

State of Montana

Emerald Ash Borer

Readiness and Response Plan

2025

Published by:



May 2025

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EXECUTIVE SUMMARY

Emerald ash borer (EAB) is a non-native, invasive beetle that attacks and kills healthy ash trees. As of 2025, EAB has not been detected in Montana. However, EAB poses a major threat to native ash occurring in riparian areas, as well as planted shelter belts and the urban forest canopy within the state.

EAB was first detected in the United States in 2002. Native to Asia, EAB was presumably introduced to Michigan via infested solid-wood packing material. Since then, the insect has spread and been detected throughout Eastern, Southeastern and Central North America- with the most recent finds being in Oregon, Colorado, British Columbia, and eastern North Dakota. Within North America, the beetle is most often transported in nursery stock and firewood, both of which are commonly brought into Montana. Firewood is perhaps the most likely introduction pathway, as Montana's recreational appeal draws hunters, anglers, campers, and other outdoor recreationists who often bring firewood from out of state.

EAB has the potential to drastically change our rivers and our communities. The ash trees that line the state's eastern riparian corridors provide shade, erosion control, wildlife habitat, shelter, and aesthetic value. Many of our communities and shelter belts are planted with ash trees; approximately 30% of all trees planted in Montana communities are ash. Of the 74 inventoried communities, 16 of those canopies are composed of 50% or more of ash coverage. State agencies in Montana have been preparing for an introduction of EAB. The "Emerald Ash Borer Readiness and Response Plan" outlines an interagency approach to EAB and addresses: Prevention, Risk Assessment, Early Detection, Mitigation, Restoration and Utilization, and Communication.

The specific tactics will change as policies are developed and science advances in future years. Thus, this document will be periodically revisited and updated. Any response will incorporate multi-agency input and involvement. The two primary functions of this plan are to:

- 1. Outline the agencies' preparedness and planning for an introduction of EAB.**
- 2. Identify stakeholder groups prior to an EAB detection and response.**

PURPOSE AND NEED:

Emerald ash borer (EAB) (*Agrilus planipennis* Fairmaire) (Coleoptera: Buprestidae) is a non-native, invasive insect pest of ash (*Fraxinus* species). It was first detected in Michigan in 2002 but is thought to have been present in the United States since the mid-1990s. It was likely introduced from Asia in solid-wood packing material. As of May 2025, EAB has not been detected in Montana. EAB poses significant threats to Montana's resources, and the consequences of an introduction warrant advanced planning to minimize the impact of EAB.

Emerald ash borer has killed millions of ash trees in the midwestern and eastern states, devastating forests and communities. The pest has been detected in areas around Denver, Colorado east of the continental divide since 2013. Since then, the spread of EAB has continued into Winnipeg, Canada (2018), Oregon (2022), and west of the continental divide in Colorado (2023). In 2024, EAB was confirmed in North Dakota and British Columbia, with additional, older infestations confirmed in Oregon. Communities, property owners, nurseries, and the forest products industry have spent billions of dollars on managing ash trees by removing, replacing, or treating trees in infested areas. Increasing spread and high cost of management are greatly concerning, as is the threat EAB poses to Montana's natural resources.

Emerald ash borer larvae kill ash trees by feeding under the bark, leaving a distinct "serpentine gallery" and ultimately girdling the tree. Beetles are difficult to monitor and detect at early stages of infestation and can cause significant damage to a tree before decline symptoms are evident. Symptoms include thinning crowns, leafy epicormic shoots near the base of the tree, excessive woodpecker damage, and D-shaped exit holes on the main stem. Commonly, EAB infestations occur for years prior to detection.

Emerald ash borer adults can fly up to two miles in search of a suitable host (Taylor and Bauer, 2010), but dispersal over greater distances has been facilitated by human transport of nursery stock, wood packing material, and firewood. Montana is a popular hunting and recreation destination with visitors often bringing firewood from out-of-state. It has been estimated that there are approximately 235,000 opportunities a year for import of EAB-infested ash firewood into Montana (Foley, 2012).

Green ash (*Fraxinus pennsylvanica* Marsh.) is one of the most prevalent trees in Montana's urban landscapes. Preliminary estimates suggest that ash represents up to 30% of city-owned trees in many Montana communities (Appendix D). Communities rely on ash, particularly green ash, to shade homes, line boulevards, provide shelter from the wind, and regulate storm water. It is important to note that mountain ash, *Sorbus scopulina*, is not a member of the same tree family despite its common name; mountain ash is not affected by emerald ash borer.

Green ash comprises a significant component of riparian corridors in eastern Montana (Appendix C) and provides critical wildlife habitat and shelter for livestock. Some of these riparian forests are already threatened by invasive grasses, diseases, and overgrazing (Lesica and Marlow, 2011; Lesica, 2003).

As of January 13, 2021, Montana has established a state quarantine to regulate ash nursery stock and any other untreated products from ash trees, such as logs and firewood (MTQ-2021-001). The quarantine restrictions apply to states or regions with EAB or where EAB is subsequently found. The state quarantine was established as a result of the federal domestic quarantine being lifted.

