

PLANT
LIVE
GROW

VERMONT URBAN & COMMUNITY
FORESTRY PROGRAM

EMERALD ASH BORER (EAB) AND ASH TREE MANAGEMENT: Municipal Preparedness in Vergennes

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Vermont Urban & Community Forestry Program

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VERMONT
INVASIVES

Emerald
Ash Borer



Emerald
Ash Borer





LIFE CYCLE OF THE EMERALD ASH BORER

1 Female ash borers lay 40 to 70 eggs on the bark of an ash tree.



After hatching, the larvae bore into the tree layers just below the bark to feed. They remain there for 1 or 2 years, then pupate into adults.

2



Adults, which can fly, then seek out new trees, and the process begins again.

4



3

The adults then chew a telltale D-shaped exit hole in the bark.



Emerald Ash Borer
(enlarged view)



Actual size

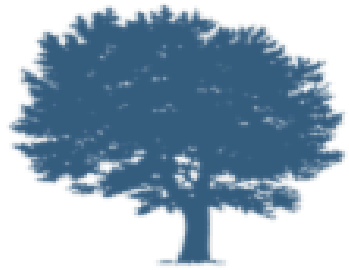


1/2 in. long
1/8 in. wide

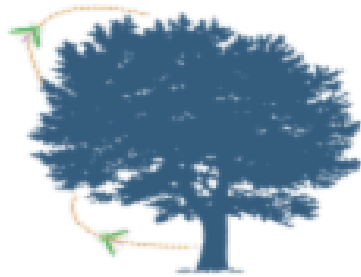
Look For: *S-Shaped Galleries*



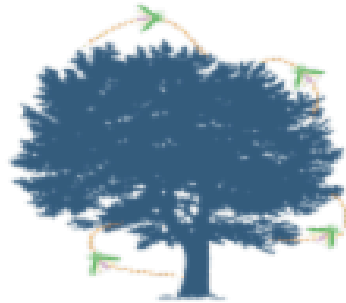
Impact on Ash Trees: Timeline



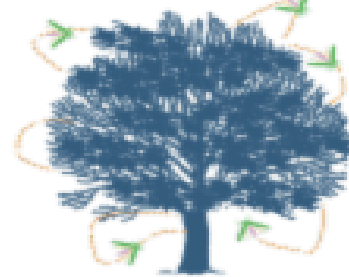
HEALTHY TREE



INFESTED YEAR 1



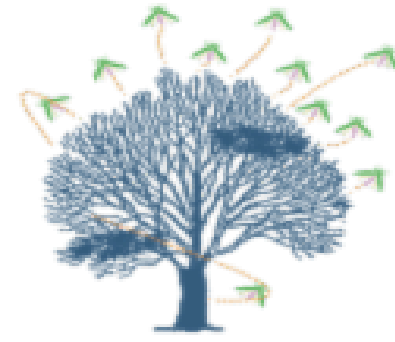
INFESTED YEAR 2



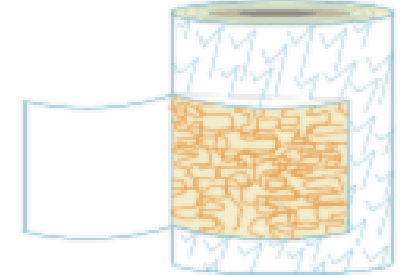
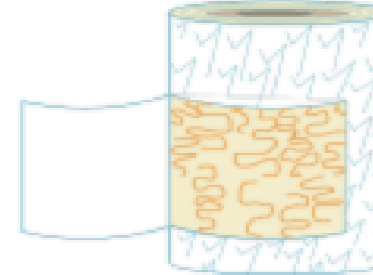
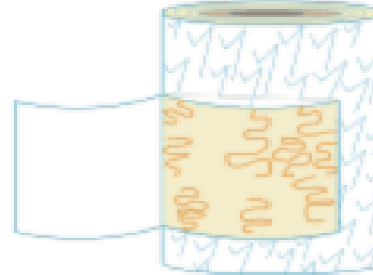
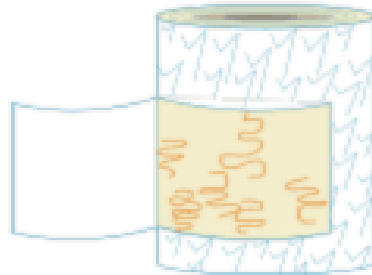
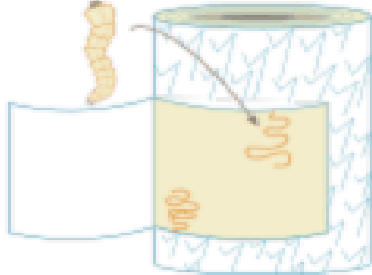
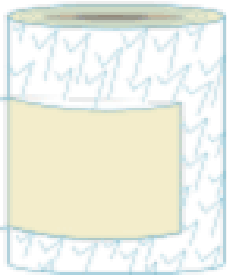
INFESTED YEAR 3



