

Josh Arneson < iarneson@richmondvt.gov>

Emerald Ash Borer resources and update

Schadler, Elise < Elise. Schadler@vermont.gov>

Tue, Oct 20, 2020 at 4:20 PM

To: "Arneson, Joshua" <jarneson@richmondvt.gov>, "Elliott, Barbara" <townhunt@gmavt.net>, Bruce Hoar <bhoar@willistonvt.org>, "Marshall, Renae" <rmarshall@hinesburg.org>, "toddit@jerichovt.gov" <toddit@jerichovt.gov>, "Grover, Amy" <clerkbolton@gmavt.net>, "jbw@underhillvt.gov" <jbw@underhillvt.gov>, "slotspeich@waterburyvt.com" <slotspeich@waterburyvt.com>, "town@sunderlandvt.org" <town@sunderlandvt.org>, "Kiernan, David" <administrator@shaftsburyvt.gov>, "robin.wilcox@arlingtonvermont.org" <robin.wilcox@arlingtonvermont.org>, "Keefe, John" <i.okeefe@manchester-vt.gov>, "townclerk@sandgatevermont.org" <townclerk@sandgatevermont.org>

Hello Josh, Barbara, Bruce, Renae, Todd, Amy, Rose, David, Robin, John, and Sandra,

As a follow up to the conversation we had this morning (or the voicemail I left for you!), I'm sending along some more information about the emerald ash borer.

I'm the Program Manager with the VT Urban & Community Forestry Program within the VT Department of Forests, Parks & Recreation. Unfortunately, emerald ash borer (EAB), was been confirmed last week in both Richmond and Shaftsbury, resulting in two new infestations. This means that your municipalities are now either within the "High Risk Area" (10-mile radius from a known infested site) or the "confirmed Infested Area" (a 5-mile radius from a known infested site). You can view the most up to date map here.

Our program is reaching out to town leadership in all municipalities within the new infestation area to inform and share resources. An email will go out to our statewide EAB listsery by Thursday of this week.

Emerald Ash Borer

EAB is an invasive insect that attacks and kills 99% all 3 species of ash found in Vermont. The larvae (the immature stage) feed on the inner bark of ash trees, disrupting the tree's ability to transport water and nutrients. EAB has killed hundreds of millions of ash trees in North America since it was discovered in 2002. The first EAB infestation was confirmed in Vermont in 2018 and is now in 10 VT counties. We encourage you to explore and to post a link to the VTInsasvies.org EAB page on your town website so that residents are aware of where to go for information and resources.

Planning Resources

We encourage all Vermont towns to prepare for and manage the impacts of EAB and the loss of ash trees in our communities. Dead and dying ash trees along the public right-of-way and in public places, such as parks and schools, pose a risk to public safety. The loss of ash trees will leave gaps, impacting the ecological, economic, and aesthetic benefits provided by the urban forest. Municipalities will bear the responsibility and costs of removing and/or treating public ash trees, as well as any replanting efforts. View community planning resources. (please note that we're having some website issues today, unfortunately. So that last link won't work today – hopefully it's back up and running by tomorrow!).

Questions

I'd be happy to answer any questions you may have about this insect or any of the resources provided.

Thank you for your time and, again, sorry to be the bearer of this unfortunate news!

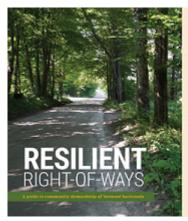
Best,

Elise

ELISE SCHADLER | Program Manager

VT Urban & Community Forestry Program Department of Forests, Parks and Recreation 802.522.6015 www.vtcommunityforestry.org

Facebook | YouTube



LEARN MORE ABOUT THE GUIDE

vtcommunityforestry.org/resilientROWguide

Due to the coronavirus (COVID-19), the Vermont Department of Forests, Parks and Recreation is taking additional community protection measures. Many staff are now working remotely and may not be available in person. We encourage you to communicate electronically or via phone. Learn more about COVID-19 and stay connected with us at VTforest.com.

