administrative Team consisting of CDA, USDA APHIS and the Colorado State Forest Service (CSFS) along with the affected local government(s) will implement coordinated efforts to contain the infestation under the leadership of CDA and APHIS.

An Incident Command System (ICS) will be established to respond to the detection.

Anticipated actions following the ICS model are listed below.

1. CDA and USDA APHIS PPQ with the cooperation of the local government and CSFS will immediately meet to determine a preliminary plan of action. APHIS participation will include the APHIS Colorado State Plant Health Director, National Program Coordinator, Regional Program Manager and other advisers as necessary.

   Topics to be addressed will include:
   - Review details about the detection
   - Identify staffing and resource needs
   - Delimiting survey plans
   - Regulatory Activities plans
   - Quarantine determination and boundaries -Review State and Federal Processes and timing including State Emergency quarantine, Federal Orders
   - Finalize Incident Command structure and staffing

2. **Coordinate response with affected county and city governments** and landowners
    a. Schedule emergency meeting with local government representatives, landowners, regulated industries, utility companies, recreational areas and others within the affected areas.

3. **Convene Communications Team** (CDA, USDA) to coordinate the release of verified and accurate information to the press. CDA and USDA APHIS will take the lead.

4. **Conduct Delimiting Survey** to determine the extent of the infestation to provide information necessary to make quarantine determinations and establish quarantine boundaries. CDA and USDA APHIS PPQ will take the lead with support from CSFS and possibly local government staff

5. **Investigate Potential Origin:** Mobilize an investigation to determine potential source(s) of the infestation and likelihood that the infestation may already have spread.

6. **Determination of Quarantine Action**: CDA and USDA-APHIS-PPQ, with input from the local authorities will meet to determine quarantine actions. CDA may impose a temporary quarantine (Pest Control Act).

7. **Implement Communication Plan for quarantine information and the response** to advise all affected parties of the quarantine requirements to foster support and compliance. The CDA and APHIS website will be the official and only location for quarantine information.

8. **Implement Regulatory Compliance Plan**
   A regulatory compliance plan will be developed that describes acceptable treatments that would allow movement of regulated articles out of the quarantine area while minimizing the spread of EAB. CDA and USDA-APHIS are responsible for regulatory compliance activities. Parties who are able to satisfy the treatment requirements will be placed under compliance agreements with CDA or USDA APHIS.

9. **Participate in a wood disposal/utilization taskforce**. CDA and USDA-APHIS will participate in a wood disposal/utilization taskforce convened by local government(s) to facilitate and assure that wood transport, treatment and disposal comply with quarantine requirements.

10. Municipalities and landowners shall be allowed to act under their own local authorities when local ordinances are applicable and consistent with the CDA and USDA APHIS PPQ quarantine requirements.

APPENDICES

Working Group Members

- CDA-Colorado Department of Agriculture
    - Mitch Yergert mitchell.yergert@state.co.us
    - John Kaltenbach john.kaltenbach@state.co.us

    - Laura Pottorff laura.pottorff@state.co.us
- CSFS-Colorado State Forest Service
    - Keith Wood keith.wood@colostate.edu
- USDA APHIS
    - Pat McPherren patrick.w.mcpherren@aphis.usda.gov
    - Lisa Peraino Lisa.J.Peraino@aphis.usda.gov
    - Mike Winks Michael.L.Winks@aphis.usda.gov
    - Mary Mahaffey Mary.E.Mahaffey@aphis.usda.gov
- CSU-EXT-Colorado State University-Extension Service
    - Whitney Cranshaw Whitney.Cranshaw@colostate.edu
    - Boris Kondratieff boris.kondratieff@colostate.edu
    - Bill Jacobi William.jacobi@colostate.edu
    - Ned Tisserat ned.tisserat@colostate.edu
- City Foresters/Community Pest Managers
    - Robert Davis Robert.davis@denvergov.org
    - Kathleen Alexander alexanderk@bouldercolorado.gov
    - Dave Lentz dlentz@larimer.org
    - Ralph Zentz rzentz@fc.gov.com
    - And others depending on communities affected
- CTC/FRUFC
    - Current CTC President
- COSP-Colorado State Parks and Wildlife
    - Matt Schulz
    - Elizabeth Brown
- USFS
    - Bob Cain
    - Sky Stephens

Partners/Groups to Collaborate with/Outreach groups and opportunities

- Colorado Department of Transportation
- Governor's Office of Economic Development and International Trade (OEDIT).
- Colorado Municipal League
- Federal Land Managers
    - USFS – United States Forest Service
    - USFWS – United States Fish and Wildlife Service
    - BLM – Bureau of Land Management
    - National Park Service
- Tribal Governments
- NRCS – Natural Resources Conservation Service
- CNGA-Colorado Nursery and Greenhouse Association

4.1 B) COMMUNITY RESPONSE PLAN FOR EMERALD ASH BORER PREPAREDNESS; FORT COLLINS

PUBLIC OUTREACH AND EDUCATION REGARDING EMERALD ASH BORER (EAB).
Content should include information to address the following:

What is it?

What types of ash are affected?

What are the potential threats to our ash populations?

Where is it? (include boundary maps)

What percent of our community forest is made up of ash?
- a) Public trees
- b) Private trees

Who to contact to:
- a) Report suspicious trees
- b) Gain more information

Who to educate:
- a) General Public
- b) Arborists
- c) Other agencies, both private and public

Conduct periodic classes or workshops for professionals.

Conduct informative classes for the general public.

COOPERATIVE PARTNERSHIPS WITH OTHER AGENCIES:

Must have absolute positive identification of EAB:
- a) Initial identification will be Colorado State University (CSU)
- b) Animal Plant Health Inspection Service (APHIS) will make final positive identification
- c) The main APHIS office reports back to the state APHIS Director
- d) State APHIS Director will contact Colorado Department of Agriculture (CDA)
- e) CDA will contact:
    - 1) Colorado State Forest Service
    - 2) Colorado State University
    - 3) Larimer County
    - 4) City of Fort Collins

APHIS will set up an incident command team if deemed necessary (may come back to CDA)

Quarantines will be set for Larimer County

Investigation to find source of EAB will be conducted

Each agency (including Cities, Counties, pest control districts, etc…) will participate in implementing regulatory compliance

CITY OF FORT COLLINS ACTION STEPS:

Monitor ash populations for EAB
- a) Inventory ash populations (City owned trees at a minimum)
- b) Use current methods of detection
  - 1) Traps
  - 2) Catch logs
  - 3) Visual inspections

Establish approved collection, sorting, holding and processing sites (ideally prior to EAB being found here)

Implement reactive measures once EAB is positively identified within City limits
- a) Condemnation
- b) Sanitation
- c) Prohibit private storage or transport of infested wood
- d) Establish methods for treatment of infested wood at approved collection, storage, sorting and processing sites
  - 1) Kiln heat treatment
  - 2) Milling into dimensional wood
  - 3) Chipping (possibility of using chips as fuel)
- a) Restrict movement of infested wood
- b) Promote use of ash wood products

Explore the possibility of grants or programs that could assist Fort Collins in:
- a) Control of EAB
- b) Utilize and process wood from removals
- c) Lease land for collecting, storing, sorting and processing wood
- d) Assist property owners with control/removal costs