CURRENT EFFORTS:

Prevention and early detection efforts are underway in Montana, with cooperators from various agencies including the Montana Department of Natural Resources and Conservation (DNRC), Montana Department of Agriculture (MDA), Montana State University (MSU) Extension, Montana Invasive Species Council (MISC), Montana Department of Fish, Wildlife & Parks (FWP), Animal Plant Health Inspection Service (APHIS), USDA Forest Service (USFS), and The Nature Conservancy (TNC). Recognizing that firewood is a likely pathway for EAB into Montana, the state has partnered with TNC's "Don't Move Firewood" campaign to deliver consistent messaging across states. incorporate tailored messaging into outreach efforts.

Various agencies have partnered to install and monitor a network of EAB traps throughout the state. However, trap efficacy is variable (Mercader and McCullough, 2013), and it is more likely that an initial detection will be made by report of a symptomatic tree. Therefore, agencies are working to educate residents and tree care professionals on the signs and symptoms of EAB. Since 2015, several workshops have been offered to diverse audiences across the state, including foresters, arborists, tree care professionals, extension agents, nursery personnel, groundskeepers, natural resource managers, master gardeners, tree boards, botany groups, and citizen scientists.

Destructive sampling can be another useful tool in early detection. The Montana DNRC has adopted a destructive sampling program modeled after methods proposed in Ryall et al. (2011). This method encourages tree care professionals, tree boards, parks departments, and other forestry personnel to prune branches from the mid-crown of both symptomatic and asymptomatic ash trees. The samples are then peeled to expose any potential EAB larvae or galleries.

In 2021 and 2022, "Ash Management Grants" were awarded to communities to support the strategic removal of ash trees followed by species-diverse replanting efforts, with the goal to enhance ecological resilience and long-term health of urban forests. The Montana DNRC Urban and Community Forestry Program promotes tree species diversity, urban forest management plans, updated tree inventories, and sustainable urban forestry programs.

SCOPE AND INTENT:

The intent of the “Montana Emerald Ash Borer Readiness and Response Plan” is to outline the objectives of prevention, risk assessment, early detection, mitigation, restoration, utilization, and communications. The Montana Department of Natural Resource and Conservation (DNRC), Montana Department of Agriculture (MDA), Montana Invasive Species Council (MISC), and Montana State University (MSU) Extension worked together to develop this document. This plan does not present all entities’ potential responses to an EAB infestation but rather identifies partnerships and collaborative efforts. It is to serve as a tool for helping communities establish a framework to address issues involving the potential impacts of EAB.

OBJECTIVE 1: PREVENTION

As of May 2025, emerald ash borer has not yet been detected in Montana. Infested firewood is the most likely introduction pathway as out-of-state recreationists often bring firewood from their home states.

The Emerald Ash Borer Exterior Quarantine (MTQ-2021-001) was signed into effect on January 2021 to minimize the risk of introduction of EAB into Montana. The order legally prohibits the import of untreated ash and emerald ash borer (see Appendix B for full text).

Education and outreach efforts aim to educate visitors of the risk that transporting firewood poses to Montana's forests. State agencies and partners promote unified messaging through The Nature Conservancy's "Don't Move Firewood" campaign and "Recreate Responsibly".

ACTIONS:

1. Maintain MTQ-2021-001 (Appendix B) for as long as EAB is not found to be infesting any county in Montana.
2. Discourage the movement of potentially infested material into the state, particularly firewood. As funding is available:
 - a. Partner with Montana Fish, Wildlife & Parks to post outreach information at Aquatic Invasive Species boat check stations throughout the state.
 - b. Continue to mail "Don't Move Firewood" outreach postcards to non-resident hunting licensees.
 - c. Work with outreach programs, such as "Don't Move Firewood" and/or "Recreate Responsibly", to develop ads on hunting, travel, and recreation sites.
 - d. Cooperate with interstate efforts to communicate the "Don't Move Firewood" and/or "Recreate Responsibly" message consistently over state lines.
 - e. Utilize Montana Conservation Corps to conduct on-the-ground education and outreach with campground hosts, managers, owners, and recreators.
3. Encourage people who have brought firewood from out-of-state to burn it entirely and not leave any behind. Post this information:
 - a. At campground kiosks, registration sites, public facilities.
 - b. On travel and recreation websites and in magazines.
 - c. At interstate travel rest stops.

OBJECTIVE 2: RISK ASSESSMENT AND POTENTIAL IMPACT

Green ash is the only true ash species native to Montana. Knowledge of green ash distribution (Appendix C) within its native habitat will facilitate targeted detection and control efforts. Under natural conditions, green ash is generally confined to breaks in topography where more moist soils are found, such as in draws and along riparian corridors in eastern Montana (Lesica, 2011). These forests are isolated, but where ash grows along riparian corridors, it forms continuous linear features, which could facilitate EAB spread.

Green ash is a common street tree and comprises a significant portion of the public trees in many communities (Appendix D). Urban trees are highly valuable for aesthetics, shade, windbreaks, and noise and air pollution absorption. Typically, new trees are planted where a tree has died. Therefore, the loss of an urban ash tree equates to a direct loss of value(s) but also represents removal and replacement costs. Urban tree inventories allow the DNRC to anticipate which communities are more vulnerable to extensive tree loss and quantify the expenses associated with EAB.

ACTIONS:

1. Gather information on native green ash distribution in Montana (Appendix C).
 - a. Summarize literature and other available data on natural ash distribution and condition in Montana.
2. Determine abundance and distribution of ash in communities throughout the state.
 - a. Conduct additional inventories of publicly owned trees.
 - b. Analyze current inventories of publicly owned trees (Appendix D).

