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IRASBURG COMMON PUBLIC TREE INVENTORY

VERMONT URBAN & COMMUNITY FORESTRY PROGRAM
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vtcommunityforestry.org

PLANT LIVE GROW
VERMONT URBAN & COMMUNITY FORESTRY PROGRAM

THE UNIVERSITY OF VERMONT EXTENSION

FORESTS, PARKS & RECREATION VERMONT
AGENCY OF NATURAL RESOURCES


Clockwise from top left: VT FPR staff inspect the balsam fir; Irasburg community members discuss the eastern white pine; a view of Irasburg Common looking west; discussing the sugar maple at the southwest corner of the Common.

Project Summary & Methodology

The Irasburg Common tree inventory and summary report provides community members in Irasburg with a snapshot of tree species, condition, and maintenance needs of trees in Irasburg Common, the public area bordered by Route 14 to the west, Park Avenue to the south and east, and Rte. 58 to the north. Also inventoried were trees in front of the public library on Park Ave. Information contained in the report and on Irasburg Public Tree Inventory Viewer provides local decision makers and interested parties with a better understanding of the composition, condition, and management needs of public trees in Irasburg Common.

Joanne Garton, Elise Schadler, and Jared Nunery, all from the Vermont Department of Forests, Parks & Recreation (FPR), convened in Irasburg on June 14th, 2021 to speak with five residents of Irasburg concerned with the health and maintenance of trees in public ways and places. Judith Jackson, Dave Lahar, Phillis Mosher, Jeannie Desrocher, and Kevin Ingalls met with FPR staff to discuss the goals of this effort in Irasburg. Joanne, Elise, and Jared inventoried **25 trees** located within the Common and **7 potential tree planting** locations. A list of all data about inventoried trees and vacant sites suitable for tree planting is found in Appendix A at the end of this report. Spatially referenced data can also be viewed and filtered online at the Irasburg Public Tree Inventory Viewer (username: FPRPartner, password: W0rktogether, '0' is a zero) – see access instructions in Appendix B. All data is also visible on the ANR Atlas -- see access instructions in Appendix C.

Information about each inventoried tree was recorded in *Field Maps*, an ESRI data collection app that allows for upload of spatially tagged data to an online ArcGIS account. The GPS in cell-enabled iPads and use of an aerial photo allowed the inventory team to place data points on the map at the location of each tree within approximately 15-foot accuracy. Data recorded for each public tree on Irasburg Common is outlined in **Table 1** below.

Table 1: Data collection parameters for the Irasburg Common public tree inventory

Data Parameters	Description
Site ID	Street name or property name.
Species	Common name. Include in comments box if not listed.
Tree Condition	• *Good:* full canopy (75-100%), no dieback of branches over 2" in diameter, no significant defects, minimal mechanical damage • *Fair:* thinning canopy (50-75%), medium to low new growth, significant mechanical damage, obvious defects/insects/disease, foliage off-color and/or sparse

	● *Poor:* declining (25-50%), visible dead branches over 2" in diameter, significant dieback, severe mechanical damage or decay (over 40% of stem affected) ● *Dead:* no signs of life, bark peeling; scratch test on twigs for signs of life (green)
Diameter (DBH)	Diameter taken at 4.5' above ground in classes of 0-3", 3-6", 6-12", 12-18", 18-24", 24-36", 36-42", 42"+. If on slope, uphill side measured. If abnormal growth, measured above or below growth. If multi-stemmed, each stem's DBH is squared, all squares summed, and the square root taken; indicate "multi-stemmed" in comments box.
Monitor	Yes: any one visible defect is affecting >40% of the tree, the tree poses a hazard to people/infrastructure/cars, the trunk or branches are growing into utility wires, the tree is dead or in poor condition, or the tree is an ash tree showing evidence of woodpecker flecking, blonding, epicormic branching/water sprouts, and/or suspicious exit holes No or empty: no major defects, tree in good or fair condition.
Comments	Notes, elaborate on any existing conditions; max 255 characters.
Presenting tree health characteristics	Deadwood; crown dieback; decay; bark split; cankers; seams; woodpecker holes; exit holes; root damage.
Tree care recommendations	Prune; prune girdling root; stake; remove stake; cable; add mulch; remove mulch.
Collection Date/Time	Date and time.
Collected by	Name or initials of person doing inventory of the tree.
Greenspace Name	If a park or cemetery, indicate the name of the property.
Town	Name of the town.