VERMONT URBAN AND COMMUNITY FORESTRY PROGRAM



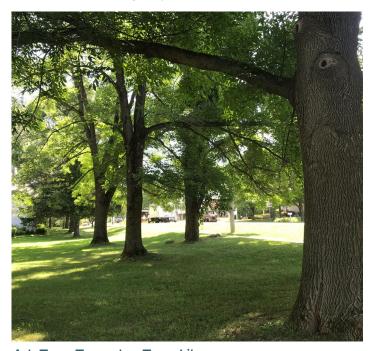
SUMMARY

In the mid-2000's, 51 percent of the street trees in Williston, Vermont were species of ash. In certain neighborhoods, over 90 percent of the public trees were ash trees. This high percentage of ash trees meant that the town also had a high vulnerability to the devastating impact of the invasive emerald ash borer (EAB).

Recognizing this vulnerability, in 2014, an environmental planning intern, working with the Conservation Committee, conducted an inventory of Williston's public ash trees, and developed an EAB management plan. The plan recommended a phased removal of 10% (approximately 47) ash trees each year, over a 10-year period with an almost one-to-one replacement of the ash with a diversity of other species. The plans' goals were to: (1) increase species diversity through the replacement trees, (2) reduce the future visual impact of dead and diseased roadside trees and (3) deal with future impacts to public health and safety. The plan was presented to the public at Select Board meetings, and there was no negative feedback.

The team creating the plan prioritized removals based on the density of ash on a given street and the condition of the tree; streets with the highest percentage of ash and trees in poor condition were assigned the highest priority for removal. Twelve ash by the library and cemetery were selected for

treatment with pesticide injections. In line with best forestry practices for conservation of wildlife habitat and biodiversity, town staff decided to leave ash trees in town parks and on conserved lands. Town staff monitor the ash trees on paths in parks and conserved lands, and if any of these trees become a danger to the public, they are removed. Trees that do not pose a danger will be left to fall naturally in place and decompose, providing important woody debris to the soil and habitat for wildlife, as well as conserving the ash component of the forests as long as possible.



Ash Trees Treated at Town Library

FAST FACTS

Population: 9,637

Miles of Town Maintained Roads: 72

Number of Ash Inventoried on Town Roads prior to Removals: In 2015, 494 trees, or approximately of 51% of Williston's street trees were ash.

Normal Management of Public Trees: Public Works Department manages trees in right-of-way.

Active Tree Board or Conservation Commission:
Conservation Commission

Local Tree Ordinance: None.

Ash Inventory Conducted: 2014 by environmental planning intern, using a prior inventory of all public trees as a guide.

EAB First Detected: Not detected as of summer 2020. Nearest confirmed infestation is 20 miles away.

Written EAB Management Plan: 2015

Ash Management Status in 2020: Began tree removals in 2015; by 2020 164 ash removed, 12 are being treated, and 143 trees replaced. The city anticipates completing removals and replacements by 2025. Tree removals are done by Public Works, treatment and new plantings are done by contractors.

Key Players: Town Manager; Director and staff of Department of Public Works; Conservation Committee; Environmental Planning Intern; County Forester

Funding: Town's General Fund; Tree Fund for Tafts Corner neighborhood; \$9,850; VT Urban & Community Forestry Program Caring for Canopy Grants (2015, 2017, 2019); \$9,391.

Wood Utilization: Tops and smaller pieces are taken to Chittenden Solid Waste District's compost facility. Larger wood is taken to Williston Public Works Facility.

Contacts: Bruce Hoar, Director of Public Works (also functions as Tree Warden), Williston, VT. bhoar@ williston.gov; (802) 878-1239



Tagged Ash Tree during EAB Awareness Week



Thinning Canopy of Ash Trees

REMOVAL PRIORITIES & REPLACEMENT STRATEGY

As part of Williston's proactive approach, the town chose to remove ash trees on streets with the highest percentage of ash and trees in poor condition. Once EAB is confirmed in the area, they will prioritize trees that impact public safety and are visibly diseased or damaged.