OBJECTIVE 3: EARLY DETECTION

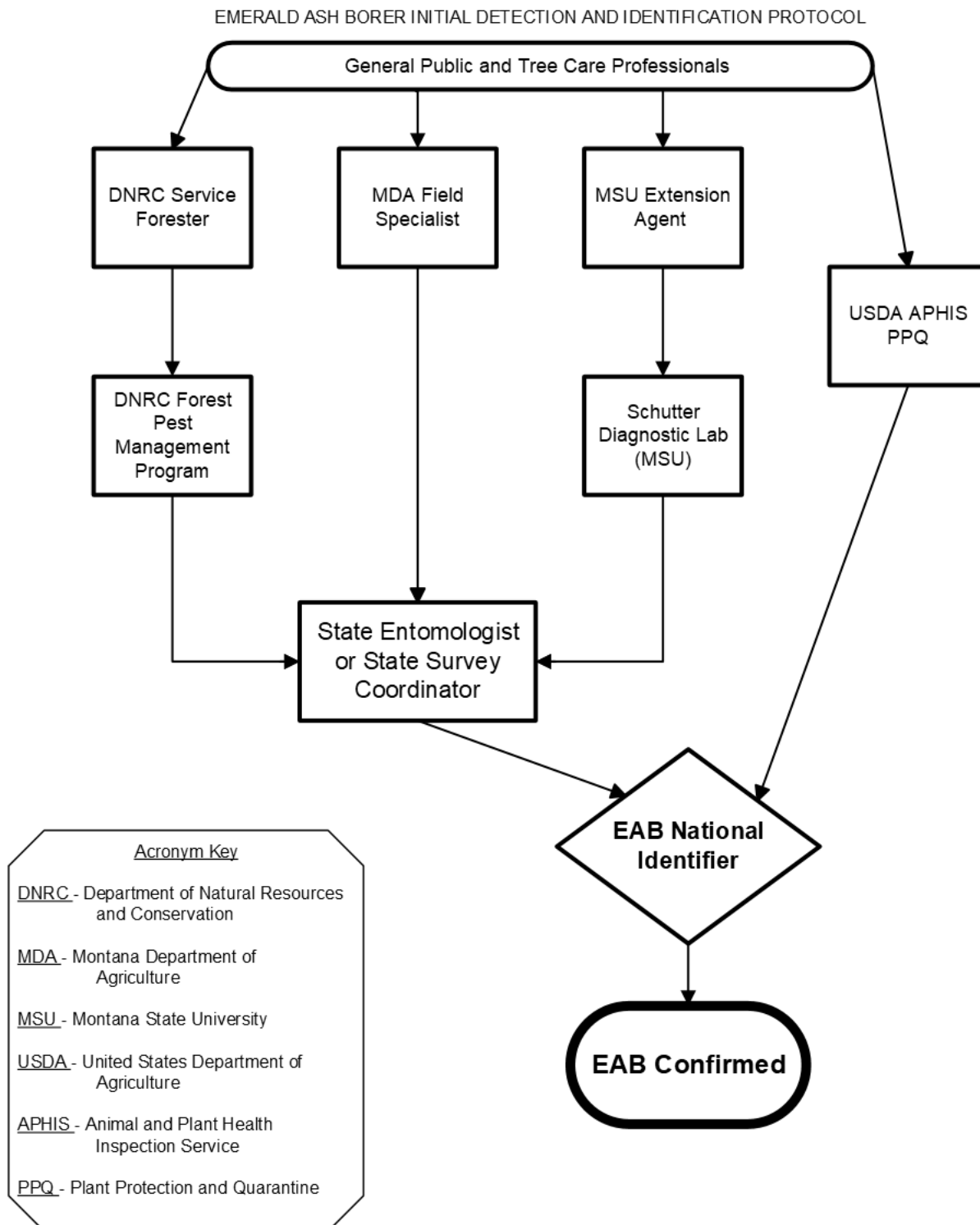
Emerald ash borer are difficult to detect and are often in the tree for up to four years before symptoms are visible. Nonetheless, early detection is critical to effectively limit the impacts of infestation, and/or reduce the probability of transporting infested wood from a recent or localized infestation to un-infested areas or communities. Public awareness is essential in detecting early infestation. Many outbreaks of non-native, invasive organisms have been detected and reported by citizens who recognize the signs and symptoms of emerald ash borer.

Traps have a limited range or capacity to detect EAB in early stages of an infestation. Artificial traps use volatiles to attract adult EAB; however, a nearby stressed ash tree will be more attractive to the beetles than the artificial lure. Artificial traps have mixed efficacy (Mercader and McCullough, 2013), thus we will include destructive sampling in our early detection efforts as well. A destructive sampling program, which exposes potential galleries through peeling bark samples, has been developed after methods proposed by Ryall et al. (2011). This sampling method is effective in determining if EAB is present in the tree.

ACTIONS:

1. Train local arborists and tree care professionals, tree boards, gardeners, and the general public to recognize signs of an EAB infestation.
 - a. Educate communities on the importance of EAB early-detection through public meetings and presentations.
 - b. Distribute EAB identification materials to citizens and professionals most likely to encounter an EAB infestation.
 - c. Assist in destructive branch sampling for EAB detection and verification.
 - d. Train extension agents and tree care professionals on EAB early detection and identification at specialized workshops.
2. Follow established protocol for identification of suspect sample. (Flow chart on next page.)

