

# Emerald Ash Borer and Roadside Ash Tree Management

Joanne Garton

Vermont Urban & Community Forestry Program

March 12, 2020

Plainfield Ash Inventory Information



PLANT  
**LIVE**  
GROW

VERMONT URBAN & COMMUNITY  
FORESTRY PROGRAM





Ash  
(*Fraxinus*)



















Emerald  
Ash Borer





Emerald  
Ash Borer





Emerald  
Ash Borer











June/July  
Oviposition

Summer/Fall  
Larval growth



May/June  
Adult Emergence  
Ovary maturation

Winter  
Pre-pupae

Early spring  
Pupation

# 1-2 Year Life Cycle





# Look For: *Woodpecker Flecking*



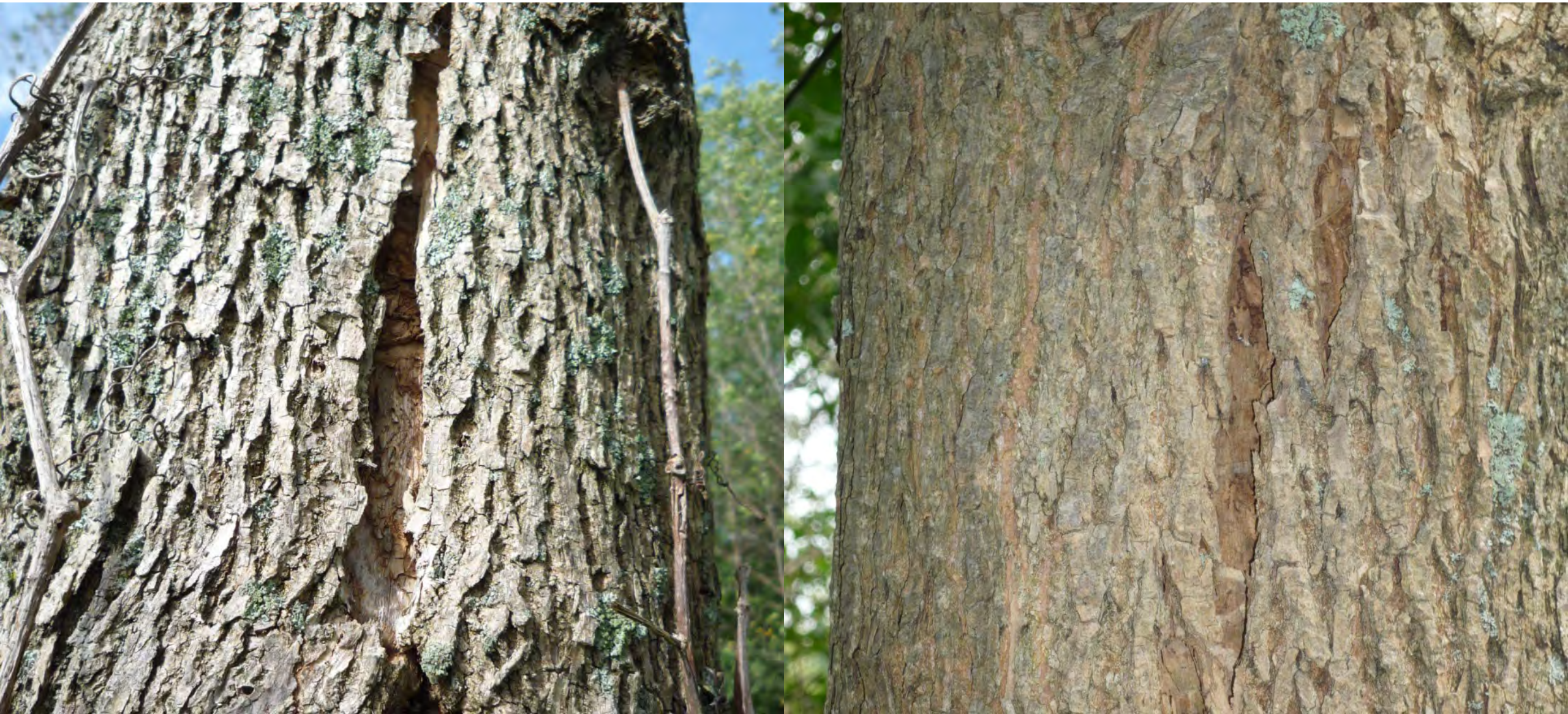


# Look For: *Canopy Thinning*



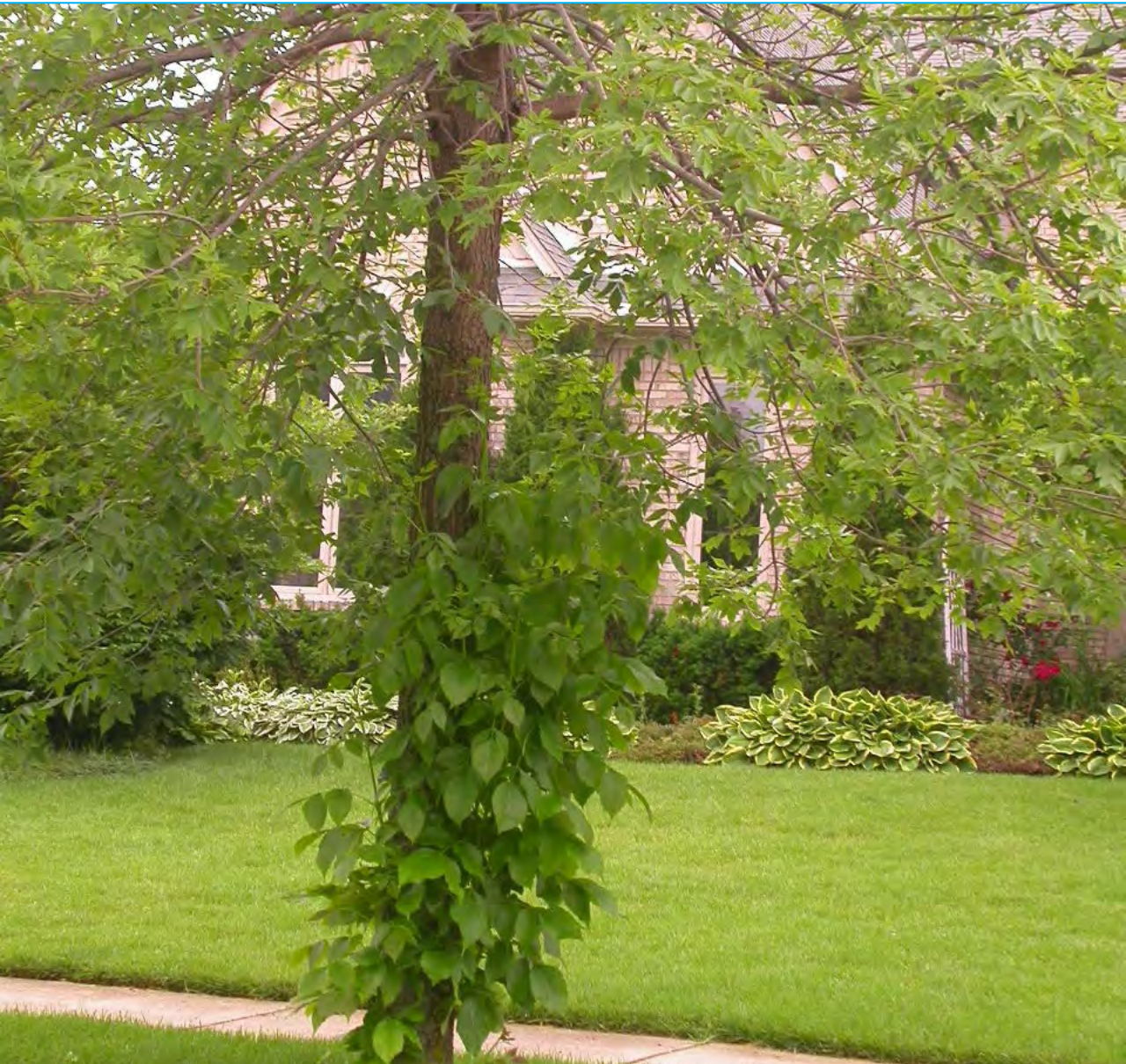


# Look For: *Bark Splitting*





# Look For: *Epicormic Branching*





# Look For: *D-Shaped Exit Holes*



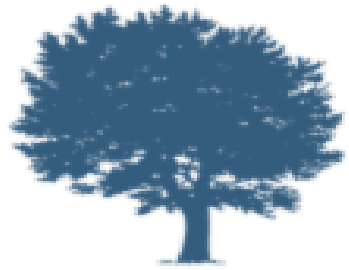