Since 2015, the town has replaced the removed ash trees with elms, red maple, oak, honey locust, and gingko. Like ash, these species are salt tolerant and suited to urban environments. By replacing the ash with a diversity of five different species, the town will hopefully avoid having to remove a large percentage of their street trees again should another species-specific pest or disease emerge in the future.

ESTIMATED AND ACTUAL COSTS

In the 2015 EAB Management Plan, the author's estimated cost of removing and replacing 10%, or 47, of the ash trees each year was between \$18,800 and \$28,200 per year at an average of \$400 to \$600 per tree. The costs were calculated using in-house estimates as well as the <u>Purdue EAB Cost Calculator</u>. As of 2020, or halfway through their ten-year plan, Williston has removed 164 or 33% of their ash trees and planted 143 replacement trees. The cost of the work up to summer, 2020 has been \$101,906. However, the town has a special fund of \$9,850 for tree replanting in one neighborhood, and has received another \$9,391 in grants. Therefore, the actual town expenses after five years are only \$82,675, or \$266 per tree for removals and stump grinding and \$428 for total costs for removal and replacement of each tree.

Activity	No. of Trees	Work Done By	Actual Costs (2015-2020)
Treatment	12 near library, Town Green & cemetery	Contractor	\$3,000; (or average of \$250 per tree)
Removal & Stump Grinding	494 trees (164 removed as of 2020, 330 remaining)	Public Works	\$40,628; (or average of \$266 per tree, removal only)
Replacement Trees & Labor	143 trees at least 2" DBH ¹ as of 2020	Contractor	\$61,288; (or average of \$428 per tree, for replacement tree and labor)
Grand Total	\$101,906 (actual through 2020, not including grants)		

¹Williston Public Works Specifications recommend that all new tree plantings have a DBH of at least 2 inches.

ON THE GROUND

As a general rule of thumb, street tree populations should consist of no more than 10% of any one species, 20% of any one genus, or 30% of any one family of trees. Currently, maple and ash are overrepresented in Williston's Town right-of-way. New tree plantings should continue to support the goal of diversification of the community tree population.

Williston's Emerald Ash Borer Management Plan, 2015

LESSONS LEARNED

- Take advantage of engaged citizens. Members of the Williston Conservation Commission have been dedicated and great resources.
- **Develop partnerships within State agencies,** such as the state highway department, to collaborate and inform each other of hazard trees that pose a threat to public safety.
- Interplanting replacement trees among the trees that you are planning to remove is not as easy as it sounds.
- Holding a public hearing is important to let the public know about your plan. Remember to include homeowner associations, and work with the public as much as possible on selecting replacement tree species. Williston presented the management plan to the public at Select Board meetings; and the Director of Public Works posted information on the town's website.

ABOUT THE PROJECT

The Emerald Ash Borer Municipal Management Case Studies were developed to help municipalities determine the best approach to ash management for their unique situation. The case studies were drawn from six municipalities in the Midwest, New England, and Vermont that vary in population, percentage of public trees that are ash, and resources.

Vermont Urban & Community Forestry Program

Vermont Department of Forests, Parks and Recreation in partnership with University of Vermont Extension







SUPPORTING VERMONT MUNICIPALITIES THROUGH ASH TREE MANAGEMENT Grant Application

Funding: minimum \$5,000, maximum \$15,000

SECTION 1: Applicant Information

MUNICIPALITY OR ORGANIZATION: Richmond, VT ADDRESS: 203 Bridge St., Richmond, VT 05477 PROJECT CONTACT PERSON: Caitlin Littlefield

PHONE: 978-807-1494

EMAIL: clittlef@gmail.com

D-U-N-S NUMBER*: 019 336 999

FINANCIAL CONTACT PERSON: Connie Bona

PHONE: 802-434-2221

EMAIL: cbona@richmondvt.gov

SECTION 2: Project Information

PROJECT TITLE: Richmond Village Emerald Ash Borer Response Project

SUMMARY OF PROJECT (2 sentences maximum):

The Emerald Ash Borer has just been detected in Richmond, and we are deeply committed to maintaining the beauty, character, and shady canopy cover of our village and major recreation corridors while ensuring public safety and the myriad ecological functions that healthy, diverse trees afford. Our EAB Taskforce, which includes our tree warden and other town officials, has analyzed its town-wide ash inventory and, in particular, we aim to treat the most prominent ash within the historic village and replace smaller or less healthy trees with a diversity of native species.

