

Eastern White Pine Management in Massachusetts: The Urban/Rural Interface

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Eastern White Pine in Massachusetts



- EWP comprises 15% of all forest trees >1" dbh (second only to red maple) – FIA 2020

USDA Forest Service. 2020. Forests of Massachusetts, 2019. Resource Update FS-239. Madison, WI: U.S. Department of Agriculture Forest Service, Northern Research Station. 2 p. <https://doi.org/10.2737/FS-RU-239>

Eastern White Pine in Massachusetts



- EWP Abundance in the Managed Landscape
 - Waugh Arboretum at UMass-Amherst: 7%
 - City of Northampton (pop. >28k): 7%
 - City of Springfield (pop. >154k): 1.7%

'Shaggy Dog'



'Sea Urchin'



'Wiggles'



'Pendula'



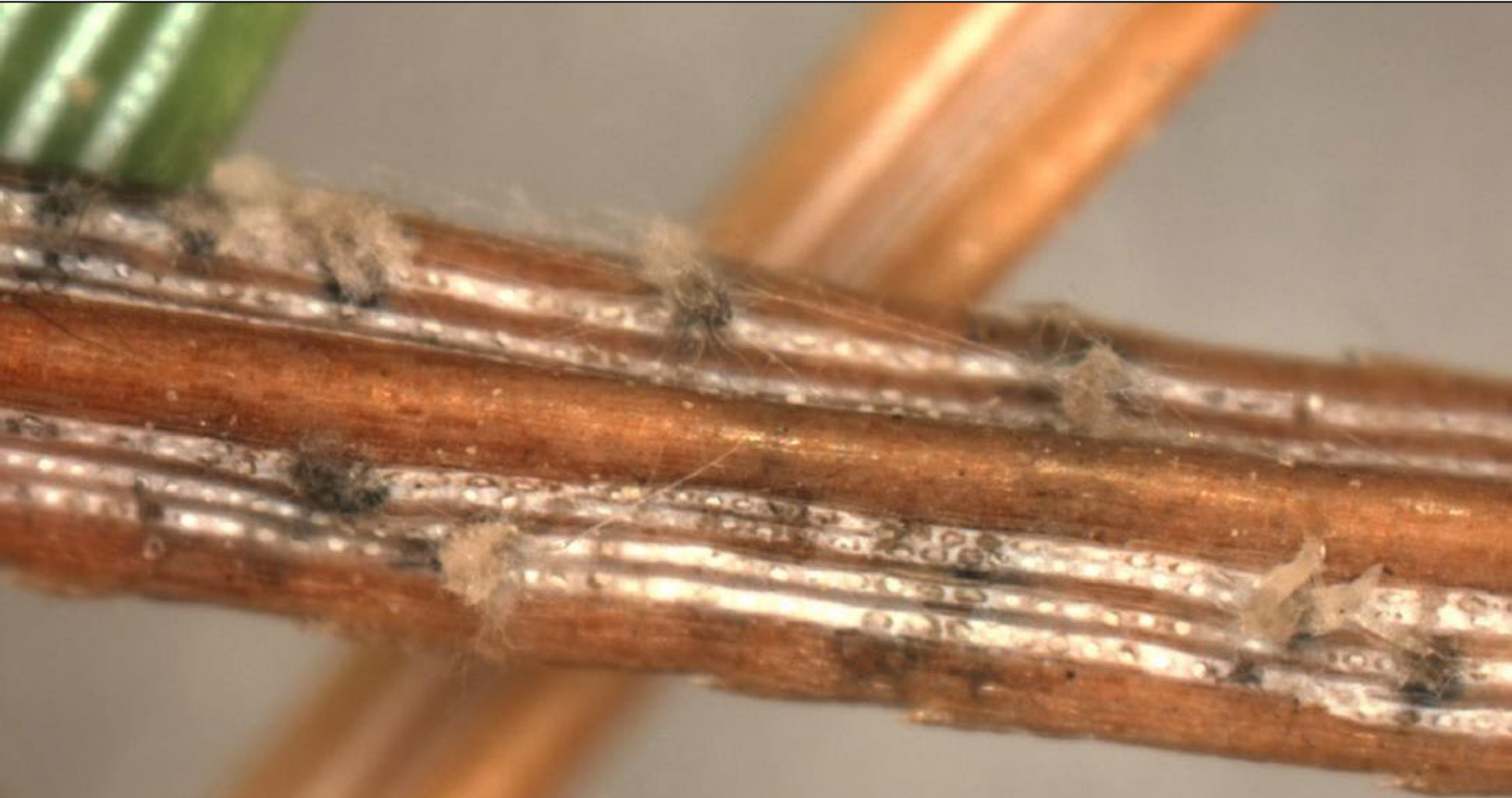
White Pine Needle Damage (WPND)