# Look For: *S-Shaped Galleries*

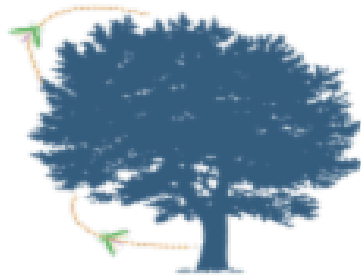




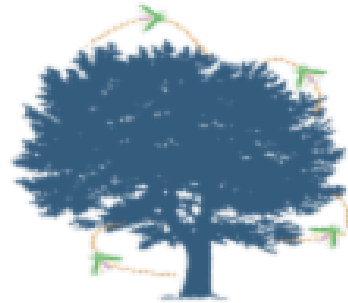
# Impact on Ash Trees: Timeline



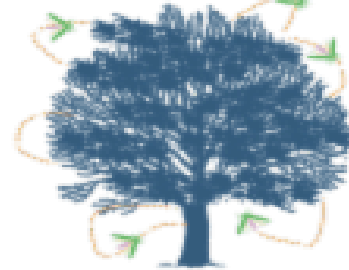
HEALTHY TREE



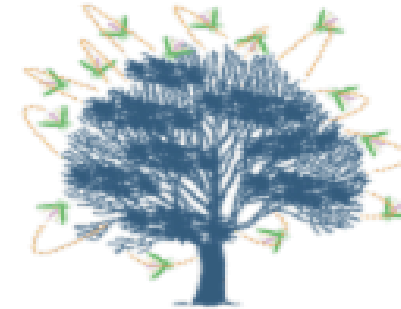
INFESTED  
YEAR  
1



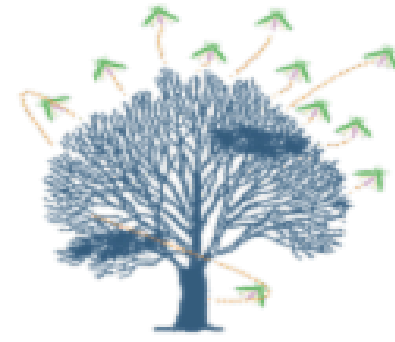
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YEAR  
2



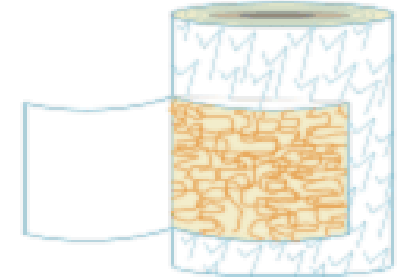
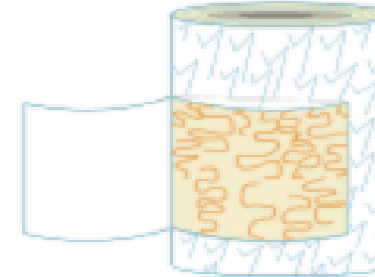
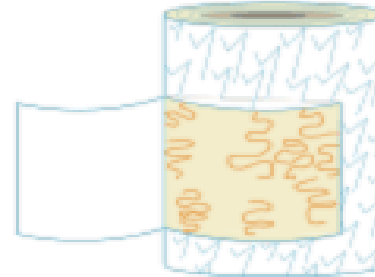
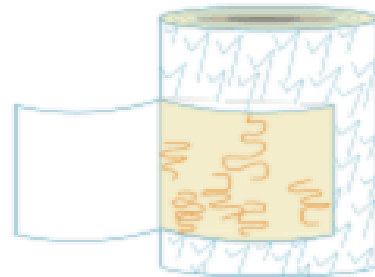
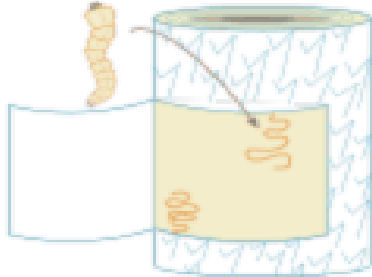
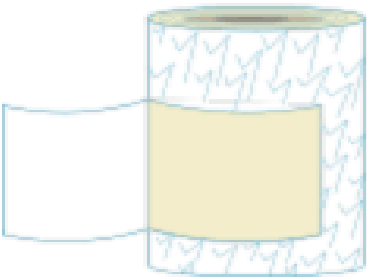
INFESTED  
YEAR  
3



INFESTED  
YEAR  
4



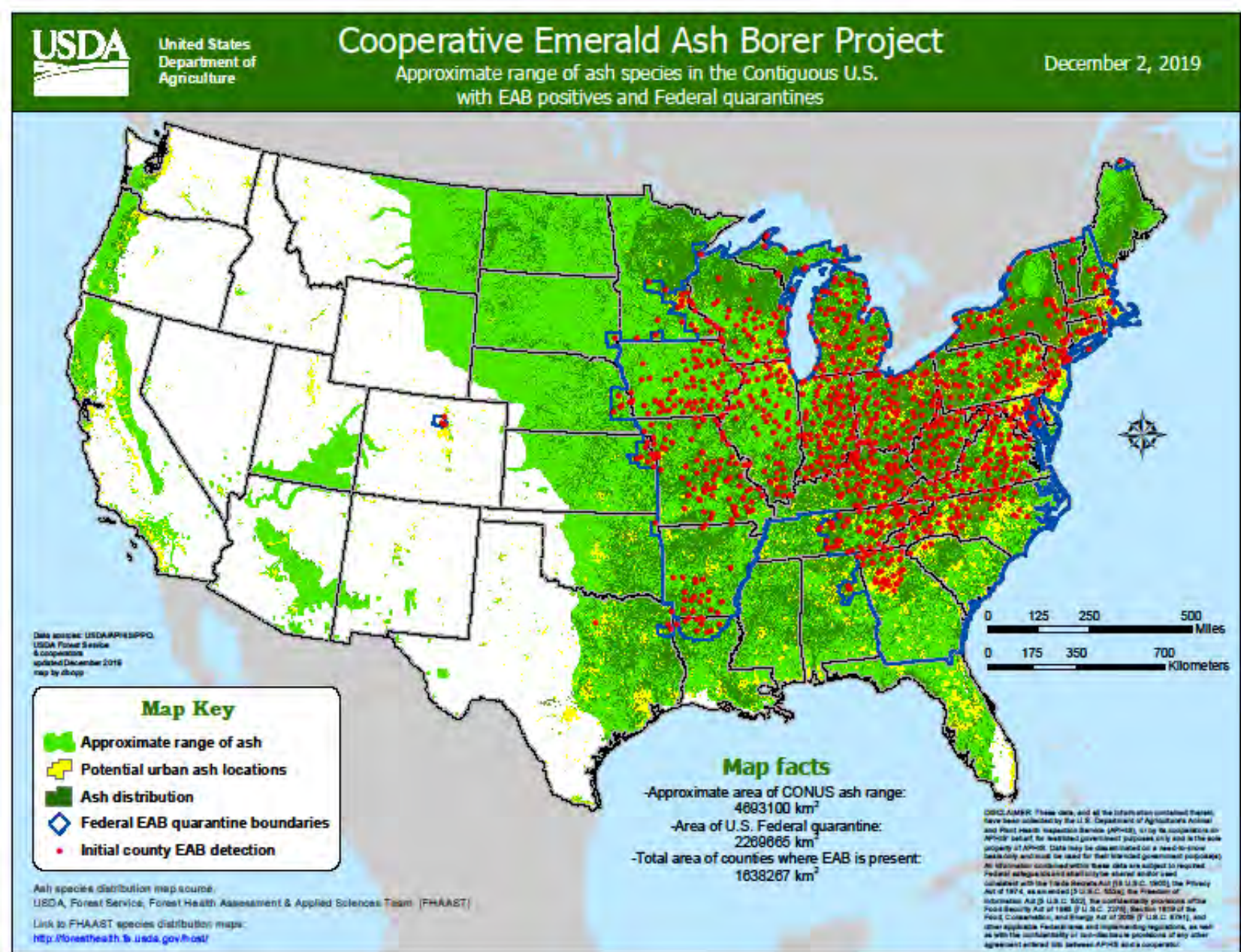
INFESTED  
YEAR  
5+





# From 2002 to Today

- First detected in Detroit in 2002
- Now, established in 35 states & 5 Provinces