INFESTED YEAR 4



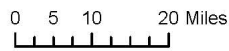
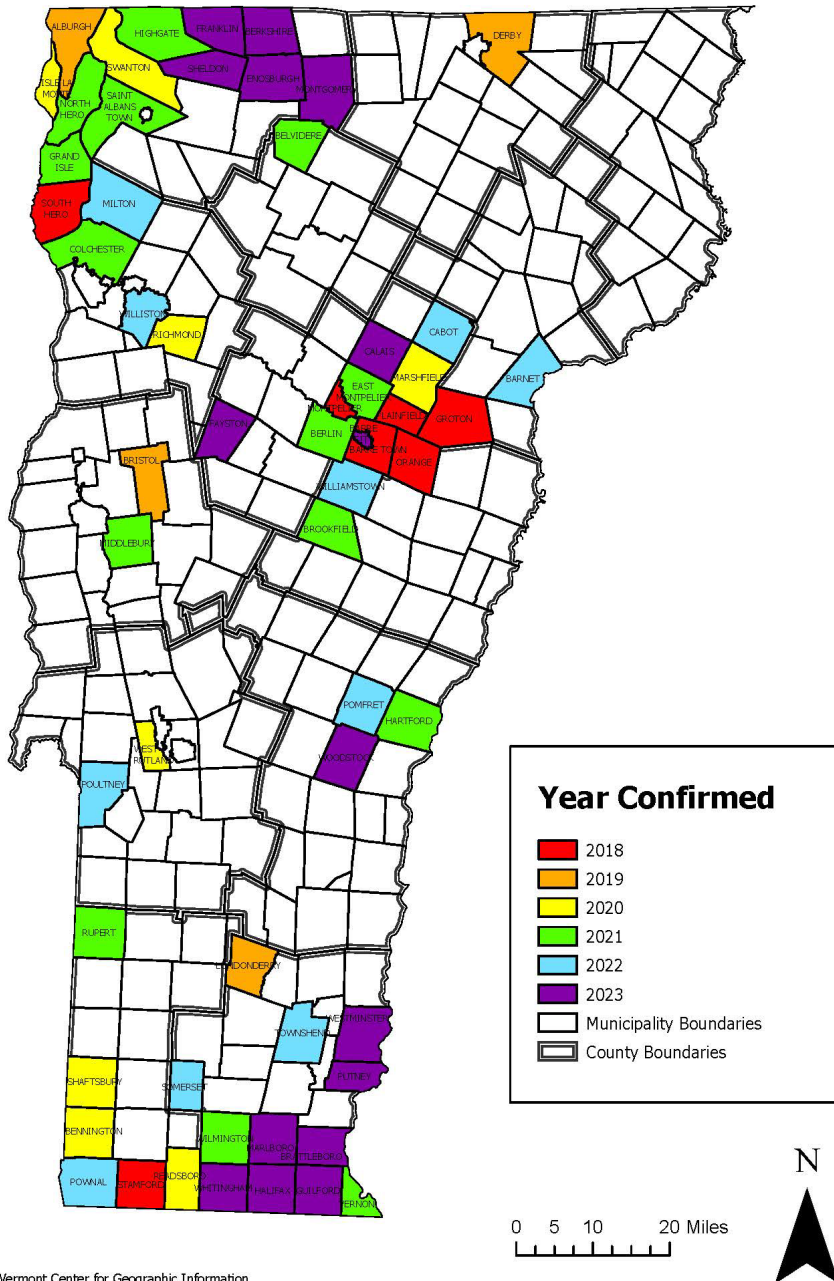
INFESTED YEAR 5+