White Pine Needle Damage (WPND)



White Pine Needle Damage (WPND)



Septoriooides strobis

EWP and Urbanization

RESEARCH ARTICLE

J. For. 116(2):164–177

doi: 10.1093/jofore/fvx004

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urban & community forestry

US Urban Forest Statistics, Values, and Projections

David J. Nowak and Eric J. Greenfield

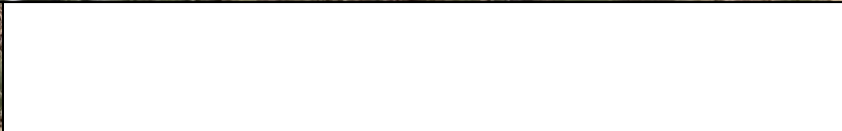
- In 2010: RI, MA and CT ranked in top 5 of all states in percent urban land cover
- From 2000–2010: MA had 2nd highest rate of urban land growth
- But... CT and MA rank 1st and 4th in percent urban tree cover



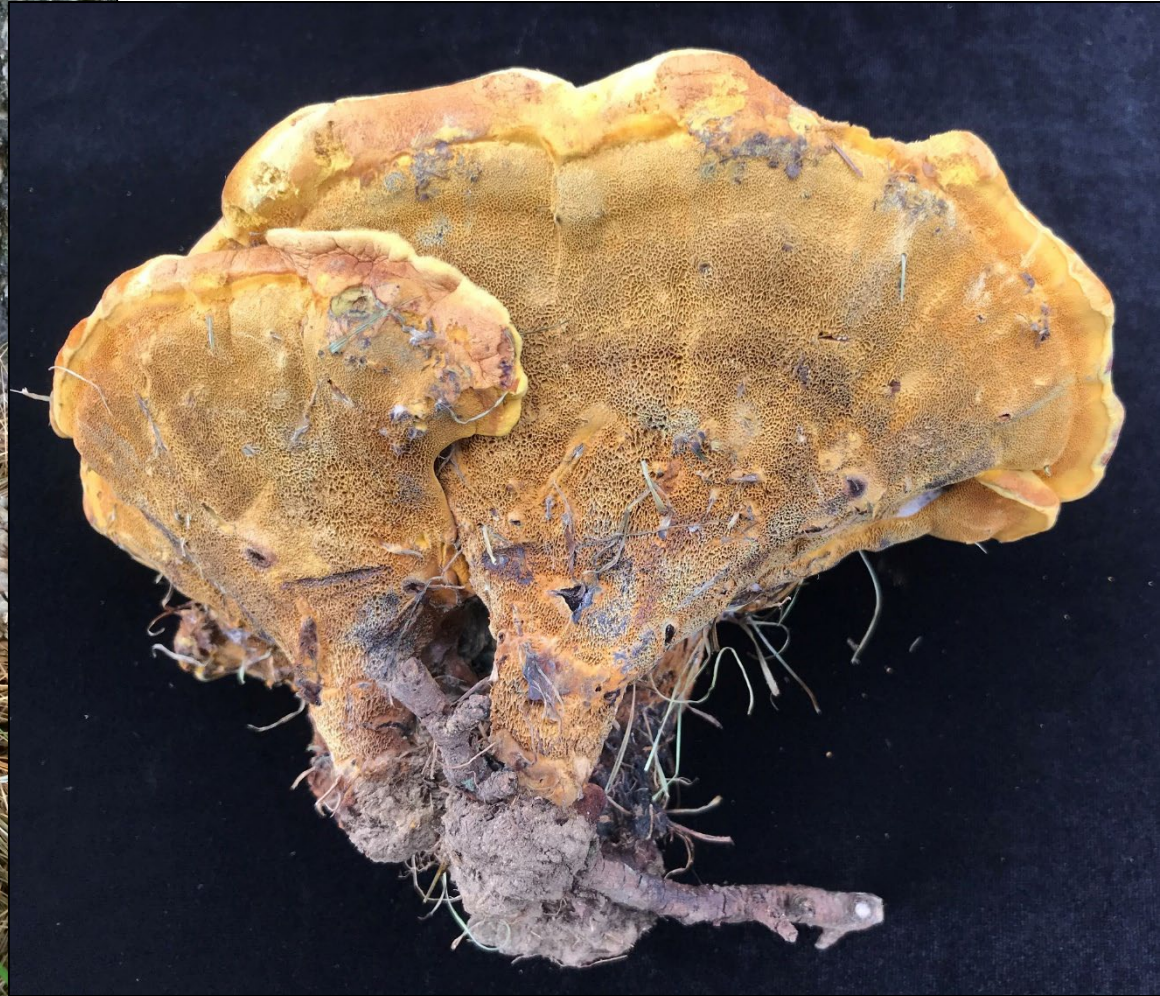
EWP Management in the Landscape

- Storm-related injuries
- Power lines...
- Removal (Fear)





Root and Butt Rot of EWP: *Phaeolus schweinitzii*



COM1

Measuring point:

MP 11

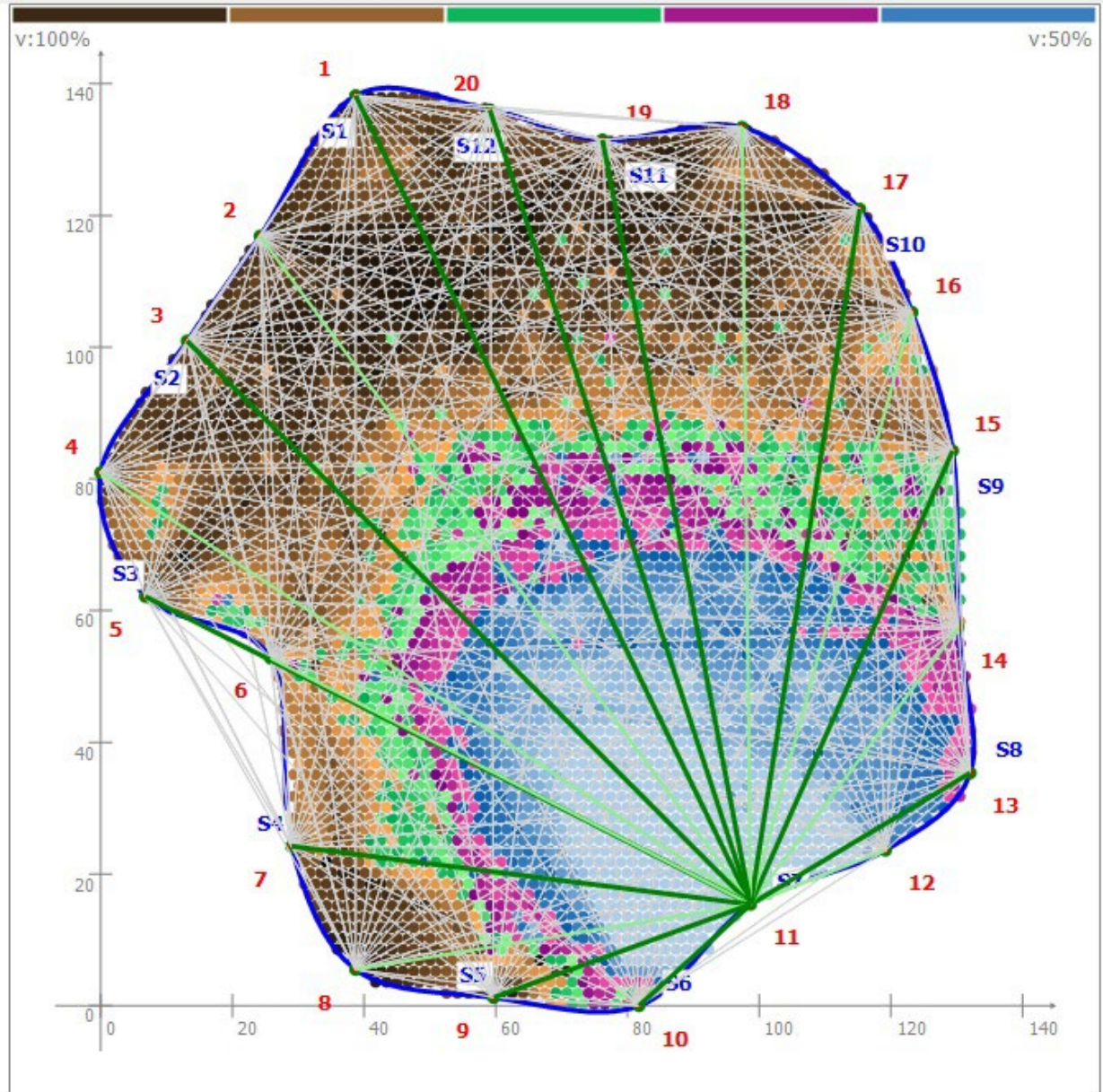
Set MP active

Tap number:

8 / 8