EMERALD ASH BORER INITIAL DETECTION AND IDENTIFICATION PROTOCOL



CONTACT INFORMATION FOR EMERALD ASH BORER SAMPLE SUBMISSION PROTOCOL

MSU Extension

Montana State University
P.O. Box 172230
Bozeman, MT 59717
Phone: (406) 994-1750
Email: msuextension@montana.edu

DNRC Service Foresters

Forestry Assistance Bureau
2705 Spurgin Road
Missoula, MT 59804
Phone: (406) 542-4300

Schutter Diagnostic Lab

Montana State University
119 Plant BioScience Bldg
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Bozeman, MT 59717-3150
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Email: Insects@montana.edu

DNRC Forest Entomologist

Montana DNRC Forestry Division
Forest Pest Management Program
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Phone: (406) 542-4300

Montana Department of Agriculture

Natural Resources Section Manager
302 N Roberts
Helena, MT 59601
Phone: (406) 444-9066

State Entomologist or Survey Coordinator

Montana Department of Agriculture
302 N Roberts
Helena, MT 59601
Phone: (406) 444-3790

USDA APHIS PPQ

USDA, APHIS, PPQ
1220 Cole Ave.
Helena, MT 59601
Phone: (406) 449-5210

EAB Program National Identifier

USDA, APHIS, PPQ
11200 Metro Airport Center Drive, Suite 140
Romulus, MI 48174
Phone: (734) 942-9005

OBJECTIVE 4: MITIGATION

Communities can prepare for the detrimental impacts of EAB by understanding the risk of an introduction, assessing resources to mitigate damage, and proactively diversifying tree species plantings. Communities are encouraged to take these steps to limit widespread ash mortality. The DNRC Urban and Community Forestry Program has conducted thorough street tree inventories to map the distribution of ash and has identified communities that would be most affected by EAB (Appendix C).

In the event of an EAB detection, state agencies will follow current recommendations from MDA and APHIS.

ACTION:

1. Promote a diversity of tree species within our communities through the DNRC Urban and Community Forestry Program.
 - a. Provide targeted technical education and outreach on species diversity to tree boards and community staff.
 - b. Conduct and maintain community inventories to assess tree species' composition and condition.
 - c. Encourage urban foresters, community staff, and tree boards to utilize existing data to guide future plantings.
 - d. Support the development and implementation of community EAB plans.
2. Conduct delimitation survey to determine extent/severity of EAB infestation.
 - a. Solicit funding for an EAB delimitation survey.
 - b. Hire and train survey personnel, as budgets allow.
3. Cooperate with APHIS and MDA mitigation measures based on best available science and recommended treatments that may include:
 - a. Cutting and chipping infested trees.
 - b. Kiln-drying infested material.
 - c. Chemical treatment to save living trees, adopt "Slow Ash Mortality (SLAM) approach" (McCullough & Mercader, 2012).
 - d. Assess the release of biocontrol organisms when appropriate. (As of 2025, APHIS PPQ 526 permit is no longer needed.)
4. Comply with any regulations imposed by MDA that may include:
 - a. State interior quarantines.
 - b. Firewood and other wood-product transport restrictions.
 - c. Nursery stock movement restrictions.

OBJECTIVE 5: RESTORATION AND UTILIZATION

Since the initial detection in Michigan in 2002, EAB has killed millions of ash trees in North America. Many more trees have been proactively removed to prevent infestation. The cost of removing these trees has strained municipal budgets, and, in many neighborhoods, replacement is not feasible. In the case of an outbreak in Montana, the DNRC Urban and Community Forestry Program will aim to reestablish trees in affected communities while adhering to budget constraints.

ACTIONS:

1. Plant trees in communities, shelter belts, and along riparian corridors where ash have been killed by EAB.
 - a. Create an urban tree and shelterbelt planting plan that emphasizes species diversity.
 - b. Utilize existing cost-share programs and solicit additional funding for restoration projects and replacement plantings.
 - c. Promote Montana-sourced seedlings for restoration plantings in shelterbelts and riparian corridors.
2. If an outbreak results in a large volume of ash wood, DNRC will facilitate opportunities for utilization through available programs and networks.

LITERATURE CITED:

- DNRC Urban and Community Forestry. (2019). Ash (*Fraxinus* species) In Montana Communities [Map]. Montana DNRC
- Foley, I. (2012). A Qualitative Risk Assessment of The Introduction of The Emerald Ash Borer (Coleoptera: Buprestidae, *Agrilus planipennis* Fairmaire) into Montana. Montana Department of Agriculture.
- Foster, M. (2021). Quarantine name: Emerald Ash Borer Exterior Quarantine
- Gould, J., Booth, T., Sawallich, N., & Petrice, T. (2024). Emerald Ash Borer Biological Control Release and Recovery Guidelines 2024
- Kirby, J., Shelly, K., & Hertz, L. (2017). State of Community Trees in Montana. Missoula; Montana DNRC.
- Lesica, P., Marlow (2011). Values and Management of Montana's Green Ash Draws Montana State University Extension.
- Lesica, P., Atthowe, H. E., & Dugan, F. M. (2003). Incidence of *Perenniporia fraxinophila* and its Effects on Green Ash (*Fraxinus pennsylvanica*) Woodlands in Eastern Montana, USA. *Forest Ecology and Management*, 182, 153–159.
- McCullough, D. G., & Mercader, R. J. (2012). Evaluation of Potential Strategies to Slow Ash Mortality (SLAM) Caused By Emerald Ash Borer. *International Journal of Pest Management*, 58, 9–23.
- Mercader R. J., D. G. McCullough, and J. M. Bedford. (2013). A Comparison of Girdled Ash Detection Trees and Baited Artificial Traps for *Agrilus planipennis* (Coleoptera: Buprestidae) Detection. *Environmental Entomology* 42:1027–1039.
- Montana Natural Heritage Program. (2025). *Fraxinus pennsylvanica* (Green Ash) Predicted Suitable Habitat Model. Montana Natural Heritage Program, Helena, MT 17 pp.
- Ryall, K. L., Fidgen, J. G., & Turgeon, J. J. (2011). Detection of Emerald Ash Borer in Urban Environments Using Branch Sampling, Natural Resources Canada, Canadian Forest Service.
- Taylor, R. A. J., Bauer, L. S., Poland, T. M., & Windell, K. N. (2010). Flight Performance of *Agrilus planipennis* (Coleoptera: Buprestidae) on a Flight Mill and in Free Flight. *Journal of Insect Behavior*, 23(2), 128. doi:10.1007/s10905-010-9202-3