M. J. Raupp



Confirmed Locations of Emerald Ash Borer in Vermont



Source of data: Vermont Center for Geographic Information
 Map by Chloe Sardonis
 Vermont Department of Forests, Parks & Recreation
 October 5th, 2023

Emerald Ash Borer (EAB) Infested Area in Vermont

The shaded circles on this map delineate Vermont's EAB Infested Area. Each infested area represents a 10-mile radius around a known EAB infestation. While symptoms may not be obvious, it is likely that EAB is present in much of this area.

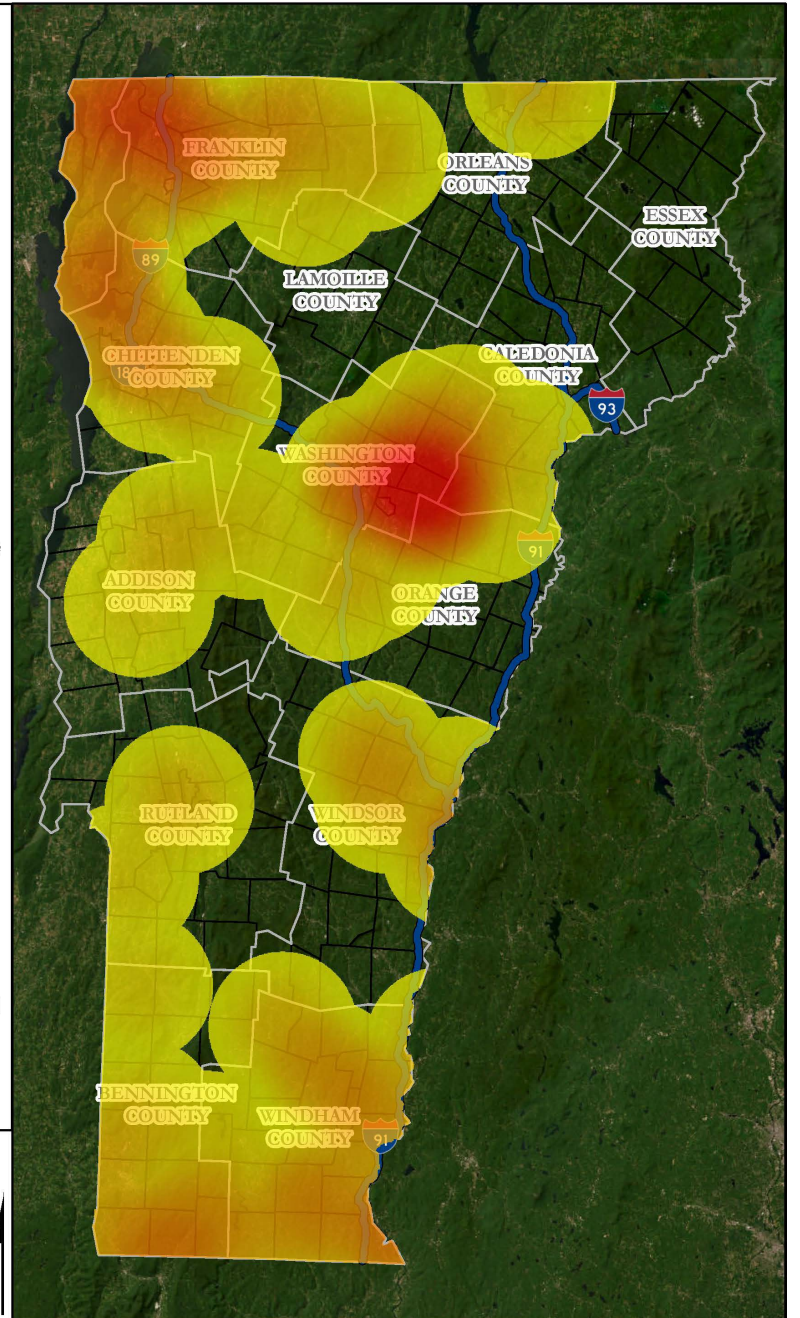
For each infested area, the relative EAB infestation severity is represented along a color spectrum. A yellow infested area indicates a less severe infestation. This map was last updated on **7/31/2023**.

