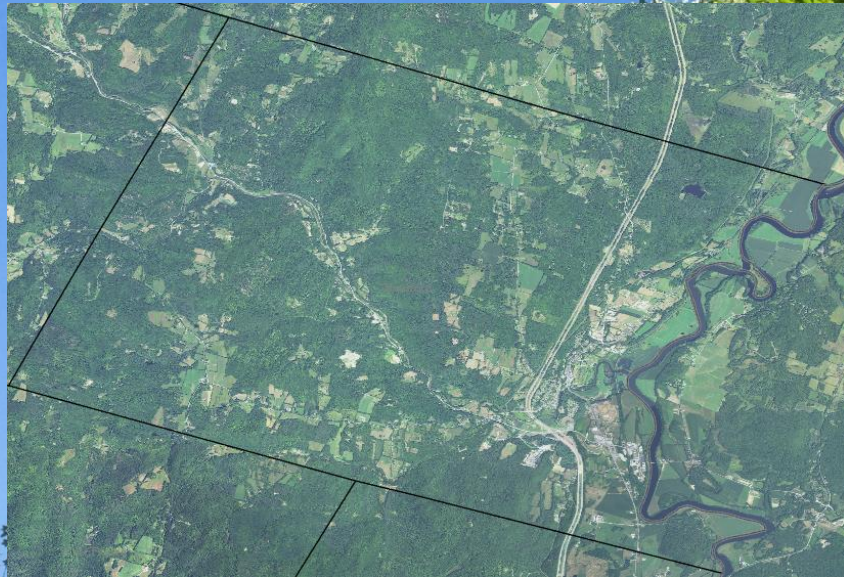


Bradford Roadside Ash Inventory Summary

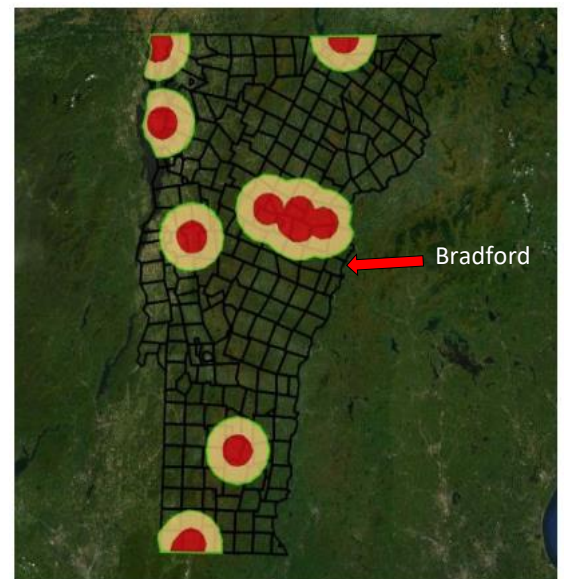


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Introduction:

In February 2018 Emerald Ash Borer was found in Orange, Vermont. Emerald Ash Borer (EAB) is a beetle native to northern Asia. This insect was first discovered in the United States in Detroit Michigan in 2002. It has spread rapidly since then, mostly being moved by humans. EAB only attacks ash trees. Native ash trees have very little resistances to EAB, 95-99% of the trees infected will die. The larva of EAB feeds in the cambium layer of the tree. This feeding affectively girdles the tree by stopping the flow of nutrients. Infested trees will die within 5 years. On its own, EAB can move 2 miles a year. If it is not moved by humans through firewood or movement of contaminated wood. Since being discovered in Orange, EAB has been discovered in 8 counties as of 2019, Grand Isle, Washington, Windham, Orleans, Orange, Caledonia, Addison and Bennington Counties.

Areas of know infestation have been mapped by the Department of Forests, Parks and Recreation. As part of mapping these areas, FPR has split up known infested areas into Confirmed Infested and High-Risk Areas. Each surround a known infestation. Confirmed Areas are within 5 miles of a known infestation. High risk areas extend another 5 miles from the Confirmed Infested area. The town of Bradford is roughly 7-10 miles from a known EAB infestation. The north west corner of Bradford is within a High-Risk area. The red areas on the map are Confirmed Infested areas and the Yellow areas on the map are High-Risk Areas. As long as infested ash material is not moved into Bradford from an infested area we have 3-6 years before the EAB will spread into town on its own. It is critical to prepare for the eventual introduction of EAB in Bradford.



To help Bradford prepare for EAB it was decided to do a roadside ash inventory. This survey was designed to give the town an estimate of how many roadside ash trees the town is responsible for along town roads. This is important because when ash dies it becomes brittle quickly. Ash tends to have large branches, so once an ash trees dies these branches and will fall apart and become a hazard.