## Human-driven

via transportation of

- ash firewood
- ash lumber
- ash nursery stock
- ash packaging material





# EAB in Vermont

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As of March 2020

## Known Infestations

Alburgh, Barre Town, Bristol, Derby, Groton, Londonderry, Montpelier, Orange, Plainfield, South Hero, and Stamford

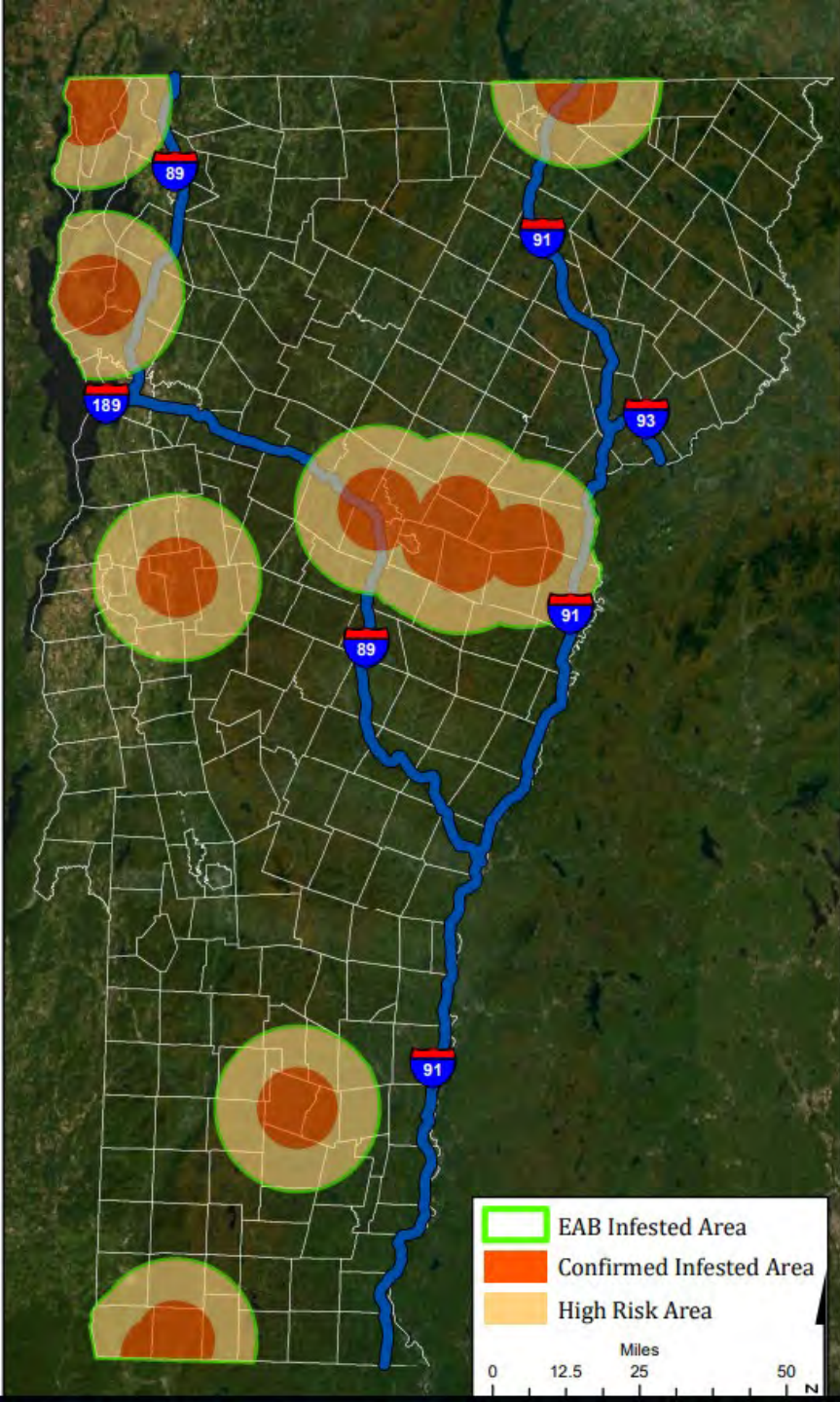
## Confirmed Infested Area

Within a 5-mile radius of a known infestation.

Barre City, Berlin, Colchester, East Montpelier, Grand Isle, Holland, Lincoln, Marshfield, Middlesex, Milton, Monkton, Moretown, New Haven, Newbury, Pownal, Readsboro, Ryegate, Starksboro, Topsham, Washington, and Woodford

## High Risk Areas

Between 5- and 10-mile radius from a known infestation.





# Ash Fail Differently:

## *Risk of Working in Trees Killed by EAB*

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- They are not the trees you think they are
  - **Very brittle** due to larvae activity and moisture reduction
  - Small to **NO** loads or stresses causes limb failure
  - Limb fractures occur **very close to stem**
  - Stem failures can be **catastrophic**, typically <24" above grade





# Structural Wood Integrity and EAB

**5**: On an infested ash tree, a 5" branch breaks with the same force as a 1" branch on a health trees.

**1**: After 1 year of infestation, the strength of the wood decreases significantly (and you may not even see visible signs of EAB yet)

**0**: Number of dead ash trees that should be climbed.

**Styrofoam**: The quality of wood of an ash tree killed by EAB can be compared to that of a styrofoam cup.





# Vermont's Approach







# Vermont's Approach

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- **Who's Involved**
- VT Agency of Agriculture, Food & Markets
- VT Dept. of Forests, Parks & Recreation
- US Forest Service
- USDA APHIS Plant Protection & Quarantine
- UVM Extension
  
- **Federal Quarantine**
- Statewide quarantine
- Federal quarantine is up for deregulation





# Slow the Spread

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## 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



## Insecticide Treatment

- Contact a certified pesticide applicator to inject a systemic insecticide directly into the tree trunk.
- Products containing **Emamectin benzoate** or **Azadirachtin** are recommended by the State.
- See [Options for Protecting Ash Trees from Emerald Ash Borer with Insecticide Treatments.](#)





# What do the Tree Warden Statutes mean?



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**Shade** and **ornamental trees** within the limits of the **public ways** and **places** are under the control of the tree warden.

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A **public shade tree** may not be cut or removed except by a tree warden, deputy tree warden, or with written permission.

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A tree shall not be felled in the **residential** part of town without a public hearing, unless it is a hazard to public safety or infected with insects or diseases.

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**Penalty** for defacing trees is \$50 and \$500 for cutting trees without tree warden's permission.



## Resources for Tree Wardens

We recognize the importance of providing Vermont tree wardens with the resources that will allow them to best fulfill their responsibilities. On this page you will find documents and information that will aid public tree management throughout the state. Tree wardens, if you think there's something missing or you need further clarity, please [contact us](#).

If you are an appointed Tree Warden and have specific questions about legal interpretation of the Tree Warden Statutes, we recommend that you contact the Vermont League of Cities and Town's [Municipal Assistance Center](#).

- ▶ [Tree Warden Statutes](#)
- ▶ [Legal FAQ](#)
- ▶ [Trees and Roads](#)
- ▶ [Trees and Utilities](#)
- ▶ [Tree Ordinances and Policies](#)
- ▶ [Tree Assessments and Inventories](#)
- ▶ [Identifying and Managing Hazardous Trees](#)



## VERMONT URBAN & COMMUNITY FORESTRY PROGRAM

### Guidelines for Public Hearings for Tree Removals

In each Vermont town, a tree warden shall be appointed by the selectboard to be responsible for the protection, care, planting, and removal of public shade and ornamental trees on town property and along the public right-of-ways. Tree wardens evaluate whether and when aging or damaged trees need to be removed, and also approve requests for removal of trees on town property by town officials. The public has the right to appeal tree warden decisions for public tree removal. According to the Vermont Tree Warden Statutes:

*A public shade tree within the residential part of a municipality shall not be felled without a public hearing by the tree warden, except that when it is infested with or infected by a recognized tree pest, or when it constitutes a hazard to public safety, no hearing shall be required. In all cases the decision of the tree warden shall be final except that when the tree warden is an interested party or when a party in interest so requests in writing, such final decision shall be made by the legislative body of the municipality. (Amended 1969, No. 238 (Adj. Sess.), § 6.)*

It is therefore the responsibility of the tree warden to hold a public hearing prior to the removal of a public ornamental or shade tree, unless the tree is diseased or dying or constitutes a hazard to public safety. Failure to hold a public hearing means that the tree warden acted outside the scope of their authority and, as seen in the example of the Holland Case below, could lead to legal action if pursued by landowners.