APPENDIX A. NOTIFICATION AND COMMUNICATION PLAN

PURPOSE:

If **emerald ash borer (EAB)** is detected in Montana, state and federal agencies will coordinate efforts to contain or slow its spread. A clear, consistent communication plan is essential for informing stakeholders, managing the response, and ensuring effective public engagement. This plan will guide communication during both the initial detection and the ongoing management of EAB.

The plan will be used to:

1. Share accurate and timely information.
2. Increase understanding of the EAB threat and response actions.
3. Gain public support and compliance with management objectives.
4. Ensure consistent notification of all statewide stakeholders through agency **Public Information Officers (PIOs)**.

COMMUNICATION GOALS & OBJECTIVES:

Goals:

- Deliver a coordinated, unified message within the Incident Command System (ICS).
- Communicate EAB presence, location, and current status in Montana.
- Explain response actions clearly to affected stakeholders and the public.
- Build support for any regulatory or containment actions.

Communication Tools:

- Town hall meetings in infested areas.
- Press releases, media interviews, and public service announcements.
- Direct outreach to stakeholder representatives.
- Social media (e.g., Facebook, Instagram, X), websites, and email listservs.
- Mailings (letters, doorhangers), billboards, and posted notices.
- Brochures, fact sheets, and signage in tourism areas and community trap lines.

NOTIFICATION PLAN:

A rapid response to EAB detection requires immediate, coordinated communication with leadership and stakeholders. All public outreach should be coordinated through **agency PIOs** to ensure consistency and statewide stakeholder awareness.

1. Leadership Notification:

- a. Within **24 hours to 3 days** of official verification of EAB, the lead agency (i.e. Department of Agriculture) must notify:
 - Governor's Office
 - Directors of DNRC, FWP, Department of Agriculture (DOA), Montana Department of Transportation (MDT)
 - Montana Invasive Species Council (MISC)
 - Tribal governments in the affected area
 - Other relevant state agencies
- b. Notification must occur via **Directors' Offices** and be coordinated through agency PIOs.

2. Incident Command Establishment:

- a. Incident Command System (ICS) should be initiated for rapid response.
- b. Unified or single-agency command should be based on response scale and jurisdictional overlap.

3. External Communications:

- a. After leadership is notified, PIOs will coordinate stakeholder and public notification.
- b. The **lead agency PIO**, or Joint Information Center (JIC), if established, will send an initial press release.
- c. Stakeholders should first be informed through direct calls or emails by agency staff or designated PIOs.

LEADERSHIP COMMUNICATION PHASES:

Phase 1:

Notify core leadership within 24–72 hours of verification:

- Governor's Office
- DNRC, FWP, DOA, MDT Directors
- MISC
- Tribal governments in affected areas
- Other agencies as necessary

Phase 2:

With PIO coordination and Director approval, notify:

- Montana state legislators (House and Senate leadership)
- Impacted counties and local governments
- USDA-APHIS, USFWS, BOR, USACE, USFS, NPS
- Industry stakeholders (e.g., forestry, nurseries, lumberyards)
- Law enforcement (e.g., sheriffs' offices)

EXTERNAL COMMUNICATION STRATEGY:

The public will be informed after internal leadership notifications and key stakeholder outreach.

Communication will follow ICS guidelines, with all external messaging coordinated by the **lead PIO** or **Joint Information Center**, if active.

Key actions:

1. Issue press release using approved template.
2. Coordinate messaging through **interagency PIOs** and **Liaison Officers (LOFRs)**.
3. Designate a **single lead PIO** for centralized communication.
4. Hold daily internal briefings and stakeholder updates.
5. Develop incident-specific communication materials (talking points, FAQs, timeline).
6. Launch or update public communication platforms:
 - Dedicated website
 - Social media accounts
 - GovDelivery notices
7. Set up a public response phone line (e.g., Google Voice).
8. Consider weekly virtual briefings for stakeholder groups.
9. Issue additional press releases for major developments.

APPENDIX B. EMERALD ASH BORER EXTERIOR QUARANTINE



Quarantine Name: Emerald Ash Borer Exterior Quarantine

Quarantine: MTQ-2021-001

Reason for Quarantine: To minimize the risk of introduction of emerald ash borer into Montana. Emerald ash borer is a highly destructive insect pest that has killed millions of ash trees (*Fraxinus* sp.) across North America. This species is not known to occur anywhere within the State Montana.