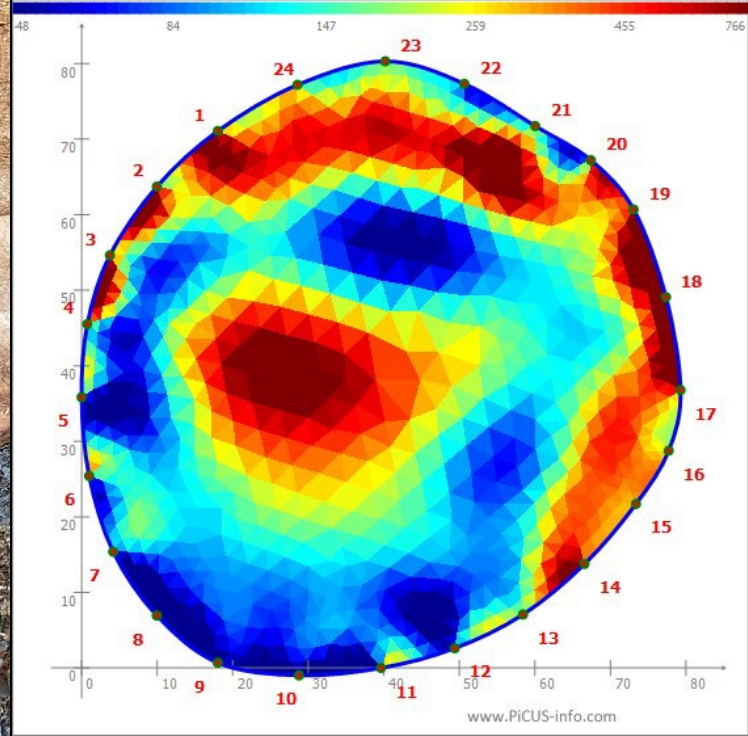
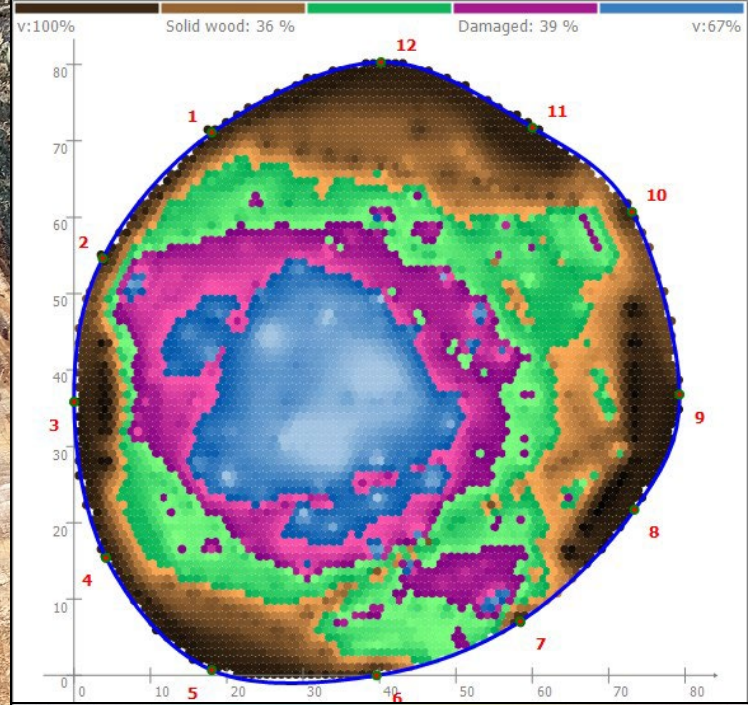
✗