GRANT FUNDING REQUESTED: \$15,000

TOTAL PROJECT COST: \$22,379

SECTION 3: Statement of Need

Explain your municipality's current situation regarding ash tree management on municipally owned or municipally managed land. Provide a succinct statement of need for funding, identifying the opportunities and desired outcomes of this municipal initiative. Include any information about your ash tree population (e.g. inventory or survey results), your municipality's management strategy, and who has been or would like to be involved in making decisions about EAB management. Show that your town's tree warden is active in the community through a letter of support or other documented input into the application.

The Richmond Conservation Commission (RCC), town officials, and volunteers have been preparing for the arrival of EAB for the past year. These preparedness efforts have proved timely: EAB was just detected in Richmond this fall 2020. We—the Richmond EAB Taskforce—are now finalizing our preparedness plan and are committed to proactively treating or replacing and continuing to monitor our municipal ash trees.

Our vision is to maintain the beauty, character, and shady canopy cover of our town's historic village and major recreation corridors while ensuring public safety and the myriad ecological functions that healthy, diverse trees afford. In particular, we aim to treat the most prominent ash within the village, around the iconic Round Church, and at the entrance to our recently acquired town forest (Andrews Community Forest, ACF) and replace smaller or less healthy trees with a diversity of native species (see attached map). We now seek funding from Vermont's Urban and Community Forestry Program (UCF) to support us in this objective.

During spring 2020, RCC volunteers inventoried 874 trees on over 20 miles of Richmond's roads (there are approximately 40 miles total). A summary of this inventory (including future plans) is attached. Also attached are next steps we will take in finalizing our preparedness plan.

Individuals who have been and will be involved in developing the town's preparedness plan bring a breadth of skills and experience to bear. The specific roles and responsibilities of these named individuals are detailed below in Section 5.

Richmond's EAB Taskforce

- Caitlin Littlefield EAB Taskforce coordinator, forest ecologist, member of the Richmond Conservation Commission and ACF committee
- Matt Leonetti Richmond's tree warden (see specific role and input from Leonetti in Sections 5 and 6)
- Judy Rosovsky Vermont's entomologist, chair of the Richmond Conservation Commission
- Ethan Tapper Chittenden County Forester who drafted ACF management plan and is overseeing current harvest
- Jon Kart Vermont Fish and Wildlife biologist, leader of Richmond's riparian forest restoration efforts
- Pete Gosselin Richmond's Highway Foreman
- Josh Arneson Richmond's Town Manager
- John Hamerslough Richmond ash inventory volunteer

Other inventory volunteers know they are very much welcome to participate in this EAB Taskforce. Town residents and the Selectboard have been and will continue to be kept apprised of these EAB preparedness efforts through brief updates during public meetings as well as via Front Porch Forum posts. By December 2020, the EAB Taskforce will present a finalized plan to the Selectboard.

SECTION 4: What do you plan on doing and how will you do it?

In table format, provide a list of what your municipality plans on doing, describe how it will be done, and list the measurable results. All project work must be completed by January 15, 2022. Questions that should be answered in this section include, as applicable:

- How many public ash trees do you estimate will be removed through the project, what approximate size are they, and where are they located?
- How many replacement trees will be planted, where, and of what size and species?
- What will happen to the ash wood, both from the public right-of-way if it is rejected by the landowner and from municipally owned ash trees? Will any person or organization partner with the grantee or to distribute or utilize ash wood?
- What planning or management goals will you address in high use areas of town forests or other municipally owned trails or parking areas?