Lower severity infested areas are not yet showing infestation symptoms or decline but EAB has been found. A red infested area indicates a more severe infestation, multiple detections of EAB in a close area, or both. Higher severity infested areas are exhibiting visible infestation symptoms or tree death. The severity of infestation in each infested area will be assessed annually by staff from the Department of Forests, Parks, and Recreation and the map will be adjusted as needed.

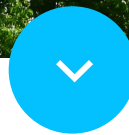
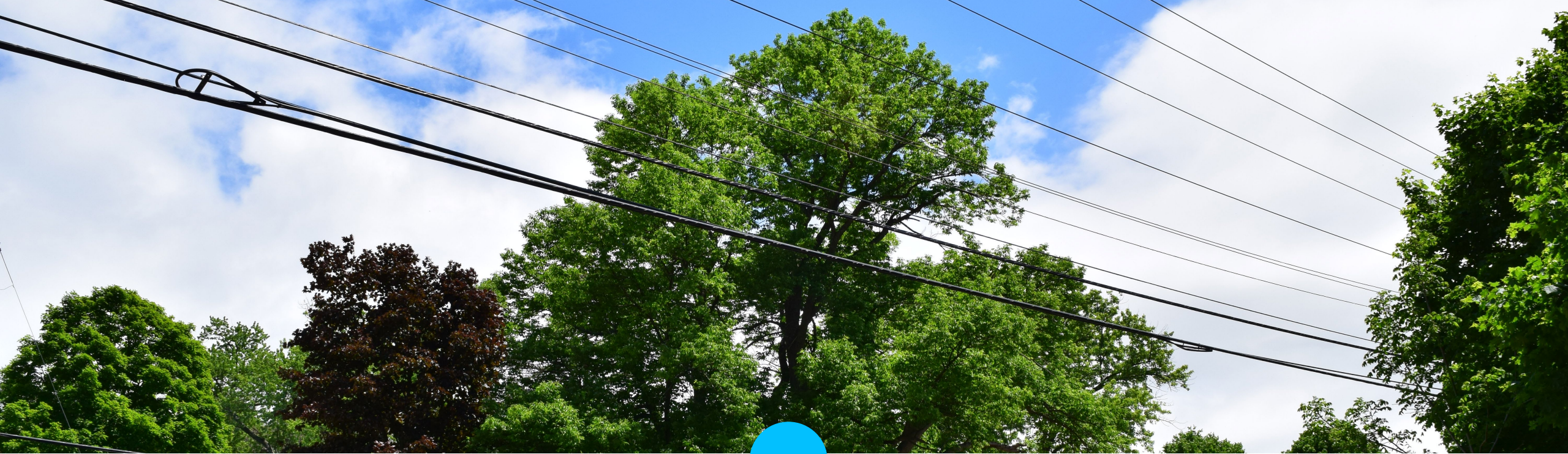
EAB is not necessarily present throughout any given infested area, and it can rarely be found at low population densities. Often, by the time the insect is detected, it has already dispersed. Therefore, this map indicates the likelihood of EAB based on where it has actually been observed. Applying Slow the Spread recommendations reduces the risk of spreading EAB and provides time to conduct management activities.