Sound paths | Runtime | Sensors and sensor allocation | Data View

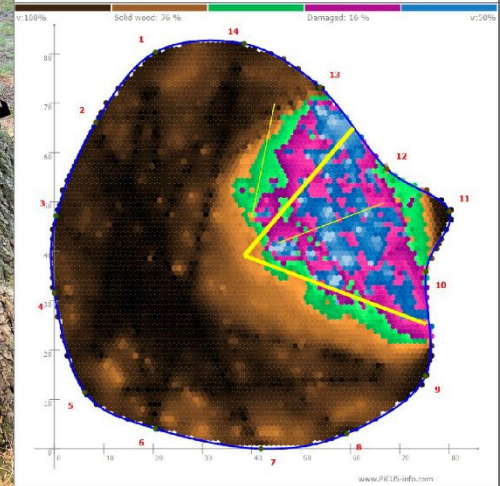
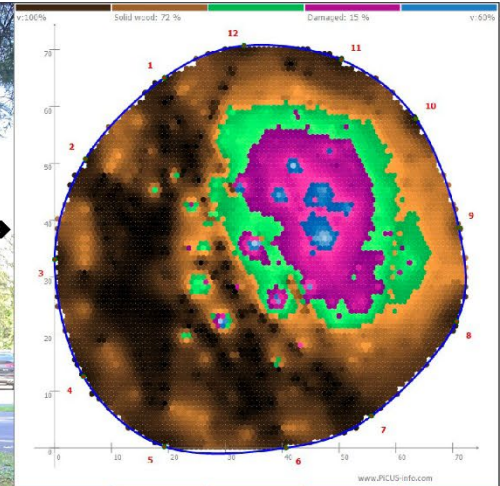


