

Restoring Capitol Tree's health requires extensive intervention

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The Capitol Tree looks lush and green today, worthy of gracing the lawn at the nation's seat of government. Not so long ago though, its prospects for continued health and D.C. stardom were in serious jeopardy.

A few years ago, long before the National Architect selected the 55-foot-tall balsam fir for the honor of adorning our nation's Capitol Building, forest health experts detected a serious problem in a section of woods on the Green Mountain National Forest. Several balsam fir candidates in the running for selection as Capitol Tree were heavily infested with harmful insects and in declining health.

The tree tops were thinning, losing needles and drooping, likely signs of insect infestation. Jim White, a retired county forester from southern Vermont, suspected the tree-harming insect in question was balsam woolly adelgid (BWA).

White called in Dennis Souto, a U.S. Forest Service State and Private Forestry Northeastern Area entomologist out of Durham, N.H. Souto helps track and manage forest health issues across the Northeast. He quickly confirmed White's suspicion: the bug was indeed BWA.

"We hadn't had a BWA outbreak there in about 30 years," said Souto. "It caught us completely by surprise."

The BWA infestation was a serious problem. The worsening health issue could have easily knocked it out of the running for the prestigious Capitol decoration. As the infestation took hold, the tree would gradually lose more and more needles before likely dying, possibly in as little as several years.

The BWA is an invasive exotic insect that attacks Fraser and balsam firs. The forest pest, a native of Europe, was first introduced to our continent a little more than 100 years ago. It has since spread and is now distributed across much of eastern and western North America. The BWA is considered a serious forest health threat today.

Souto said he had extensive experience managing forest health issues on a landscape scale, but he had little experience managing the health of high-value trees one-on-one. Since the last BWA outbreak occurred before he started his career, he did not have much working experience with the BWA. He called in another expert, Peter Wild, an arborist out of Massachusetts.

Wild's company did a lot of work protecting hemlock trees in eastern Massachusetts, said Souto. "They came up with a new technology that helped maximize how much of a solution could move up the smaller conductive tissues of conifer trees."

"Because I knew he was successful with the hemlock woolly adelgid, I asked him if he could help me with the BWA issue on balsam fir in Green Mountain National Forest. I asked him to take what he had learned with a different insect and a different tree and try it out on the BWA on the balsam fir."

Souto said Wild was very knowledgeable and generous. The arborist brought his own people and material up to the National Forest and applied a systemic insecticide injection to kill off the BWA without harming the trees. He did not charge the government or the State of Vermont a penny for his work or materials, according to Souto.

Wild returned to the site later on. The second treatment was a nutrient application on the soil beneath the trees themselves. "We did that last year," Souto added.

By this time, the trees were not only dealing with the BWA infestations, they were also dealing with a really heavy cone crop, he said. "It takes a lot of energy for a conifer to produce a heavy cone crop. That means there's much less energy available for the tree to heal itself," he added.

This past February, White returned to the site and took pictures of the tops of the trees. "They didn't look so good," said Souto. "We started getting really worried."

"Months later, though, the 2007 buds on the tree expanded, and lo and behold the top of the crown of the tree, the top five feet or so, started looking much better," he said.

"The untreated trees nearby had dead tops and the treated trees had nice green tops."

Souto said that one of the people on the Capitol Tree committee asked if they should apply a nitrogen treatment. It was later decided a potassium treatment would be a better choice, though. "This was yet another nutrient treatment for the trees," he added.

By the time the National Architect arrived from D.C. to make a selection at the National Forest, he said he was impressed with the quality of the trees.

Souto said the key player in giving this story a happy ending was Peter Wild. "His expertise, judgment and generosity really made a difference in the outcome of this story. It was nice because we could put a private contractor in contact with the state and a National Forest. There were a lot of players in this thing."

"The part I played was only a very small part," said Souto. "It's not because of my expertise in treating trees. I just knew Peter and knew of his expertise in this field and that it might be helpful."

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