Action	How will it be done?	Measureable Results	Timeline
Remove: Within 0.5	Town will hire an ISA-	Removal of five 8-12"	Removals completed
square miles of	certified tree service	dbh trees along Church	before leaf-out and
Richmond's historic	providers (e.g.,	St, Burnett Ct, Jericho	during non-flight
village, remove 7 trees	Heritage Tree Care in	Rd; removal of two 12-	season in April-May
along forested	Essex or Limbwalker in	16" dbh trees along	2021.
stretches of road or	Shelburne) remove	Cochran Rd. and	
otherwise in clumps of	selected trees, chip	Burnett Ct	
trees	tops and unusable		
	wood, and store usable		
	wood at town garage.		
Remove & Replace:	Town will hire an ISA-	Removal of two 16-20"	Removals and
Within 0.5 square miles	certified tree service	dbh trees in park in	replantings completed
of village, remove and	providers (e.g.,	front of Round Church	before leaf-out and
replace 18 trees, many Heritage Tree Care in		and replacement with	during non-flight
of which are unhealthy,	Essex or Limbwalker in	two 2" caliper sugar	season in April-May
interfere with	Shelburne) to remove	maples;	2021.
overhead lines, or	selected trees, chip	Removal of four 12-16"	
otherwise do not	tops and unusable	dbh trees in front of	
substantially contribute	wood, store usable	library, on Depot St Ext,	
to village character. All	wood at town garage,	along Jericho Rd, and	
replacements will be	and plant new trees.	at entrance to Camel's	
native species.		Hump Middle School	
		and replacement with	
		four 15-gal red maples	
		and river birch;	
		Removal of twelve 8-	
		12" dbh trees along	
		Church St development	
		and replacement with	
		twelve 15-gal red	
		maples, river birch,	
		swamp white oak,	

Action	How will it be done?	Measureable Results	Timeline
		black walnut	
Treat: Within 0.5 square miles of village and at ACF kiosk, treat 16 healthy and prominent trees with emamectin benzoate, which is preferred over other alternatives, as it is derived from a naturally occurring soil bacterium and breaks down more rapidly by microbial activity and sunlight than other insecticides.	Members of EAB Taskforce who are certified pesticide applicators will treat trees with free of charge.	Treatment of one 40" dbh tree on Baker St; treatment of nine 16-20" dbh trees along Bridge St within village and in front of Round Church; treatment of five 12-16" trees along Cochran Rd; treatment of one 20-24" dbh tree at ACF kiosk.	Injections will occur after leaf-out in late- May – early June 2021.
Put removed wood to use for benefit of existing town riparian restoration projects and households in the community	Tops and unusable wood will be chipped and applied as mulch trees planted in 2020 along river in Volunteers Green Park. On non-municipal land, if landowner(s) desire, usable wood will be left for their use. Otherwise, usable sawlogs and roundwood will be processed per APHIS recommendations at local mill. EAB Taskforce will identify local furniture makers and woodworkers. Any labor costs will be covered by wood these individuals may use for their own purposes.	Mulching around the approximately 400 trees planted for riparian restoration; locally crafted chairs (number tbd) for Town Center conference room that already features an elm table made from a village tree; locally crafted bowls (number tbd) to be donated or raffled to households in the community.	Processing and transport of wood will occur during non-flight season in April 2021; solicitation of local furniture makers and woodworkers will commence in Jan 2021.
Monitoring and maintenance of planted trees	EAB Taskforce members, particularly tree warden Leonetti, will monitor planted trees and water as necessary.	Health and survival of 18 newly planted trees	Ongoing, after planting in spring 2021

SECTION 5: Who will carry out the plan?