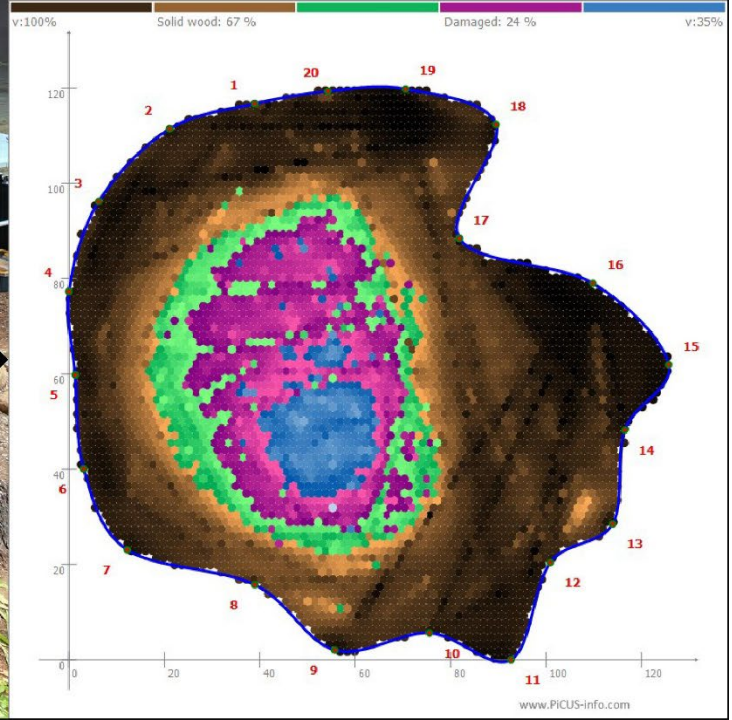
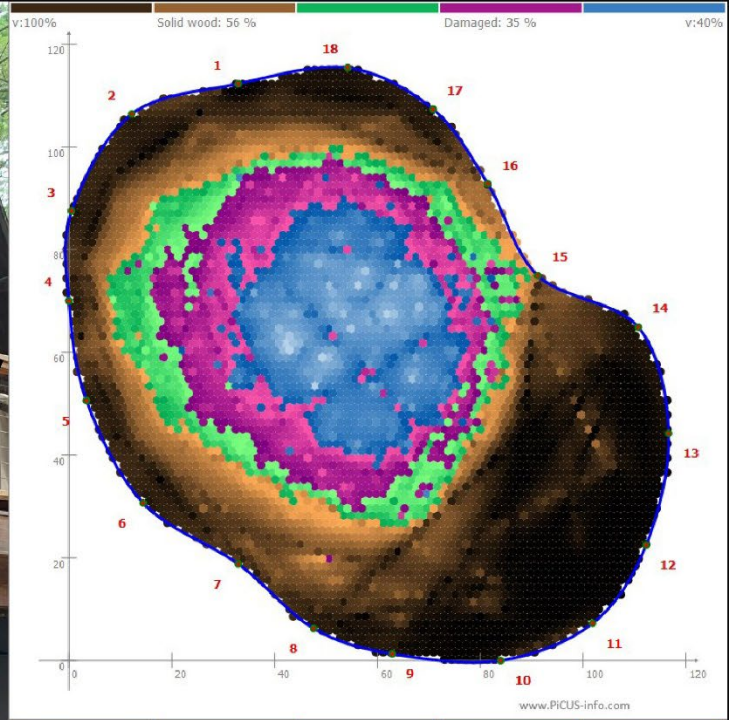
A vertical toolbar on the left side of the software interface. It contains several icons: a satellite icon, a speaker icon, a 3D terrain map icon, a bar chart icon, a network diagram icon, a hand icon, left and right arrow icons, a clock icon, an 'Ok' button, and a close 'X' button.





Sonic Tomography





EWP Management in the Landscape

- N-fertilization
- Increase sunlight and space (thinning or removal of neighboring trees)
- Phosphite applications (bark thickness is an issue; soil drenching may be more efficient)
- Foliar fungicides for smaller/specimen trees
 - Locally systemic and protective in rotation



What Does the Future Hold for Eastern White Pine?

- Long-term management of these chronic health issues (same as eastern hemlock)
- Should we plant EWP?
 - One of only two abundant native conifers
 - Fast growth, tolerates a range of sites and soils
 - Moderately tolerant of pollution
 - Not tolerant of de-icing salts
 - Limb breakage and multi-leader stem failure

Are there similar and viable substitutes for EWP? Not Really





Conclusions

- “Right tree in the right place” →
 - Right *Cultivar*
- Active and better management

Questions?

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