EAB Areas

Relative Infestation Severity



This map of the EAB Infested Area was accurate as of **7/31/2023**. The Infested Area will expand. Prior to basing action on the location of the Infested Area, visit vtinvasives.org/eab to confirm the current status of the EAB Infested Area.

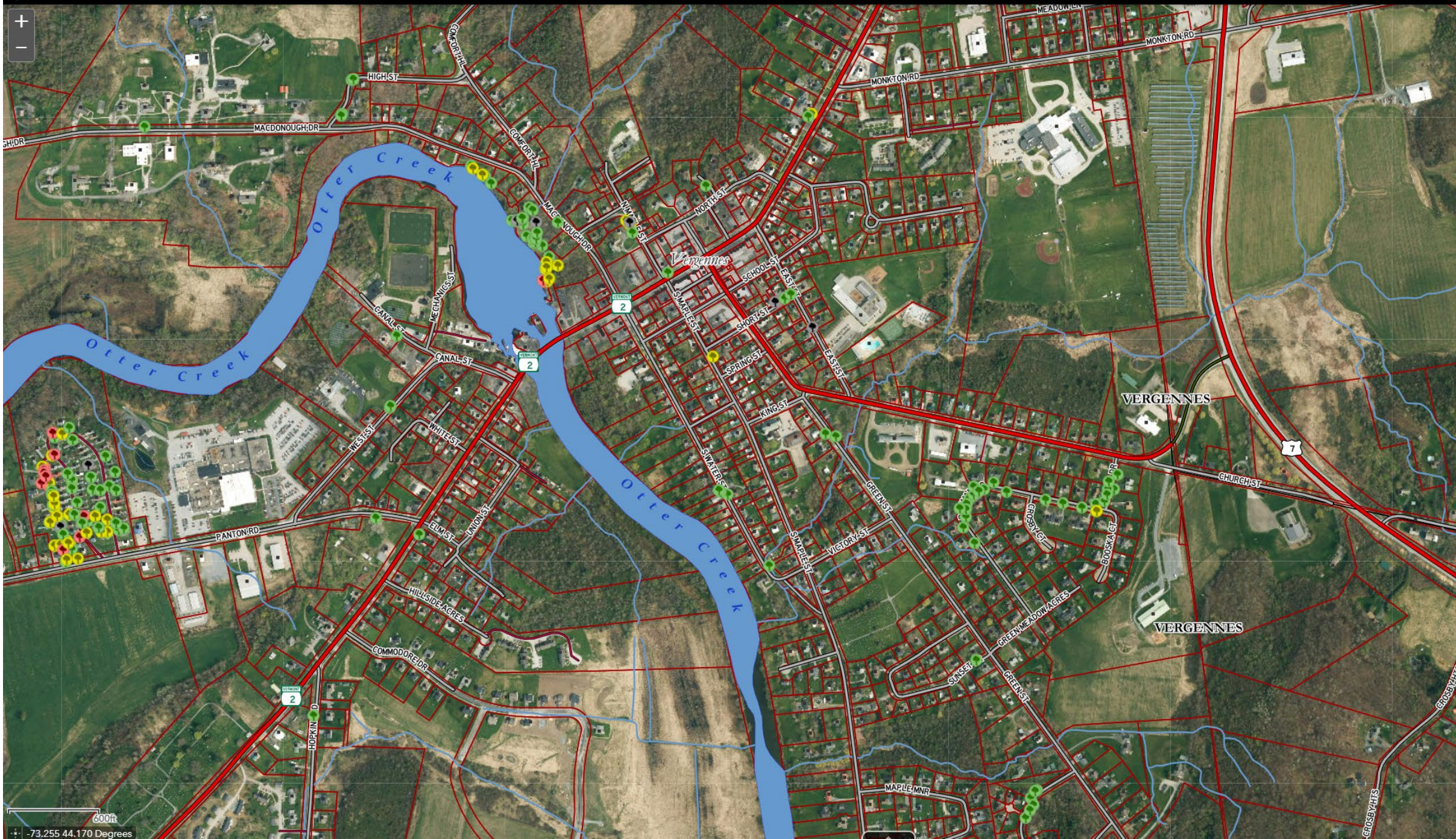


Municipal Planning & Management

- **Ash trees play an important role** as street and park trees, along rural roads, and in public forestland
- Municipalities need to **ensure public safety** and to manage the impacts of EAB on public trees
- **Municipalities will bear** the responsibility and costs