Summary of Findings

<u>Community Forest Diversity</u>

- Of the 25 public trees inventoried on the Common, there are six different species in five different genera.
- The most common tree genera by number of trees are *Acer* (maple); they comprise 80% of all inventoried trees. See **Figure 1** below.
- The most common species is sugar maple (*Acer saccharum)*; they comprise 72% of all trees on the common. Two Norway maple and two green ash each account for 8% of all inventoried trees. One balsam fir, one eastern white pine, and one northern red oak each account for 4% of all trees on the Common. See **Figure 2** and **Table 2** below.
- Two public ash (*Fraxinus pennsylvanica)* trees were identified in the inventory, one of which is marked with a plaque as a memorial tree.

Figure 1: Tree genera distribution of inventoried trees on Irasburg Common.

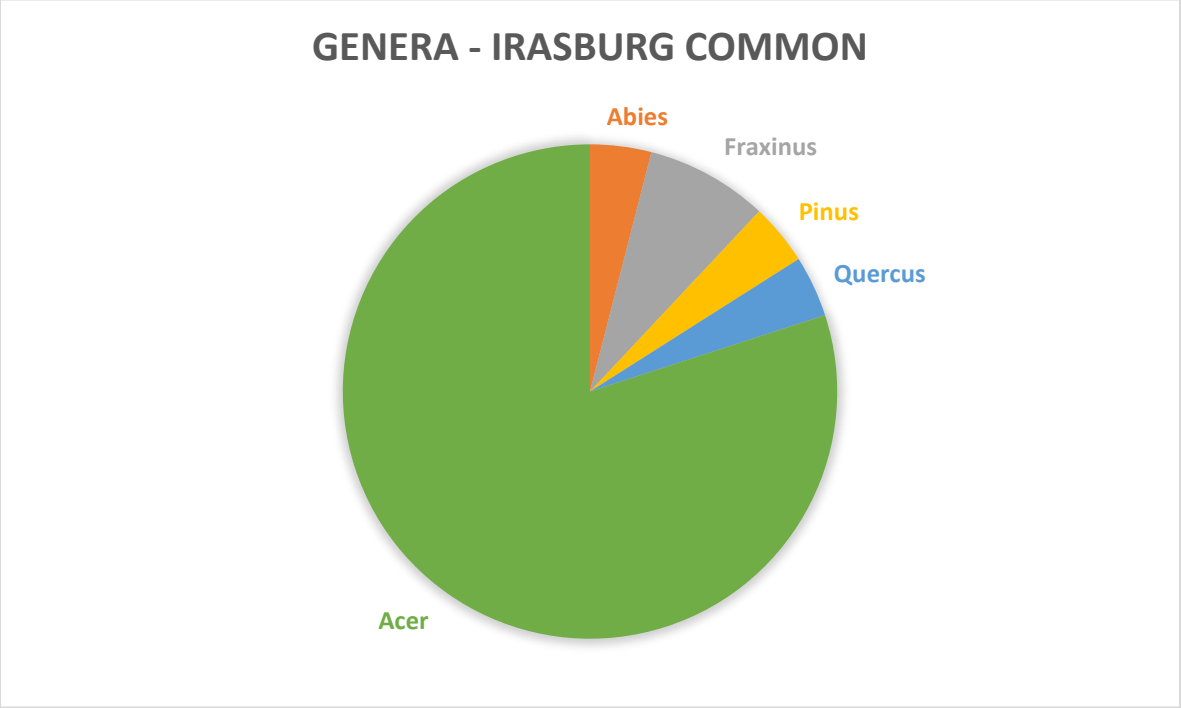


Figure 2: Tree species distribution of inventoried trees on Irasburg Common.