### ▶ THE LAW IN ACTION: The Holland Case



In 2001, the Town of Holland sought to widen a Class 3 Town Highway in a residential area to accommodate large vehicles. The plan for the road expansion called for removal of approximately 30 trees and additional tree cutting, among other things.

Before the work began, an adjoining landowner brought suit in Orleans Superior Court to prevent the Town from cutting down the trees. The Town summary judgment, arguing that the tree warden was not required to hold a public hearing prior to the removal of the trees because they contributed to the safety of the road, and thus created a public safety hazard.

In the end, the Court agreed with the landowner. The tree warden had no authority to remove the trees without first holding a public hearing. The plaintiff's hearing must be warned by the tree warden for the discrete purposes of considering the removal of the tree.





# Planning for EAB

Three options for ash trees:

1. Treat
2. Remove (and hopefully replace!)
3. Do nothing





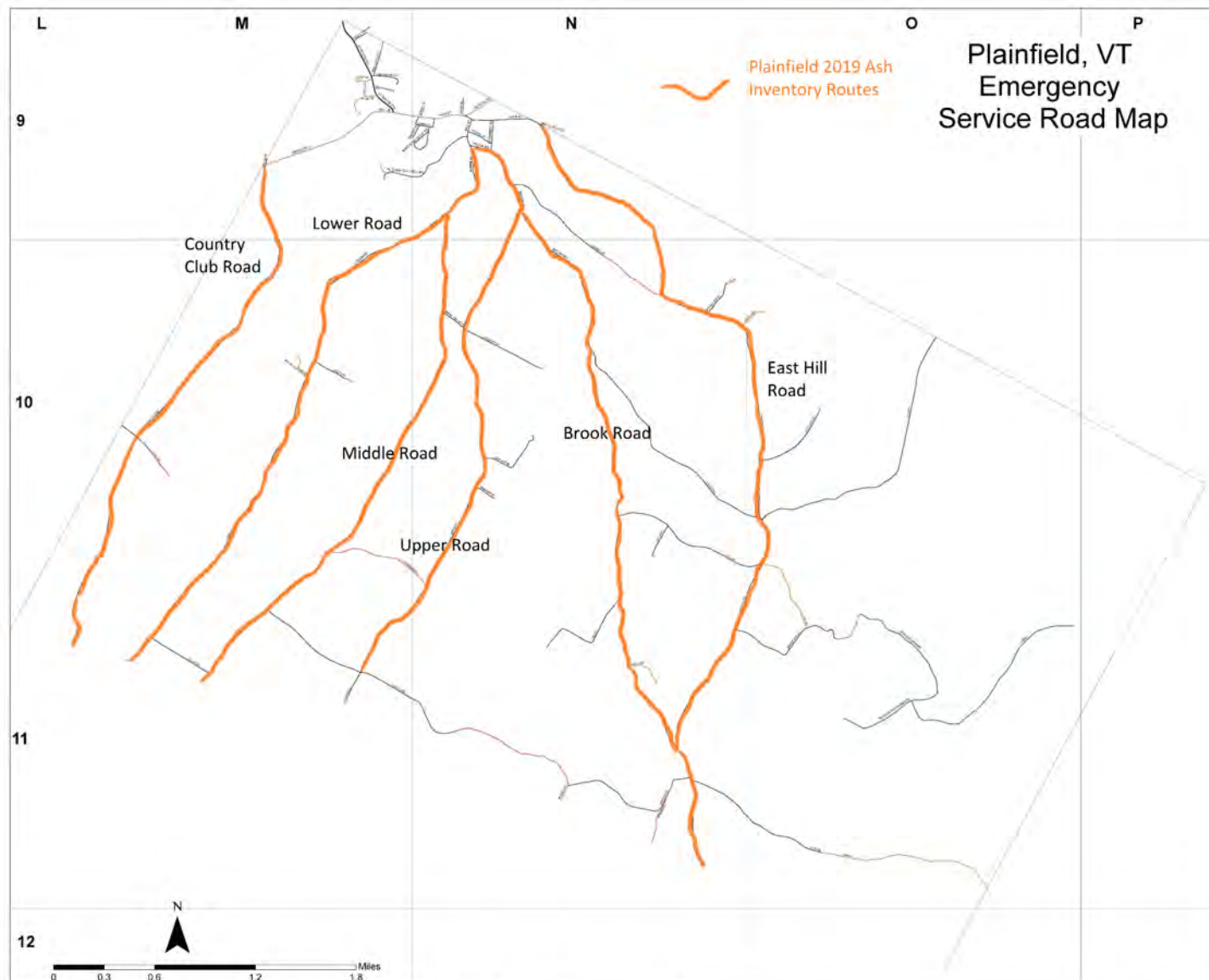
# Ash Tree Inventory

- **What's your vulnerability?** You can't manage what you don't know you have.
- **You have options:** Tree by tree, sampling, paper, mobile app
- **Reach out:** Vermont Urban & Community Forestry offers trainings



# Plainfield, VT Emergency Service Road Map

Plainfield 2019 Ash  
Inventory Routes



BARE HL	N-12	GOSE RD	J-10	PERC'S PL	F-7
BARTLETT RD	N-13	GRAY RD	J-10	PERKINS RD	C-14
BATCHELDER RD	N-12	GREATWOOD DR	D-14, I-10	PITKIN RD	C-13, K-11
BEAN RD	N-12	GREENBRIAR RD	J-11	RECREATION FIELD RD	K-11, L-12
BROOK RD	B-15, D-17, E-16, F-6, K-12, N-11, N-12, N-13	HARVEY HL	L-12	ROBERT LN	K-10
CAMERON RD	D-16, F-16	HIGH ST	D-7, L-12	SCHOOL ST	J-10
CENTER SCHOOL RD	H-30	HUSON AVE	G-7	SFH	J-10, J-11
CENUTTI RD	H-14, N-14	KATLAN RD	G-6	SPRICE MOUNTAIN RD	J-10
COBURN RD	N-14	LEE RD	G-6	SPRICE MTN RD	J-10, J-11, K-10
COUNTRY CLUB RD	K-11, L-15, M-16	LINDEMANN LN	G-6	SUGARWOOD RD	J-10
COSAMERY ST	K-11	LOOP RD	G-5, G-6	TAYLOR FARM RD	K-10
DIX HILL RD	K-11	LOWER RD	E-7, G-6	TH-14	K-10
DORMATORY RD	K-11	MAIN ST	D-7, E-7	THOMPSON RD	J-10, K-10
DRAKE RD	K-11	MAPLE HILL RD	D-6	TOWNE AVE	K-10
F HILL RD	K-11	MAXTIN MEADOW RD	C-6, D-6	UPPER RD	C-15, D-11, E-11, F-11, H-13, J-10, K-10, L-14
FARNHAM RD	J-10	MAXFIELD RD	D-6, E-7	US ROUTE 2	N-9, N-18
FLOOD RD	P-14	MIDDLE RD	E-7, F-7, G-9, H-9	VT ROUTE 214	J-10, L-12, N-17
FOWLER RD	P-14, P-15	MILL ST	F-7, F-8	WALKER LN	C-16
GONTYAU RD	A-13, J-14, J-15	NEW HAMBURGER RD	F-7	WOODCOCK RD	J-11
		PEACEFUL WAY	F-8		

**Legend**

**Roads**

- Class 1 Road
- State Route
- Local Road
- Private Road
- Interstate
- VT State Highway
- US Highway