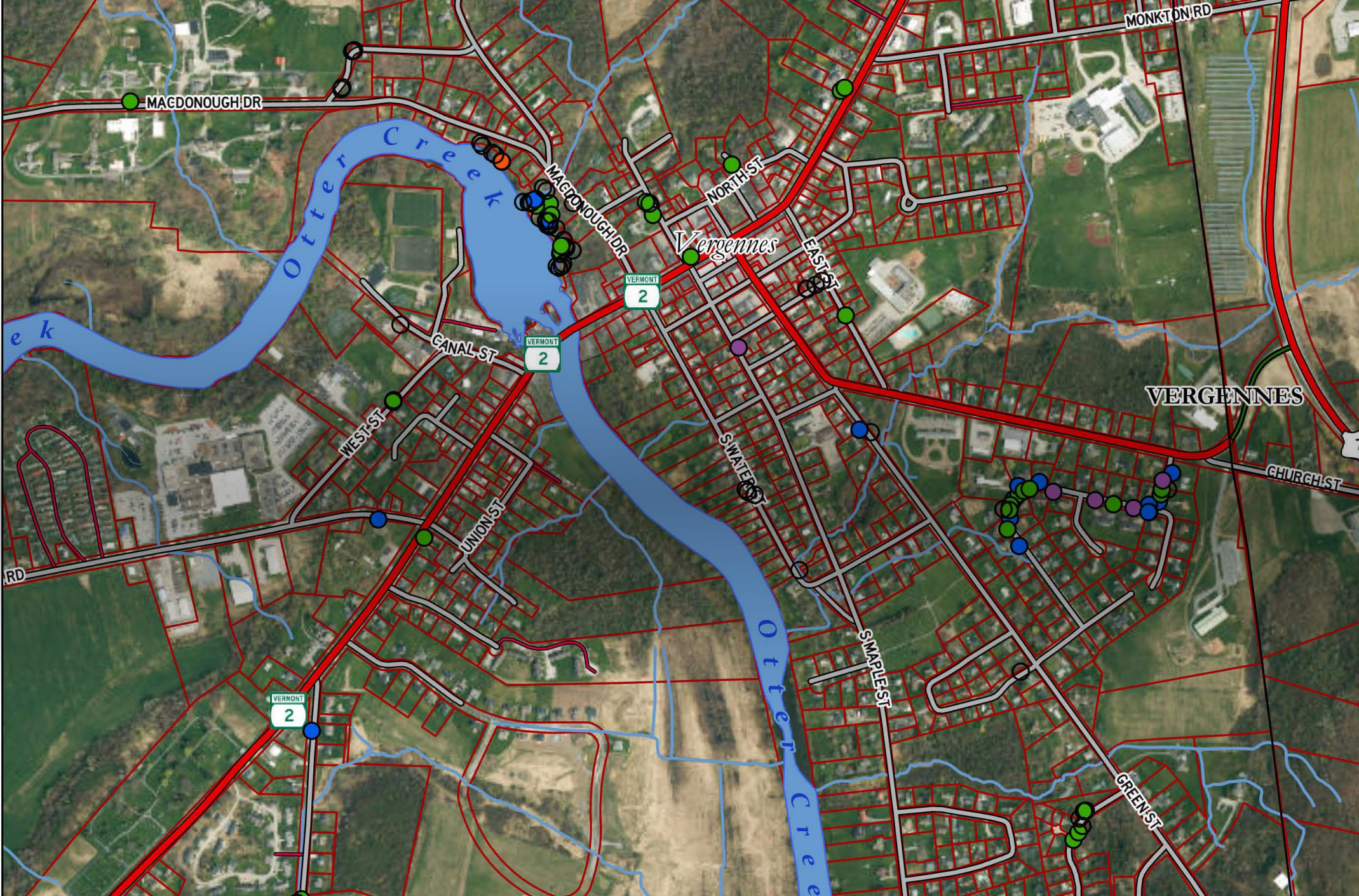
Where will your municipality fall on the EAB management spectrum?