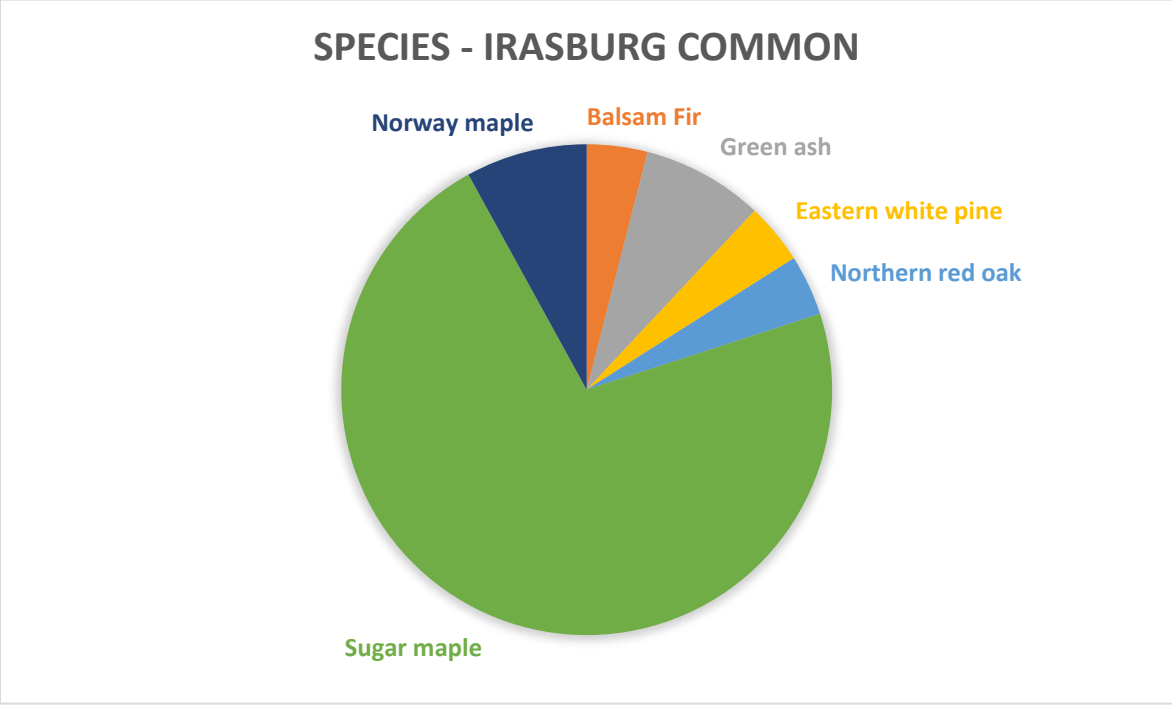


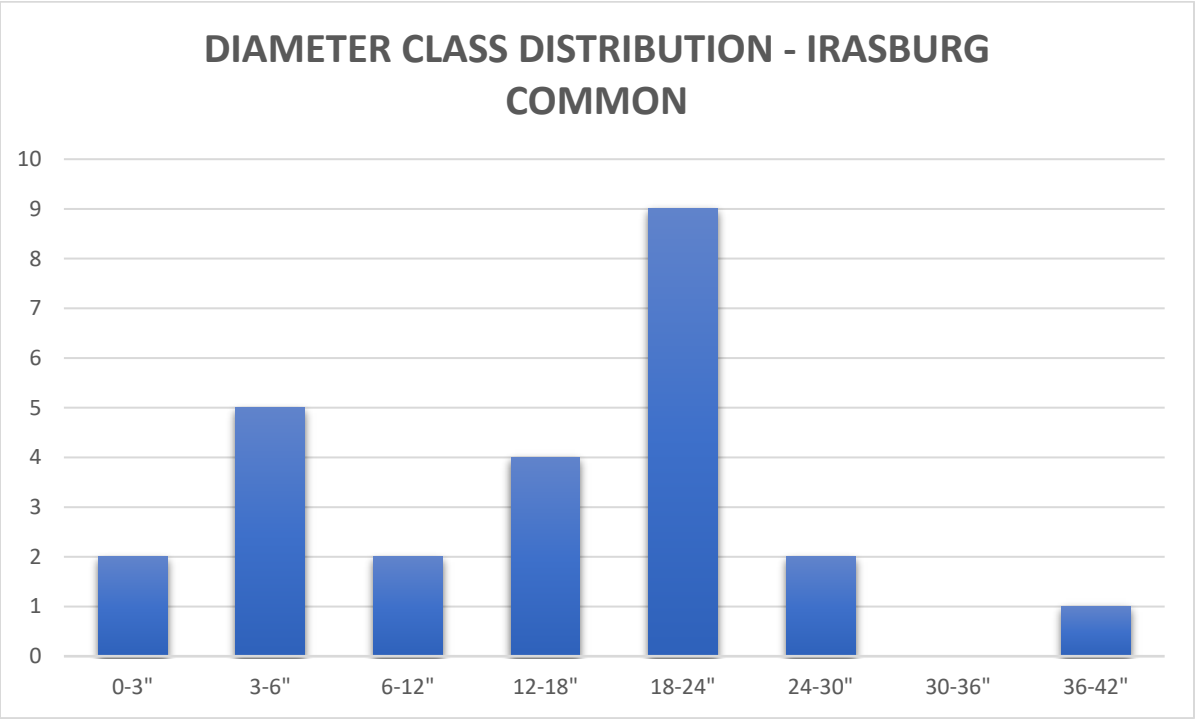
Table 2: Full species list of inventoried trees on Irasburg Common.

Species: common and scientific name	Number of public trees inventoried on Irasburg Common	Percent of total public tree population
sugar maple *(Acer saccharum)*	18	72%
Norway maple (*Acer platanoides)*	2	8%
green ash *(Fraxinus americana)*	2	8%
balsam fir (*Abies balsamea*)	1	4%
eastern white pine (*Pinus strobus*)	2	4%
northern red oak (*Quercus rubra)*	1	4%
	25	100.00%

Community Forest Structure

- The inventoried public trees on Irasburg Common are represented in the following size classes: 0-3" (2), 3-6" (5) 6-12" (2), 12-18" (4), 18-24" (9), 24-30" (2), and 36-42" (1). See **Figure 3** below.
- Almost half of Irasburg Common's public tree population is mature or senescing; 48% (12) of the public trees are over 18" in diameter. Of those 12 trees, five trees were in fair or poor condition. While it is important to note that large, mature, shade trees provide significant environmental and human health benefits, it is equally important to continue to plant trees to eventually replace the trees that are now mature.
- Two trees 0-3" diameter will provide future generations with public tree benefits. However, one of the two 0-3" diameter trees, a sugar maple, is in fair condition, likely because it was planted too deep and exhibits mechanical damage at the base of the trunk.
- The largest public tree inventoried on Irasburg Common was an easter white pine of 36-42" diameter. The tree was in fair condition and exhibited uprooting.