**ADTECLAS**

**CVRPC**

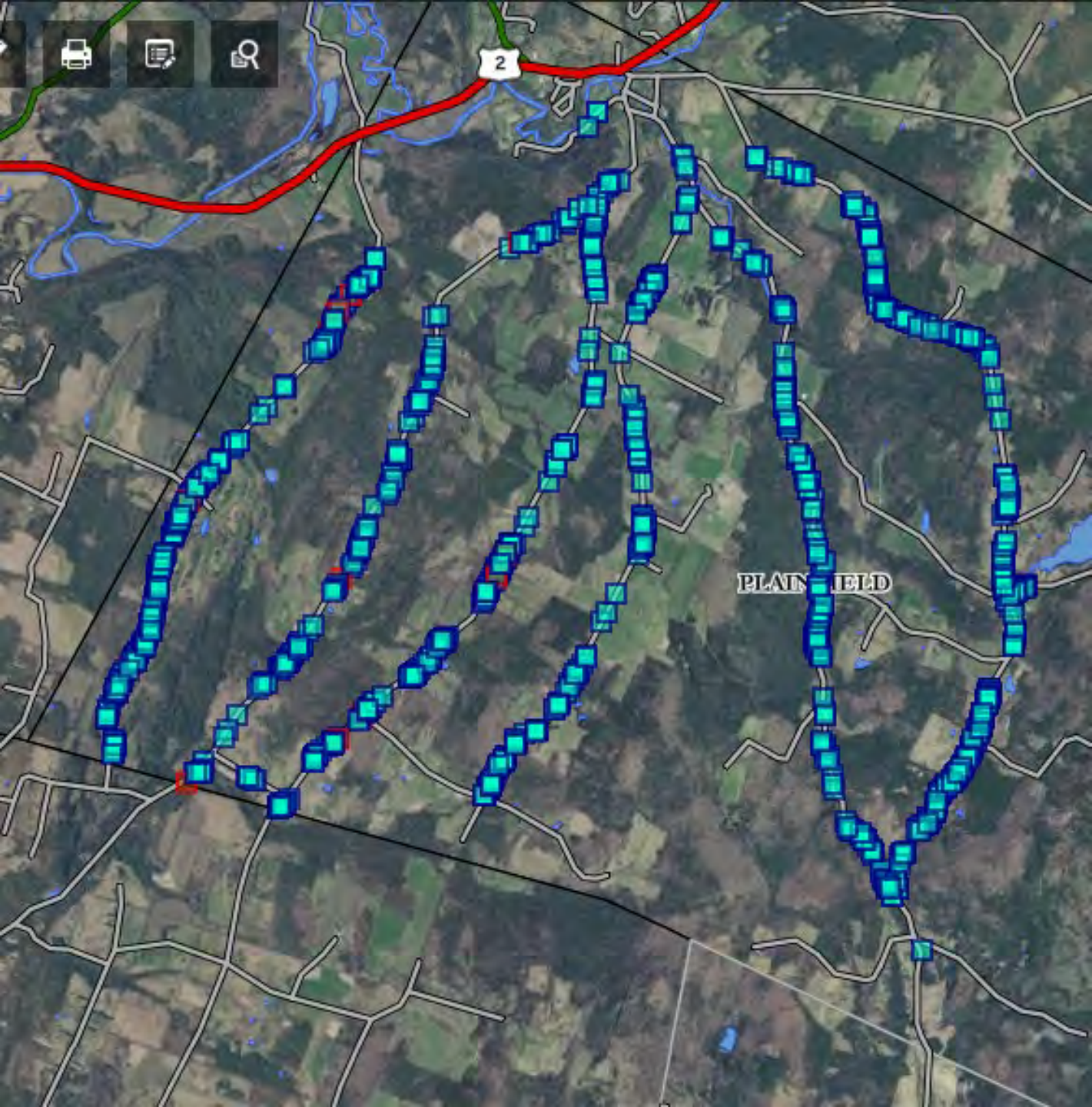
VT Center for Rural and Community Development

117 North Main Street, Suite 200, Plainfield, VT 05760

Phone: 802.253.2100

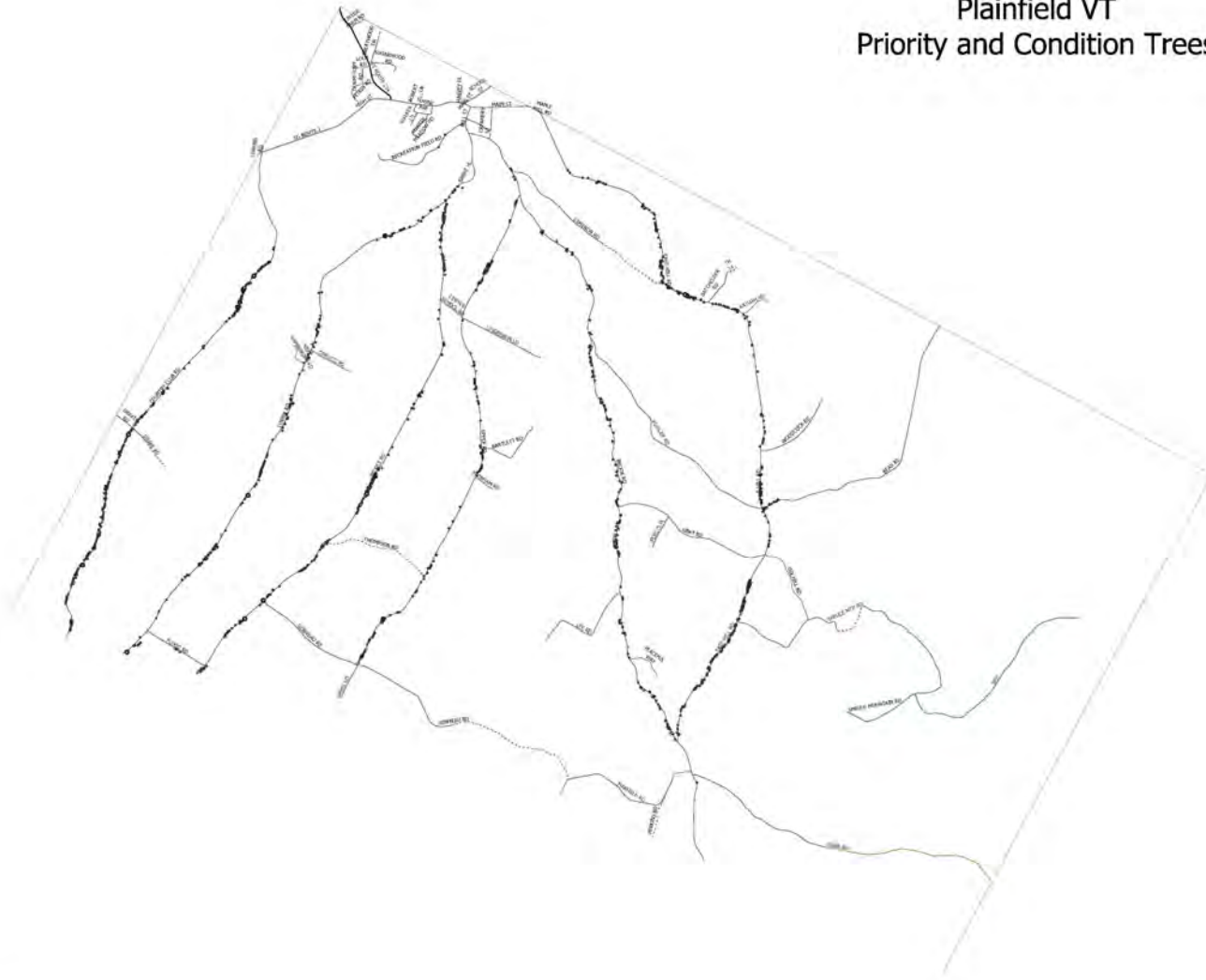
www.cvrpc.org







## Plainfield VT Priority and Condition Trees



**Trees**  
**CONDITION**  
 • Good  
 ○ Fair  
 △ Poor  
 □ Dead  
 ● Priority Routes

**Roads**  
 — State Routes  
 — US Highway  
 — US Highway  
 — Class 1-3 Town Highway  
 — National Forest Highway  
 — State Forest Highway  
 — Private Road  
 — Local Drive



Map created by CVRPC 11/13/2019  
 This map is for planning purposes only.  
 Data is only as accurate as the original sources.  
 This map may contain errors and/or omissions.