Pest: Emerald ash borer, *Agrilus planipennis* Fairmaire

Regulated Area:

(1) Areas subject to quarantine requirements:

- a. The entire states of Alabama, Arkansas, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Vermont, Virginia, West Virginia, and Wisconsin;
- b. The entire Canadian provinces of Ontario, Quebec, Manitoba, New Brunswick, Nova Scotia, Prince Edward Island;
- c. The South Dakota counties of Lincoln, Minnehaha, and Turner;
- d. The Colorado areas regulated as infested areas by the Colorado Department of Agriculture, Division of Plant Industry;
- e. Any areas not mentioned above and subsequently found to be infested;
- f. Any area designated by the Director.

Regulated Articles:

- (1) Emerald ash borer in any living stage of development;
- (2) All ash nursery stock including all species of the genus *Fraxinus*;
- (3) Untreated ash trees, limbs, branches, logs, stumps, cut logs and roots capable of harboring live emerald ash borer;
- (4) Any other plant, plant part, article, product, or means of conveyance which the Director determines to present a risk of spread of emerald ash borer.

Restrictions:

All regulated articles are prohibited entry into Montana from an area under quarantine excepted as listed in the Quarantine. A phytosanitary certificate or other document attesting to Quarantine compliance must accompany all regulated articles.

Regulated articles may be imported into Montana under the following conditions:

- (1) Documentation of the origin for each shipment in the form of a certificate, bill of lading or invoice including state or province and county or parish if from an infested jurisdiction;
- (2) The regulated article is treated in a manner approved by the regulatory agency in the state of origin in a way that prevents the regulated article from presenting a risk of spreading emerald ash borer, as indicated on a phytosanitary certificate or compliance agreement;
- (3) Heat treatment of 60 °C (140 °F) for 60 minutes at wood core or a temperature and duration approved by the Director and documented on a heat treatment certificate.

Disposition of Regulated Articles under Quarantine:

Disposition of regulated articles arriving in Montana in violation of the Quarantine shall be immediately sent out of state, destroyed, or treated by a method and in a manner directed by the Montana State Plant Regulatory Official. Cost of removal, destruction, and treatment are at the expense of the owner, owners, or their duly authorized agents. Violation of the quarantine order are subject to civil penalties as listed in the Administrative Rules of Montana 4.12.1307.

Definitions:

Director means the Director of the Montana Department of Agriculture or his or her authorized representative.

Infestation means actually infested or infected with a pest or so exposed to infestation that it would be reasonable to believe that an infestation exists.

Certificate and Certificate of Inspection means a document issued or authorized to be issued by the Director, including state-issued certificates of quarantine compliance, state phytosanitary certificates and multiple-use quarantine certificates, to allow the movement of regulated articles to any destination.

Long-term Quarantine means a quarantine lasting more than one year in duration.

Permit means written authorization issued by the department, another state, or the federal government and is approved by the department for movement of any prohibited or restricted plants, plant parts, regulated articles or quarantined plants, articles, or conveyances.

Length of Quarantine: Emergency quarantine and adoption as a short-term quarantine. The quarantine will be reviewed annually.

Attachments: None

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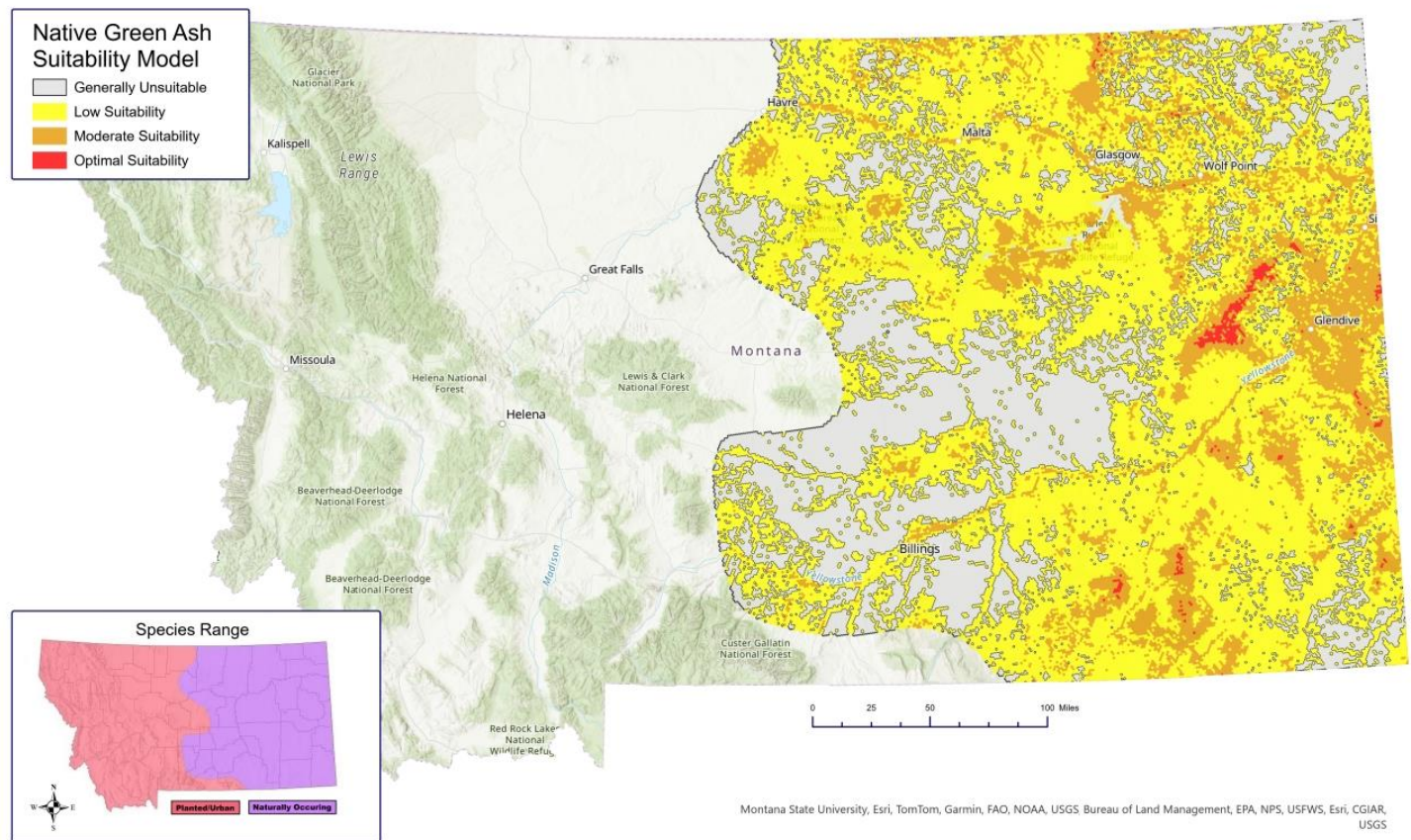
January 13, 2021