600ft

-73.255 44.170 Degrees



Legend

Vergennes Ash
Trees

Diameter

- 12-18"
- 18-24"
- 24-30"
- 30-36"
- 36-42"
- 42+"
- <all other values>
- Town boundary

Resources

[VTcommunityforestry.org](https://vtcommunityforestry.org)

and

[VTinvasives.org](https://vtinvasives.org)

MUNICIPAL PLANNING RESOURCES



Municipal Ash Management Strategy Overview ▶

Review three broad strategies: preemptive management, selective management, and reactive management.



Worksheet for Vermont Communities ▶

The purpose of this worksheet is to assist municipalities in understanding the impact of emerald ash borer on their communities.



Frequently Asked Questions ▶

Frequently asked questions about managing emerald ash borer in your municipality.



Ash Tree Inventories ▶

Review ash inventory options and decide which one might be appropriate for your community.



Municipal Mangement Case Studies ▶

Review 9 case studies from municipalities in the Midwest, New England, and Vermont.

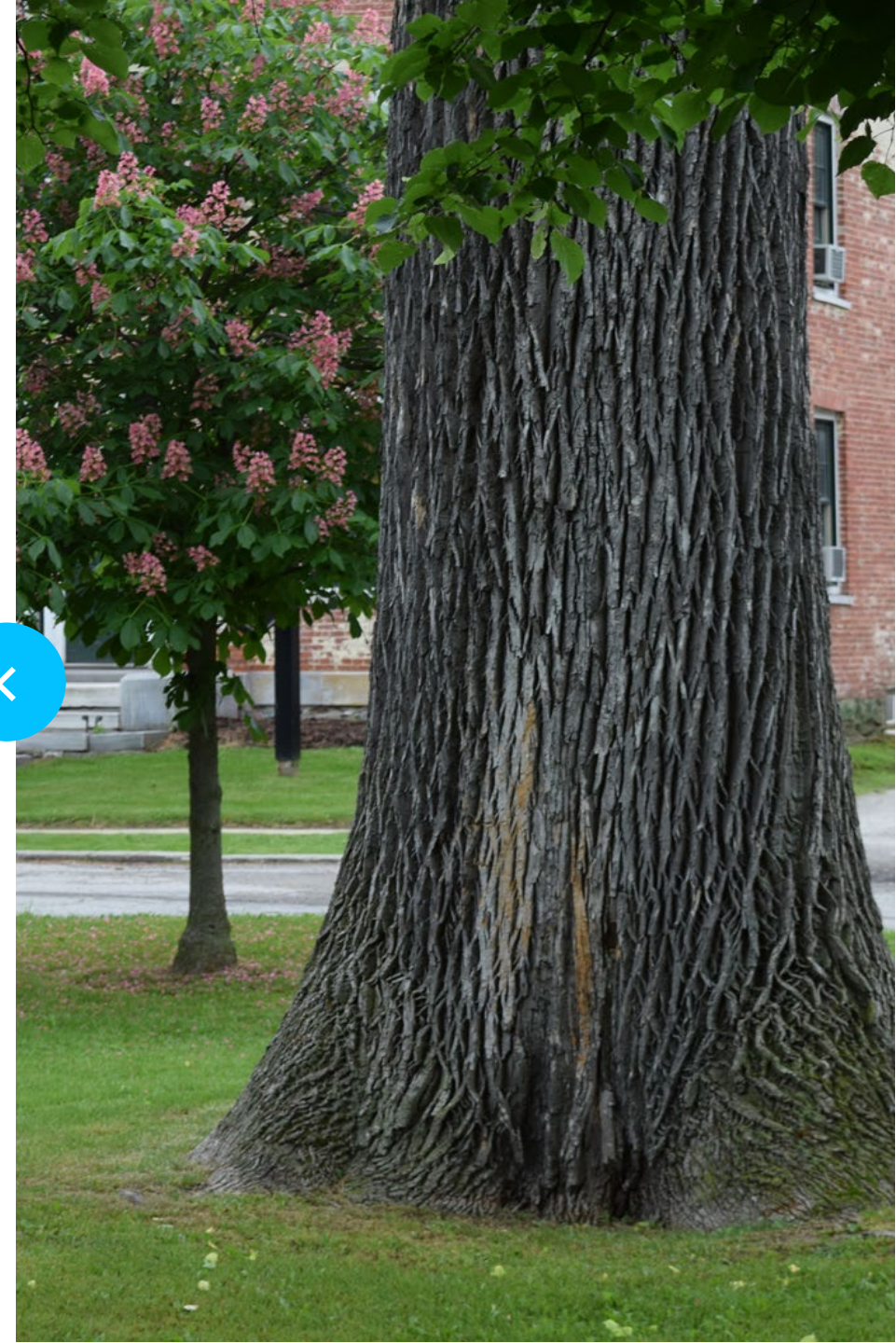


Insecticide Resources ▶

Review insecticide options, FAQ & resources.

Budgeting for EAB & Current EAB Management Planning Assistance

- **Determine** goals for your town's ash trees and urban forest
- **Identify** historical/culturally important ash trees that may be candidates for treatment with insecticide
- **Create an EAB management plan with assistance from VT Urban & Community Forestry Program**
- **Rough budgetary estimates**
 - **Removals:** \$18.33/inch DBH or \$155-\$3500/tree, some utilities reporting as low as \$85/tree
 - **Stump grinding:** \$6.50/inch DBH or \$125-250/tree
 - **Replacement plantings:** \$50-\$600/tree
 - **Insecticide treatment:** \$15-\$18/inch DBH (*every other year*)



Current technical assistance



Focus on EAB Planning