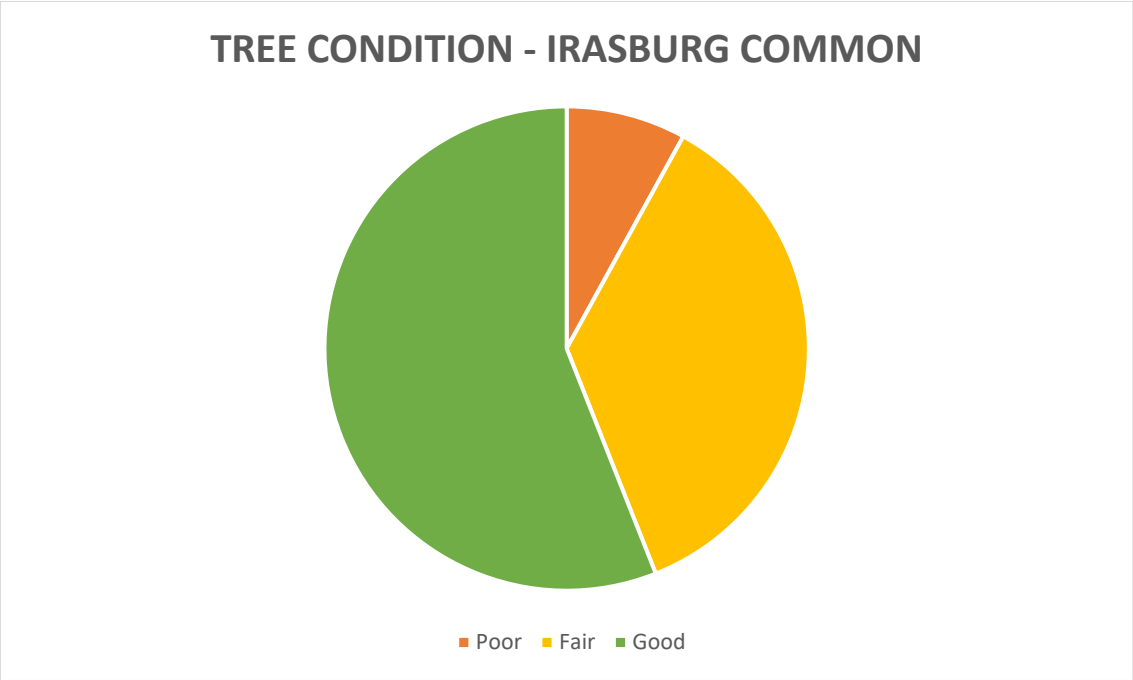
Figure 3: Diameter class distribution of inventoried trees on Irasburg Common



Community Forest Health

- More than half of public trees on Irasburg Common (14, or 56%) were assessed as being in "Good" condition. Nine trees (36%) were considered to be in "Fair" condition; two trees (8%) were in poor condition. See **Figure 4** below.
- Five of the 11 trees in fair or poor health were less than 6" in diameter. Many of these young trees have been damaged by permanent infrastructure such as paths or tables chained to trees, by equipment such as mowers or weedwhackers, or possibly due to improper planting. These trees may be replaced to ensure robust mature trees in the future. Salt loading may also be affected sugar maple health.
- Fifteen (60%) public trees require monitoring. These trees express one or more of the following conditions:
    - The tree has a visible defect affecting >40% of the tree
    - The tree exhibits a significant wound or defect in the trunk
    - The tree poses a risk to public safety/infrastructure/utility lines/vehicles
    - The tree has considerable deadwood in its crown

Figure 4: Tree condition of all inventoried trees on Irasburg Common



Potential Tree Planting Locations

There are seven potential tree planting locations on Irasburg Common identified by an existing tree stump or adequate spacing between existing public trees. Any future tree planting should take into consideration overhead utility lines. These locations are indicated on the maps in Appendix B.

Recommendations

A healthy public tree population is contingent upon proper management, stewardship, and a municipality's commitment to understanding and maintaining its public trees and community forest. A comprehensive public tree inventory is an important piece of a sustainable community tree program. Based on the results of the Irasburg Common public tree inventory, our priority recommendations are:

- Prioritize establishing a regular visual inspection cycle for the 15 public trees that were identified as in need of monitoring. Because there are only 25 trees on the Common, consider monitoring all trees yearly. Some of these trees may need to be removed, pruned, or maintained in other ways, and some may just need a follow-up health assessment.
- All trees on the Common will be better protected from mechanical damage to the trunk by laying a 2" think ring of mulch around the base of the tree. This task can be accomplished by a team of

volunteers. Do not let mulch pile up around the trunk of the tree (known as "volcano mulching"). Any newly planted trees will certainly benefit from mulch as their roots establish.