In concert with the action items entered above, identify who will be involved in the project and their role including services provided, financial contributions, and product donations. Consider the various municipal staff, boards and commissions, citizens, professionals, and non-governmental organizations (NGOs) that can be called upon as partners to support your efforts. If municipal staff will be performing ash tree removals, provide details about their qualifications and experience. Additionally, describe how the municipal tree warden will be involved in the project. Questions that should be answered (as applicable) in this section include:

- Who will coordinate tree removal efforts, including contacting and securing a contractor?
 Littlefield, Leonetti, Gosselin
- Who will coordinate tree planting efforts and ensure proper planting, protection, and maintenance of these trees? <u>Littlefield, Leonetti, Kart, Hamerslough</u>
- Who will manage the distribution of ash wood and, if applicable, the record of its innovative use in the community?
 RCC, Littlefield, Tapper
- Who will assess specific sites within town forests or other municipally owned lands for the impact of potential ash management in these areas? Tapper, Rosovsky
- Who will communicate the project to the public and record information for future budget planning or land use planning efforts? RCC, ACF, Tapper, Arneson

Section 6: Budget				
А	В	С		D
Project Component	Grant Request	Cash	In-Kind/ Donations	Total Project Cost
Personnel (salary and fringe)	\$0	\$0	n/a	
Materials/Supplies	\$3,400	\$4,544	n/a	\$7,944
Equipment (purchases of \$5,000 or more)	\$0	\$635	n/a	\$635
Services	\$11,600	\$2,200	Replanting and wood products	\$13,800
Travel	\$0	\$0	n/a	
Other	\$0	\$0	n/a	
Total	\$15,000	\$7,379	Services	\$22,379

Budget Explanation:
Provide additional
information that will help
clarify your budget
request. For example,
partner contributions or
details on expected
expenditures.

Materials and supplies: Costs include \$2,780 for insecticide at \$10/in dbh for 278" total; \$4840 for 2x2" caliper sugar maples at \$500 each; 16x15-gal red males, river birch, swamp white oak, black walnut at \$240 each; \$324 for 18x25-gal tree watering bags at \$18 each. As a former landscaper, tree warden Leonetti is confident he can leverage existing relationships to reduce estimated replacement tree costs. We will put \$3,400 from the UCF grant towards these costs and will seek to cover the balance with funds from Richmond's Conservation Reserve Fund.

Equipment: \$635 for Wedgle Direct-Inject tree injection system. We do not intend to apply a portion of the UCF grant towards this cost.

Services: An estimate of \$11,600 for removals is based costs from other VT towns and accounts for the fact that many of the trees to be removed will likely require heavier equipment as they are near to town buildings and along fairly busy sections of road. On the other hand, approximately 12 trees slated for removal are quite small. We estimate a conservative \$2,200 for wood processing, with the acknowledgement that this value will depend on anticipated allocation to products and whether or not landowners where public ROW removals occur desire to keep wood. We anticipate compensating furniture makers' and woodworkers' labor in exchange for comparable volumes of ash wood. Replanting will be carried out by tree warden and others on EAB

Note: The Total Grant Request (bottom of Column B) must be at least 50% of Total Project Cost, bottom of column D. Remaining balance of Total Project Cost is Applicant Match and may be divided in any way between cash and in-kind/donations.

Additional Requirements and Attachments

Grant program:
 □ Grant of permission for VT UCF to take and publish photographs of project work; □ At the request of VT UCF, at least one site visit with staff to removal and replanting sites and/or a pre-or post-grant review to support information sharing among communities;
Required attachments for a complete proposal package: https://vtcommunityforestry.org/programs-0/financial-assistance/eab-management-grants
 Completed Risk Assessment Questionnaire; Municipality Insurance Certificate, refer to FPR Insurance Guidance for coverage minimums; Ash inventory or survey results or summary; and Emerald ash borer management plan, draft plan, or documented management strategy.