### Table 1: Plainfield 2019 Ash Tree Inventory Ash Tree Condition grouped by Diameter Class

Diameter (DBH)	Good	Fair	Poor	Dead	Grand Total
4-12 inches	1640	26	79	11	1756
13-24 inches	346	14	37	5	402
24+ inches	20	1	6	1	28
<b>Grand Total</b>	<b>2006</b>	<b>41</b>	<b>122</b>	<b>17</b>	<b>2186</b>



# Ash Tree Condition & Priority Removal Ash Trees



**Table 1: Plainfield 2019 Ash Tree Inventory**  
Ash Tree Condition grouped by Diameter Class

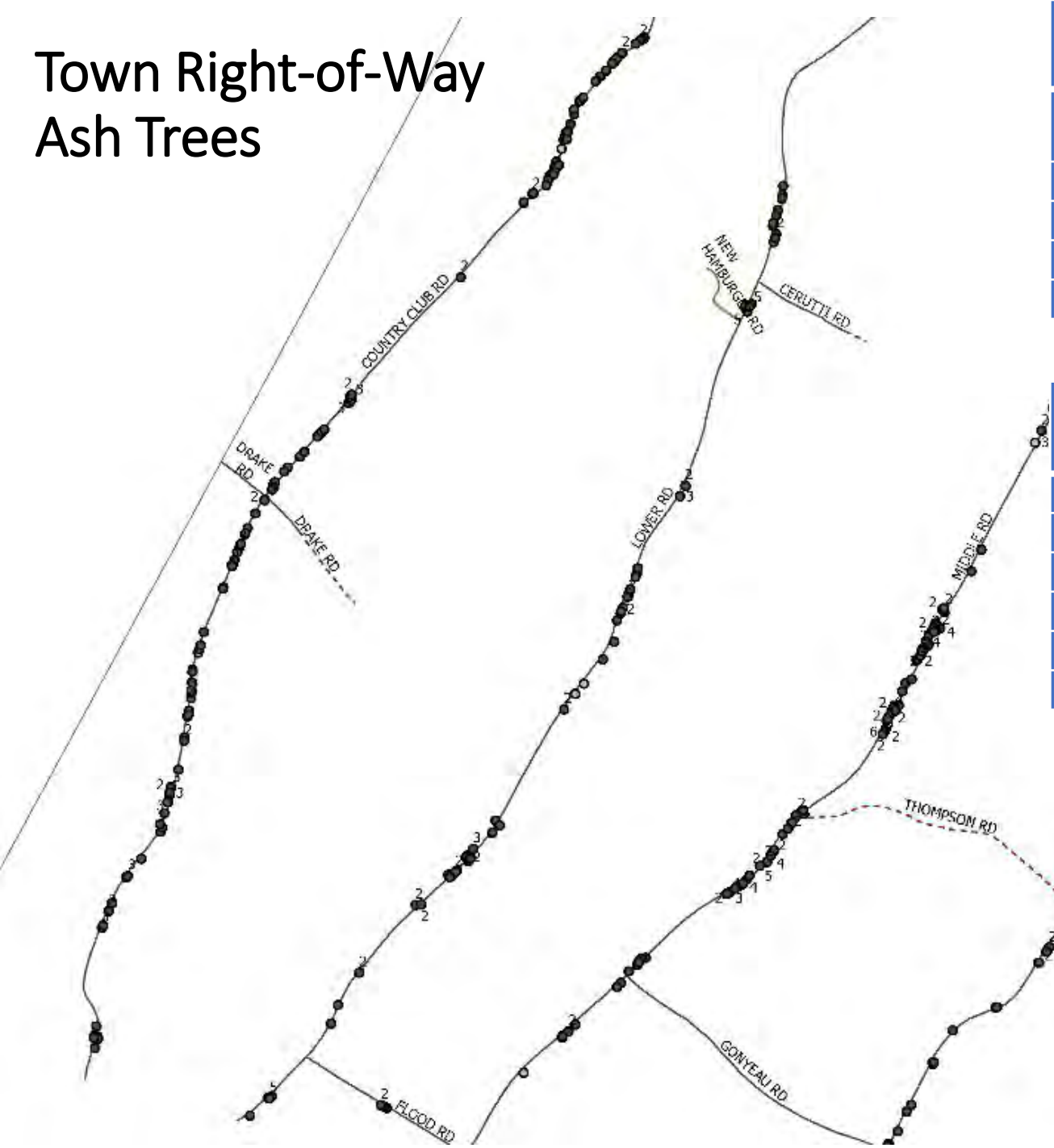
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# Town Right-of-Way Ash Trees



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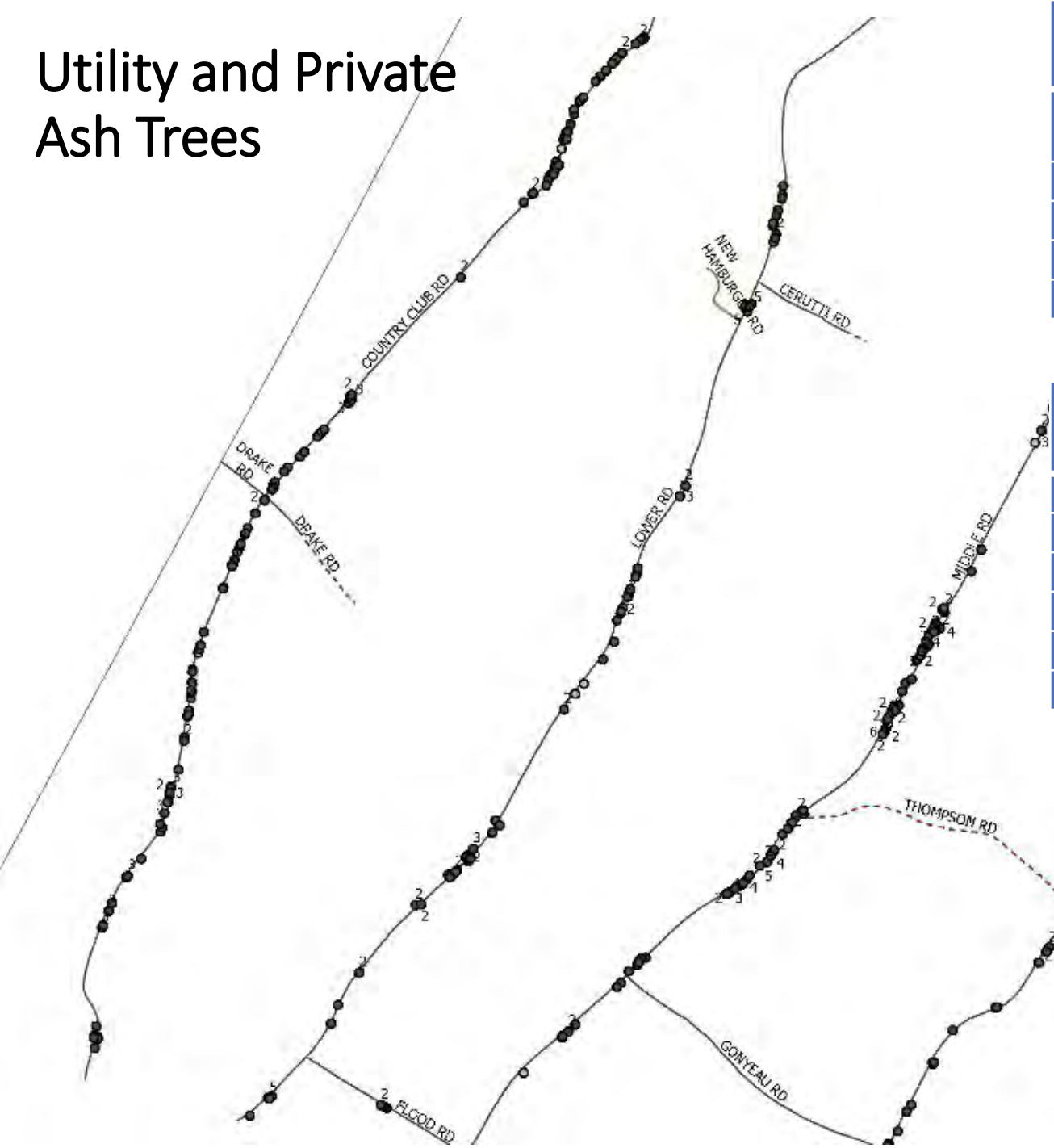
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**Table 2: Plainfield 2019 Ash Tree Inventory**  
Ash Tree Management Type grouped by Diameter Class

Diameter	Town ROW	Private	Utility	Grand Total
4-12 inches	926	544	286	1756
12-24 inches	164	156	82	402
24+ inches	14	10	4	28
<b>Grand Total</b>	<b>1104</b>	<b>710</b>	<b>372</b>	<b>2186</b>