Mike Foster

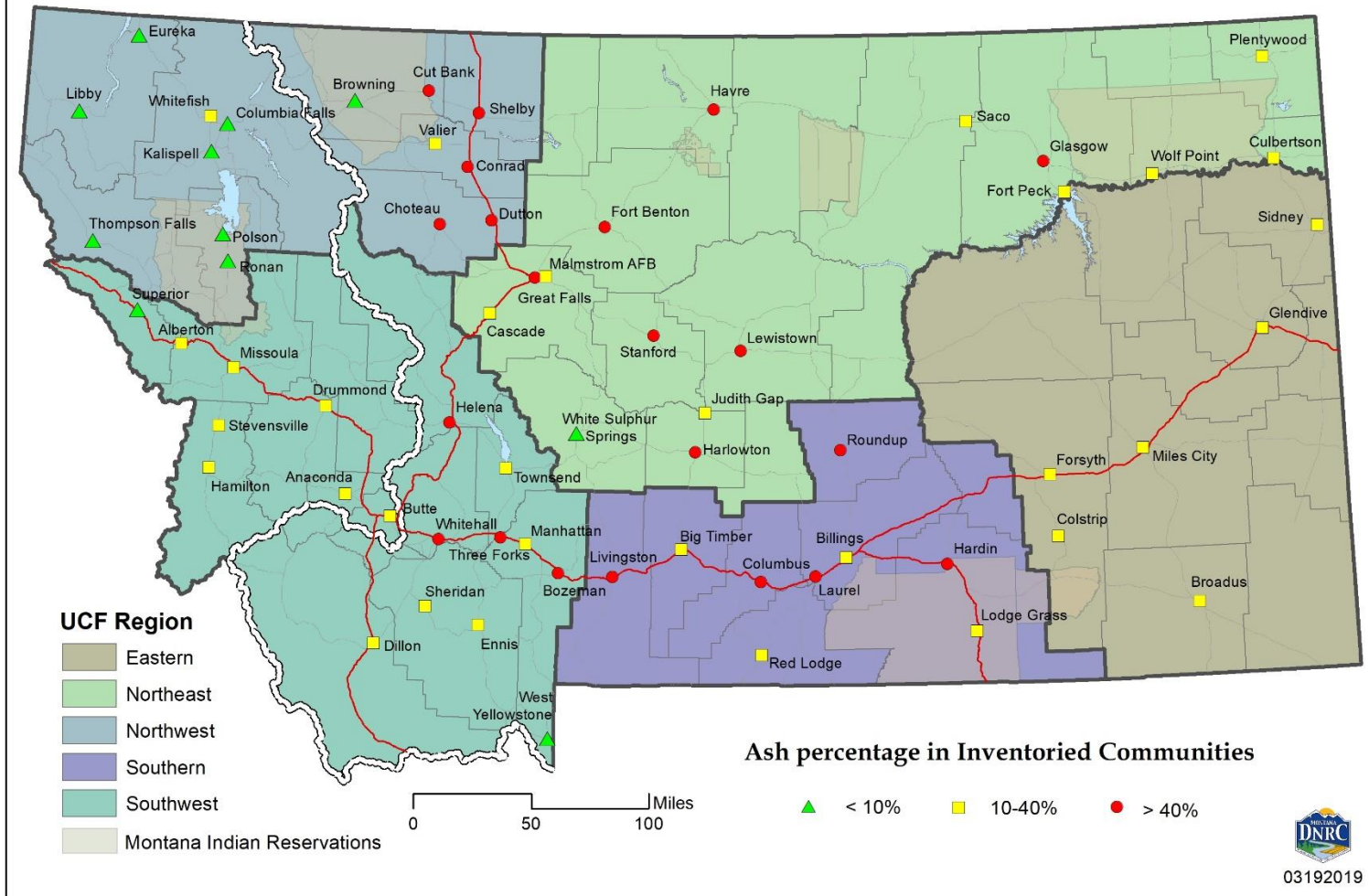
Date

Director, Montana Department of Agriculture

APPENDIX C. ASH DISTRIBUTION MAPS



ASH (*Fraxinus* species) IN MONTANA COMMUNITIES



APPENDIX D. INVENTORY OF PUBLICLY OWNED TREES IN MONTANA COMMUNITIES

Inventoried Community*	No. Ash Trees	No. Trees in Inventory	Percent Ash %	Year(s) Inventoried	Ash in Poor or Dead and Dying condition	At risk (SCALE in %)
Alberton	11	130	8.5	2023	5.0	3.8
Anaconda	363	2346	15.5	2017	150.0	6.4
Big Timber	370	1069	34.6	2011, 2019	19.0	1.8
Billings Parks	1849	8335	22.2	2010, 2020	29.0	0.3
Boulder	200	491	40.7	2024	23.0	4.7
Bozeman	4603	10559	43.6	2010-2020	757.0	7.2
Broadus	174	731	23.8	2022	34.0	4.7
Browning	18	344	5.2	2015	0.0	0.0
Butte	827	4404	18.8	2022	129.0	2.9
Cascade	147	418	35.2	2014	22.0	5.3
Choteau	534	978	54.6	2022	134.0	13.7
Colstrip	130	856	15.2	2010	16.0	1.9
Columbia Falls	1	203	0.5	2007, 2010, 2011	5.0	2.5
Columbus	812	1217	66.7	2014	48.0	3.9
Conrad	795	1598	49.7	2014	125.0	7.8
Culbertson	50	625	8.0	2014	1.0	0.2
Cut Bank	283	577	49.0	2017	93.0	16.1
Dillon	626	781	80.2	2011, 2018,2020	17.0	2.2
Drummond	25	255	9.8	2024	8.0	3.1
Dutton	295	388	76.0	2018	28.0	7.2
Ennis	70	215	32.6	2014	11.0	5.1
Eureka	33	364	9.1	2022	3.0	0.8
Forsyth	363	2110	17.2	2021-2022	22.0	1.0
Fort Benton	687	1318	52.1	2023	115.0	8.7
Fort Peck	99	603	16.4	2014	19.0	3.2
Glasgow	1020	1743	58.5	2015, 2016	162.0	9.3
Glendive	608	2252	27.0	2013	49.0	2.2
Great Falls	1798	3330	54.0	2018 (Streets), 2019(Parks)	59.0	1.8
Hamilton	165	1651	10.0	2011	14.0	0.8
Hardin	525	1124	46.7	2014	14.0	1.2
Harlowton	601	1042	57.7	2014	152.0	14.6
Havre	2501	3554	70.4	2017	242.0	6.8