The survey was complete in March of 2020 by Ben Rubinfeld, Tree Warden for the town of Bradford and AJ Follensbee, member of the Bradford Conservation Commission. This survey provides an estimate of the number of trees by size class along Bradford's town roads. This will give an estimate of the cost to the town to have these trees either removed or treated. It is more costly to remove dead trees then it is to remove a live tree. There is also the possibility of a small offset to costs by selling the firewood these trees could provide.

The survey also mapped the location of ash trees along Bradford's town roads. Which should help with deciding which roads are priority.

Method:

- Trees were tallied using Vermont Urban & Community Forestry (UCF), Ash Tree Inventory Program on smart phones
- Only ash trees were counted during this inventory
- Tree were counted if they were within the Right of Way of the road or would impact the ROW if they die. The ROW was considered to be 50'
- Tree 4" and up in diameter were counted
- Trees were not counted if they under the power line ROW.
 - The power company will be responsible for these trees.
- Tree inventoried were put into 3 class sizes based on diameter size, 0-12", 12"-24" and 24"+. These 3 classes were predetermined in the UCF program.
- Trees with poor form, die back, dead and dead stems were given priority to for removal.
- All class 2 town roads were inventoried
- A portion of class 3 town roads were inventoried

Roads Surveyed

- Chase Hollow rd.
- Fairground rd.
- Goshen rd.
- Goshen rd. East
- Rogers Hill rd.
- Wrights Mountain rd.
- Kidder rd.
- Branch rd.
- Chelsea rd.
- Hackett Hill rd.
- South rd.
- Mill St.
- N. Pleasant St.
- S. Pleasant St.
- Wrights Ave.
- Old Creamery rd.
- Maple St.
- Cobblestone Aly
- Cottage St.
- Bank St.
- Rowel Brook rd.
- High St.

Results:

A total of 611 points were taken along town roads. These points represent 1,622 ash trees. Trees were only counted if they were not in the powerline ROW. A

Size Class	Total	Class 2 Roads	Class 3 Roads
4"-12"	1192	608	584
12"-24"	380	134	246
24"+	50	9	41
Total	1622	751	871

total of 20.75 miles of town road was surveyed. Bradford has 12.5 miles of class 2 town roads. All these roads were surveyed. Bradford has 39 miles of class 3 roads, 47% of these roads were surveyed or 18.25 miles. It was decided that Bradford's class 2 roads get higher amounts traffic. Therefore, the class 2 roads were surveyed completely. Because not all class 3 roads were survey it reasonable to assume there are an additional 600-800 trees on the remaining class 3 roads not surveyed.

Most of the trees tallied were in the 4"-12" size class. This is a wide range of sizes to be lumped together. A 4" to 6" tree will take much less resources to remove then a 10" or 12". Roughly 60-70% of the trees in the 4"-12" size class are 6" or smaller.

The majority of the tree surveyed were in good condition and should no sign of dieback or serious defects. Only 21 trees we designated as high priority for removal due to their condition.

Suggestions:

The town has options for mitigating the impact of the EAB on the community. It is recommended that the town focus on the removal ash trees along it's town roads before EAB has begun to kill ash trees in town. As stated, dead trees are more dangerous and therefore more expensive to remove then trees that are alive.

The town road crew could do much of the removal of smaller less hazardous trees if time allows. Most of the trees surveyed were smaller than 12". Not all the trees could be hand fell due to overhead hazards. The road crew could focus on the dirt roads in town. If it is decided to have road crew remove ash trees, they should go through the Game of Logging Chain Saw Safety training beforehand.

There is the potential to hire a logger to remove ash trees a long the ROW's. This has happened in the town of Corinth. A logger was hired there to run his feller-buncher to remove trees along the ROW. A feller-buncher is a machine capable of grabbing trees, cutting them and felling them in certain spots. This option would be the least costly option to remove trees. This option works the best during the winter on Bradford's dirt roads. These machines are normally tracked and would damage paved roads. There are some of feller-bunchers with rubber tires. If a rubbered tired feller-buncher is found it could be run along paved roads. If this method is chosen it could be treated like a timber sale. Trees marked for removal could be tallied and volumes estimated. The volume removed could mitigate some of the costs.

Some trees will require that the town hire a tree removal company. Tree that are near high risk targets, like houses or powerlines will require the expertise of an arborist. If they are hired to only remove hazardous and dangerous trees this cost will be lowered. This option is the most expensive option and it is recommended to find alternatives to remove low risk trees.

Bradford should start to put a side some money in it annual budget for EAB preparedness. Ash removal along ROW's could cost \$50,000-\$75,000. These number double if tree removal is postponed until the trees are dead.