# Utility and Private Ash Trees



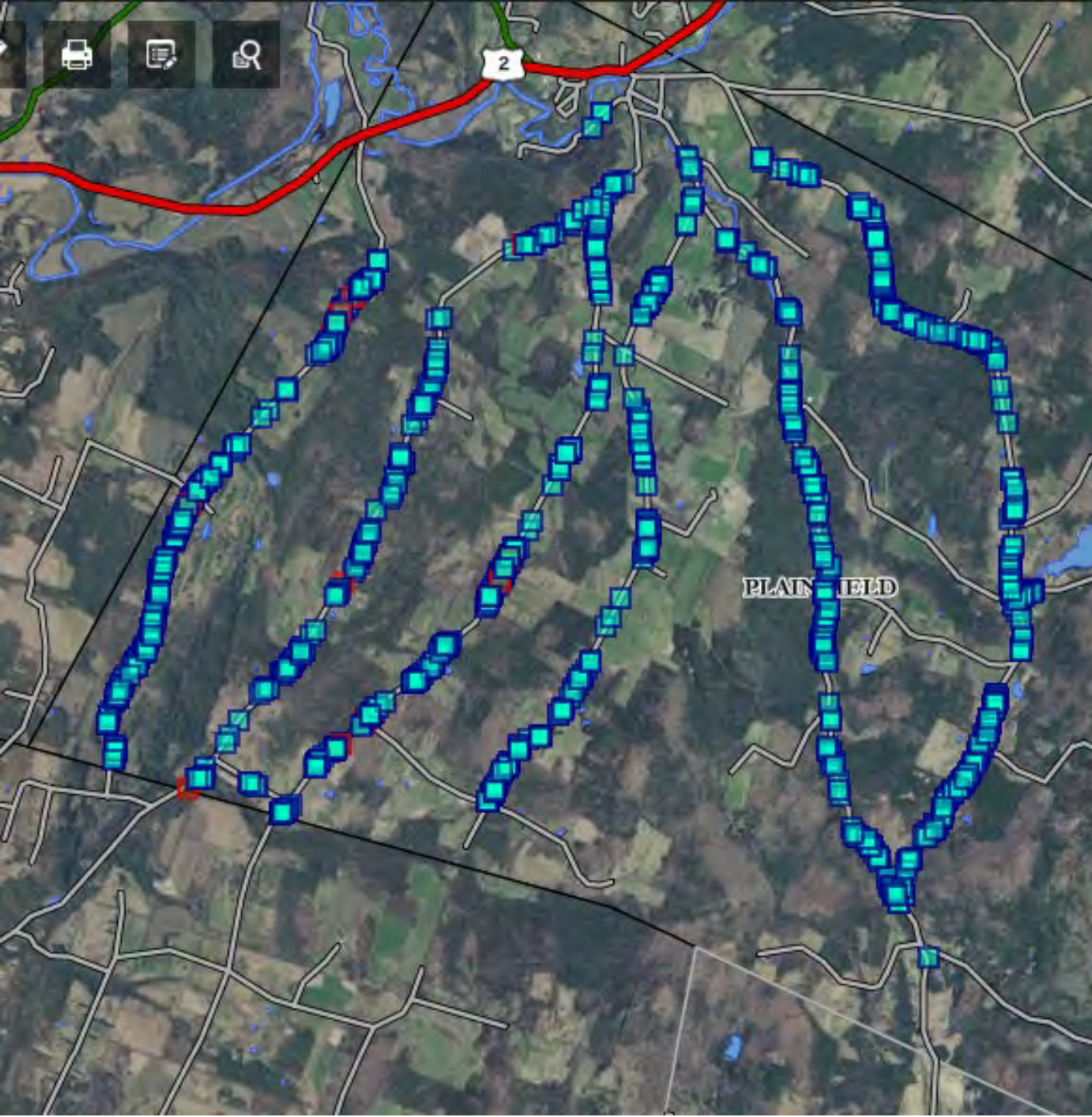
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**Table 3: Plainfield 2019 Ash Tree Inventory**  
**Ash Tree Diameter Classes grouped by Road Name**

Road Name	4-12 inches	12-24 inches	24+ inches	Grand Total
Barre Hill Rd	21		1	22
Bean Rd	28	4	3	35
Brook Rd	206	48		254
Country Club Rd	358	81	4	443
East Hill Rd	434	99	8	541
Flood Rd	4	3		7
Lower Rd	179	53	2	234
Middle Rd	322	83	9	414
Recreation Field Rd	2	2		4
Upper Rd	202	29	1	232
<b>Grand Total</b>	<b>1756</b>	<b>402</b>	<b>28</b>	<b>2186</b>



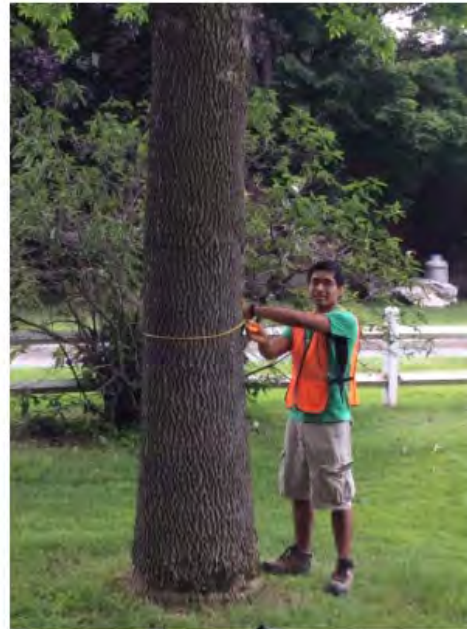


Home > Resources > Inventories & Management Plans > Ash Tree Inventories >

## Using Your Ash Tree Inventory Data

After the roadside ash inventory is complete, towns can do one (or more) of the following option to view, filter, or map data:

- Contact [Joanne Garton](#) to receive an Excel spreadsheet of all your town ash inventory data. You can use this spreadsheet to tally the number of trees as classified by diameter class, conditions, management types, or priority removal status, and to view any comments associated with data points.
- Contact [Joanne Garton](#) to receive a shapefile of this same data for use in GIS-based platforms, such as ESRI ArcMap).
- View and filter data online using our [Roadside Ash Viewer](#) (that needs the same username and password you used in your inventory). You can filter data (using the button that looks like a funnel) as you choose, such as by size, condition, roadside type, etc., or combinations of all data types. This option is a webpage and does not work where you are offline or out of cell service.
- View ash inventory data on the [ANR Atlas](#). The data can only be displayed under their



**Why Trees** **TREEmail**   
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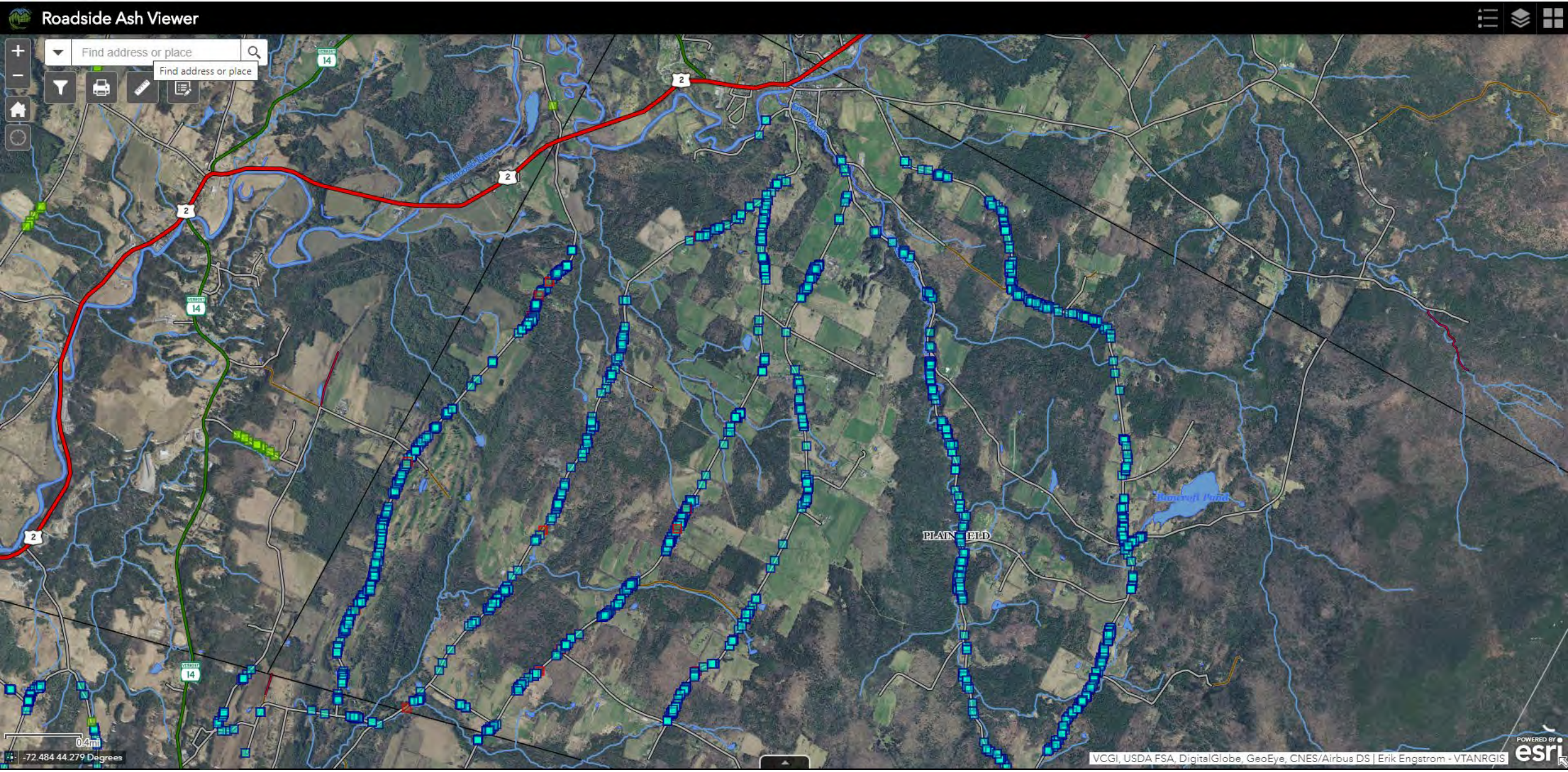
### Ash Tree Inventories