Helena	5555	9385	59.2	2010	1032	11.0
Joliet	379	535	70.8	2024	16.0	3.0
Judith Gap	41	269	15.2	2014	12.0	4.5

Kalispell	62	1320	4.7	2008-2009, 2020	35.0	2.7
Laurel	2290	3623	63.2	2011	340.0	9.4
Lewistown	1399	3179	44.0	2021	390.0	12.3
Libby	44	1505	2.9	2021	10.0	0.7
Livingston	1772	4678	37.9	2014	331.0	7.1
Lodge Grass	34	99	34.3	2014	2.0	2.0
Malmstrom AFB	174	8621	2.0	2010-2011	141.0	1.6
Manhattan	132	774	17.1	2013	28.0	3.6
Miles City	675	5053	13.4	2015	28.0	0.6
Missoula	1802	22537	8.0	2012-2016	497.0	2.2
Plentywood	171	688	24.9	2014	11.0	1.6
Polson	129	1584	8.1	2021	15.0	0.9
Red Lodge	156	2205	7.1	2019	7.0	0.3
Ronan	41	722	5.7	2013	6.0	0.8
Roundup	1048	1404	74.6	2020	350.0	24.9
Saco	43	119	36.1	2014	1.0	0.8
Shelby	542	1376	39.4	2024	117.0	8.5
Sheridan	28	243	11.5	2013	33.0	13.6
Sidney	632	2125	30	2013	15.0	0.7
Stanford	203	284	71	2024	91.0	32.0
Stevensville	62	1051	6	2013	1.0	0.1
Sunburst	208	336	62	2024	64.0	19.0
Superior	11	267	4	2022	0.0	0.0
Thompson Falls	15	1313	1	2014, 2015	0.0	0.0
Three Forks	478	1186	40	2016	33.0	2.8
Troy	0	333	0	2024	0.0	0.0
Townsend	166	1169	14	2023	3.0	0.3
Valier	187	877	21	2012	14.0	1.6
West Yellowstone	0	654	0	2014	0.0	0.0
White Sulphur Springs	12	637	2	2021	9.0	1.4
Whitefish	413	3474	12	2013, 2017	84.0	2.4
Whitehall	188	521	36	2012	41.0	7.9
Wolf Point	221	1324	17	2014	23.0	1.7
Total	39896	141081	30 %		6285.0	

APPENDIX E. GREEN ASH PROFILE FOR MONTANA

Montana State University Extension is a great source for more information on identifying ash trees, EAB symptomatic ash trees, and how to diagnose other insect and diseases signs/symptoms that might be similar to EAB infestations, along with homeowner options for treating their ash.