Funded by the Sustainable Urban Forestry Resilience Grant (2022-2024)



Mapping, documentation, and budgeting



With technical assistance provided by VT Urban & Community Forestry Staff



Your partners in Vergennes

- **Tree Warden**
- **Public Works Crew and Road Foreman/Commissioner**
- **City Council**
- **Utility Companies**
- **Conservation Commission**
- **Tree Board (?!)**
- **Regional Planning Commission**
- **Volunteers**
- **Students**
- **And UCF staff!**



Pesticide Application

- Are there insecticides that are registered for use in the state of Vermont for control of emerald ash borer?
- Can I apply insecticide to ash trees on my own property?
- What certifications does a person need to apply insecticides to ash trees on municipally owned land or on private property that is not their own?
- Do municipalities need a permit to apply insecticide to ash trees in the right-of-way?
- When is it too late to treat an ash tree for an emerald ash borer infestation?



Biocontrols

Parasitic Wasps

- Lay eggs in the EAB larvae or eggs
- Piloted in five locations in the state, controlled by APHIS
- Aim is to keep EAB population low, not eradicate EAB
- Monitoring success as we speak





Slow the Spread

Movement of Wood

- [Slow the Spread Recommendations](#) apply to the **Infested Area**
- **Recommended** practices by product and time
 - Flight vs. Non-flight season
 - EAB flight season in Vermont is June 1 – Sept. 30
- **Visibly infested trees** must follow guidance

Takeaways

- Keep wood local
- Consider the timing if moving wood
- Chipping or grinding is considered treated



Invasive species

Stay Informed

- Sign up for our **EAB Update Listserv** on [VTinvasives.org](https://vtinvasives.org)
- Sign up for **TREEmail newsletter** at [VTcommunityforestry.org](https://vtcommunityforestry.org)