Choosing a Device for Tree Inventory  
**Using Your Ash Tree Inventory Data**

EXPLORE THE **Tree Selection Tool** VISIT OUR **Resource Hub**

[vtcommunityforestry.org/ash-inventory/using-your-ash-tree-inventory-data](https://vtcommunityforestry.org/ash-inventory/using-your-ash-tree-inventory-data)





Login: FPRPartner

Password: W0rktogether

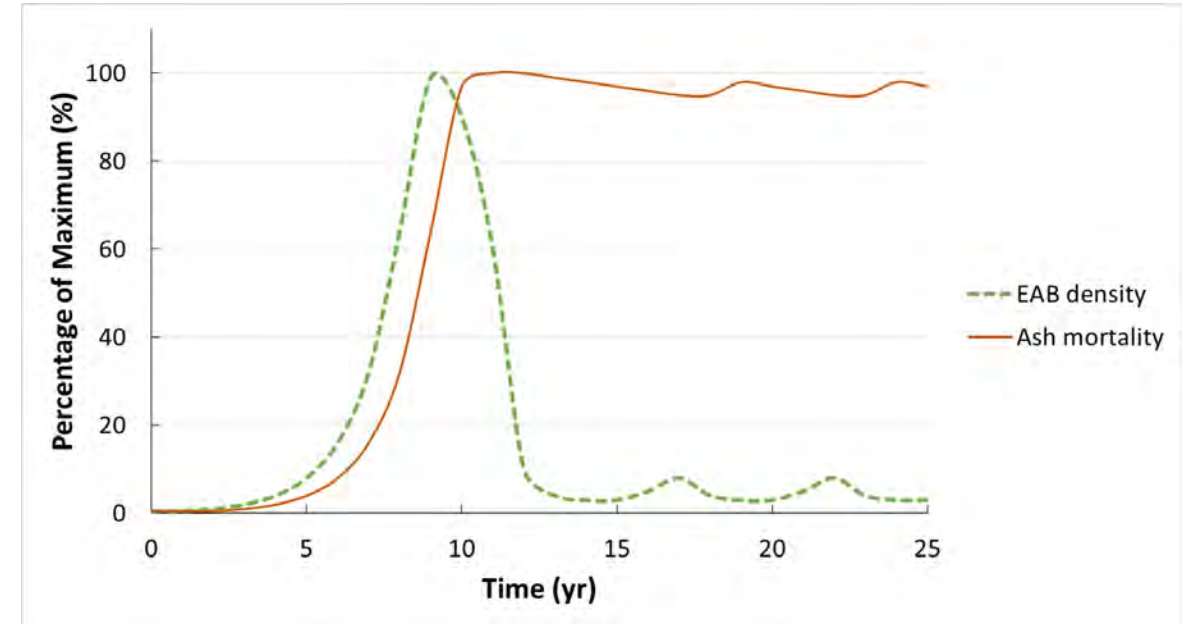
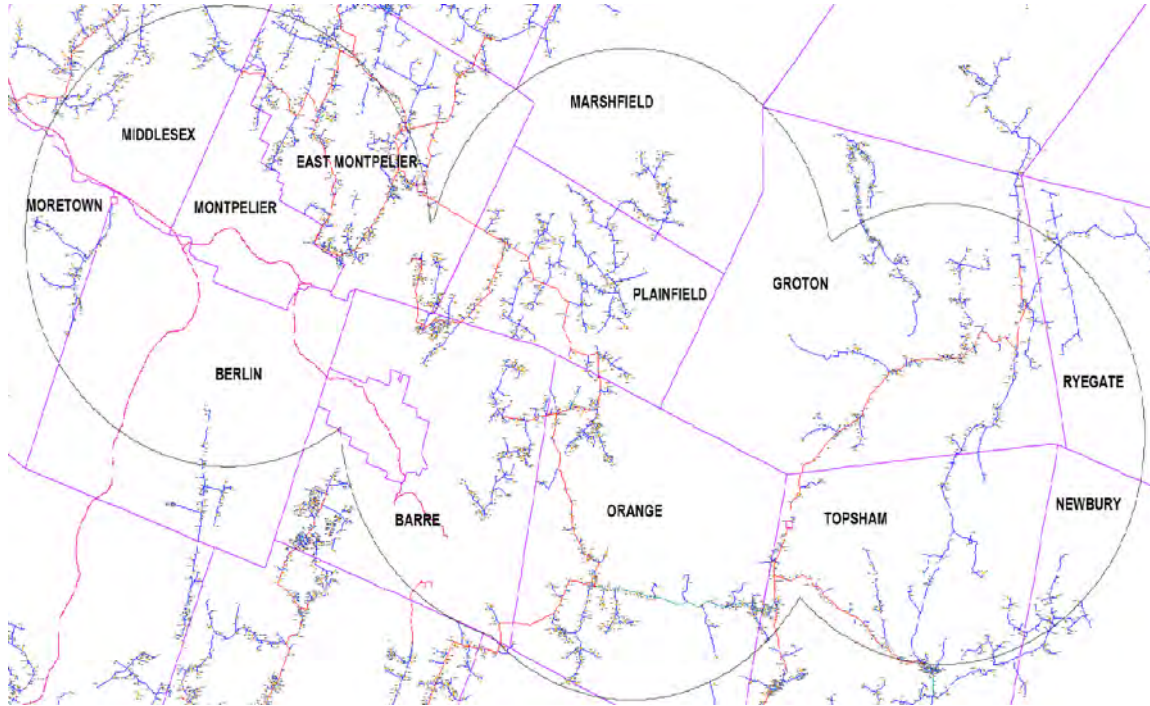




## Working With Utility Companies

- Understand the clearing rotation of the utilities in your town.
- Know the safety risks. Do NOT work within 10 feet of an overhead utility.
- Contact your utility companies about ash trees that may fall on the line. They may help you remove them.





## Washington Electric Coop

- Current infestation is within 60% of WEC's territory in 13 towns.
- Preliminary data shows an average of 10-20 ash trees per mile, maximum count of 100 ash trees in a mile.
- WEC is prioritizing preemptive ash removal targeting substations, then transmission lines, then distribution lines and main feeders.



# Safety Guide



Learn what you can do in your home and during a storm to be prepared and stay safe.

## Green Mountain Power

- Filed a proposal with the Public Utilities Commission to increase funding for tree removal.
- GMP is currently targeting infested areas only. Is not able to answer calls from towns requesting help.
- Began work near Montpelier substations and transmission lines around Oct. 1, 2019.





# Wood Disposal & Utilization

- Identify and communicate **disposal sites** for ash wood and/or chips
- A “**second life**” for the ash trees? Artists, furniture makers, public projects
- **Firewood** – keep it local!





# Invasive species

## Stay Informed

- Sign up for our [EAB Update Listserv](#) on [VTinvasives.org](#)
- Sign up for [TREEmail newsletter](#) at [VTcommunityforestry.org](#)