- Fourteen trees, including 11 sugar maples, need pruning to remove crossing or dead branches. Consider a yearly pruning budget to pay for services from an arborists every 3-5 years.
- Remove and replant the two sugar maples in poor condition.
- Remove chains from the base of trees; ask public works to find another way to secure picnic benches.
- Prepare for the arrival of emerald ash borer (EAB) in Irasburg. Two green ash (*Fraxinus pennsylvanica*) should be either: 1) treated with pesticides by a certified arborist; or 2) removed before they become infested and after EAB is detected within 10 miles of Irasburg. One of the green ash is a memorial tree; consult with the town or the people who planted the tree as to their wishes for this tree. Refer to the VT UCF website's community preparedness page at vtcommunityforestry.org/eab or resources and guidance in the community preparedness process and considerations.
- Consider implementing a tree planting program to increase size class and species diversity. Because of the high number of public trees in the *Acer* (maple) genus, when planting trees in the future, strive for diversification. Other large shade trees, consider the following species:
    - American linden (*Tilia americana)*
    - Pin oak (*Quercus palustris)*
    - Bur oak (*Quercus macrocarpa)*
    - Swamp white oak (*Quercus bicolor)*
    - Northern red oak (*Quercus rubra)*
    - American hornbeam (*Carpinus carolinia)*
    - Northern hackberry (*Celtis occidentalis)*
    - Sugar hackberry (*Celtis laevigata)*
    - American sycamore (*Platanus occidentalis)*
    - London planetree (*Platanus x. acerifolia)*
    - Horse chestnut (*Aesculus x carnea)*
    - European beech (*Fagus sylvatica)*
    - Kentucky coffeetree (*Gymnocladus dioicus)*
    - Tupelo (*Nyssa sylvatica)*
    - Tuliptree (*Liriodendron tulipifera)*

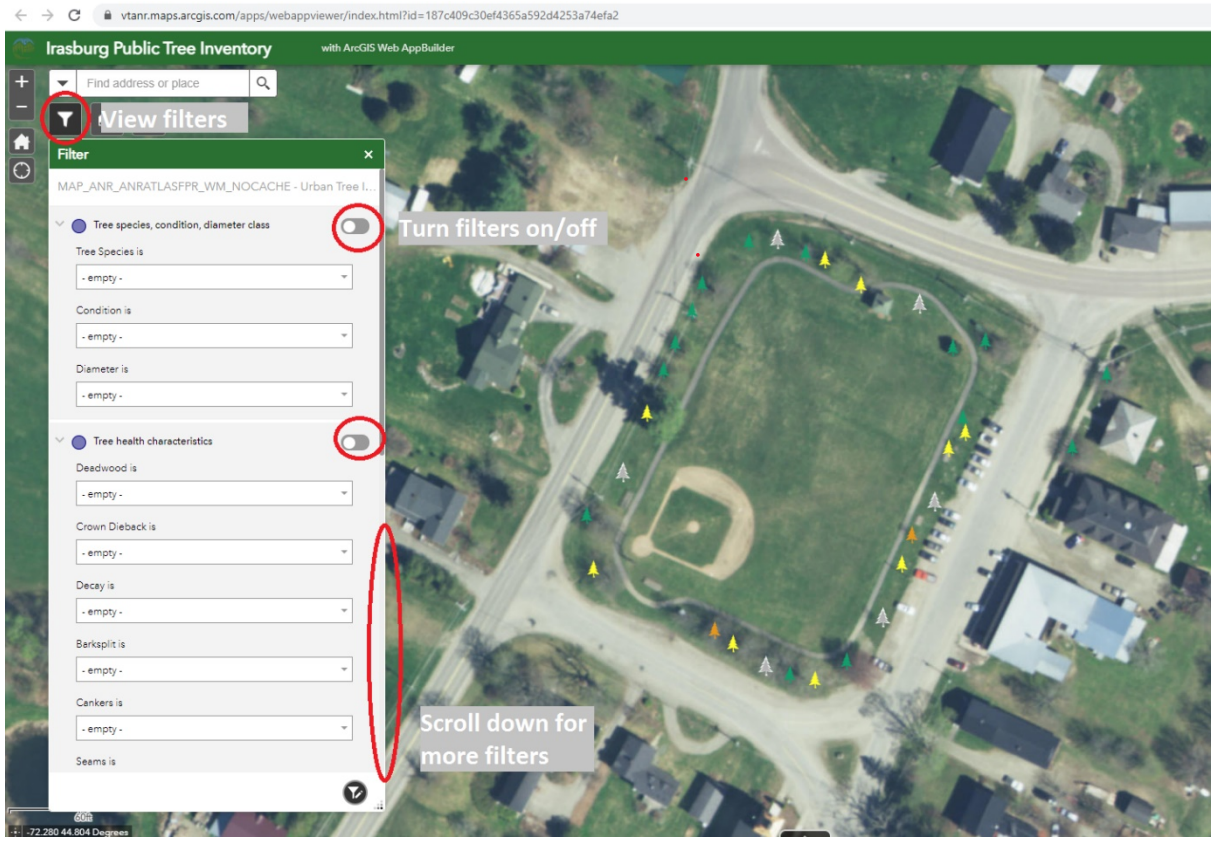
    - Elm (*Ulmus spp.) *several hybrid elms are now available and have proven to be disease-resistant. Consider 'Triumph', 'Accolade', 'Frontier', and 'New Horizon'.*
- Refer to VT UCF's Tree Selection Tool to choose the right tree for the right place and to learn more about salt tolerance, hardiness zones, and preferred site conditions for specific species at vtcommunityforestry.org/resources/tree-care/tree-selection.
- Contact Joanne Garton, Technical Assistance Coordinator for the Vermont Urban & Community Forestry Program at (802) 249-4217 or joanne.garton@vermont.gov.