Changes resulting from delays or complications due to COVID-19:

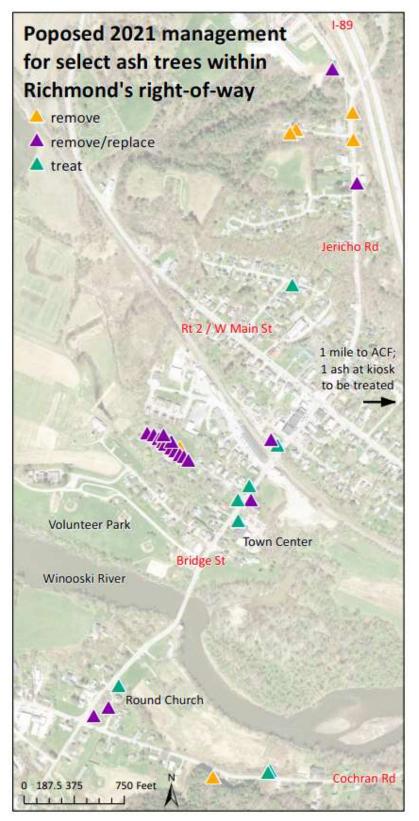
Restrictions put in place by the State of Vermont in response to COVID-19 may alter the proposed timeline of awarded grants. Work start dates and any subsequent deliverable dates in grant agreements are subject to change. It is the responsibility of the municipality to ensure that any work conducted under this grant complies with State of Vermont Executive Orders.

Send completed proposal packet to:

Vermont Department of Forests, Parks and Recreation Urban & Community Forestry Program 1 National Life Drive, Davis 2 Montpelier, VT 05620 jenny.lauer@vermont.gov

PROPOSALS DUE:

electronically, by close of business Friday, October 30th, 2020 by mail, postmarked by Friday, October 30th, 2020





Large, healthy tree on Baker St to be treated.



A dozen small ash planted at the same time that Church St neighborhood was developed will be replaced.



Healthy ash outside Town Center will be treated

Richmond Public Right-of-Way and Public Lands Ash Tree Inventory

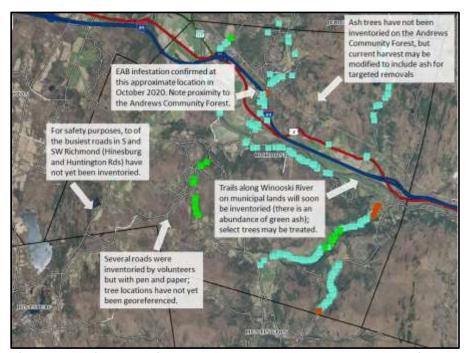
Preliminary Results and Future Plans, October 2020

During spring 2020, seven volunteers received remote training from UCF's Joanne Garton and proceeded to inventory ash on over 20 miles of Richmond's roads using the ArcGIS Collector app. Ash tree density varies widely: some upland areas have 95-125 ash trees per road mile, while other stretches, particularly along fields and pastures have far fewer. Of the 874 trees inventoried, approximately 215 are 12-24" in diameter and 45 exceed 24" in diameter.

In addition to conducting the inventory, several volunteers set and monitored four EAB traps during summer 2020. One non-EAB *Agrilus* beetle was found on the traps. The infestation was subsequently detected by Vermont's Forest Health Specialist Joshua Halman on one of the primary roads into town (not on a trap).

Finally, on the recently-acquired Andrews Community Forest, ash is a modest component of one stand (approximately 13% by basal area). Though relatively small (43 acres), this stand is traversed by multiple trails that town residents enjoy. In light of the recent EAB discovery, potential modifications to a timber harvest currently underway at ACF are being considered by the ACF committee.

As for upcoming inventory priorities, we plan to inventory public trails along the Winooski River, along which there are many green ash. We are also evaluating options for completing the public right-of-way inventory on all roads, which we may pursue through a tree service bidding process if we elect to proceed with fairly widespread ROW removals.



Map from Vermont's Agency of Natural Resources GIS portal shows locations of inventoried ash trees in Richmond. Red markers are trees identified as leaning into the road. Management for teal trees is yet to be determined, except for those in the village center. (That is the case for green trees, as well, which were mistaken labeled).