Appendix A: Irasburg Common Public Tree Inventory Data

Appendix B: Instructions for Accessing Public Tree Data in ANR Atlas

The Irasburg Public Tree Inventory Web Viewer allows anyone with internet access and the username and password listed below to view and filter data on the inventoried trees.

1. Access the map at https://vtanr.maps.arcgis.com/apps/webappviewer/index.html?id=187c409c30ef4365a592d4253a74efa2
2. Log in with the username **FPRPartner** and the password **W0rktogether** (the '0' is a zero).
3. Select any tree icon to view all data regarding that tree, including any accompanying photos. Tree icons are displayed by condition: green = 'Good', yellow = 'Fair', orange = 'Poor', red = 'Dead', and grey = 'Vacant'.
4. Click the filter button in the top left corner to filter data by:
    - tree species, condition, diameter class;
    - tree health characteristics (deadwood, crown dieback, decay, bark split, cankers, seams, woodpecker holes, exit holes, root damage); and/or
    - tree management recommendations (prune, prune girdling roots, stake, remove stake, cable, add mulch, remove mulch).



Appendix C: Instructions for Accessing Public Tree Data in ANR Atlas

Anyone with Internet access can view all of Irasburg's inventoried public trees by using the Vermont Agency of Natural Resources' (ANR) Atlas mapping tool. Follow these simple steps:

1. Set your web browser to http://anr.vermont.gov/maps/nr-atlas (or search "VT ANR Atlas").
2. Zoom in to Irasburg using the +/- scale navigation tool or the "Zoom to Town" function in the dropdown menu in the upper left portion of the map (the tree data layer won't show up unless you are zoomed in to the city-level so that you can see the street names).
3. In the information pane on the left of the screen switch to the "map layers" tab at the bottom.
4. Expand the "Forests, Parks, & Recreation" heading,
5. Click on the box to the left of "Urban Tree Inventory" to load public tree data (it might take a moment for the layer to load).
6. Once you see all the trees on the map, you can zoom in and right-click on any individual tree and click on "What's here"; when you do this, the left information pane will change to give you the basic details for that specific tree.
    - To access all of the information collected on that specific tree, click on the grey text title of the tree in the left pane and a new window will open with the inventory data.
    - In this new window there are three tabs: "Details" and "Attributes" display the same information in different formats and if a photo was taken of the tree, it will show up in the "Attachments" tab.