

MOUNTAINS

Supervisory forester leaves legacy of preservation



Word from the Smokies
Frances Figart
Columnist



Supervisory Forester Kristine Johnson is retiring this month after more than 30 years in the Smokies. Her career leading the Vegetation Management crew has been devoted to reducing the introduction into the park of exotic plants, insects and diseases. PROVIDED BY JOYE ARDYN DURHAM

Did you know that some plants and trees exist only in the Southern Appalachian Mountains? Because the Smokies has been above sea level and escaped glaciation for millions of years, it has the perfect conditions to support biodiversity — including the best old-growth watersheds in the Eastern U.S.

Preserving diversity in Great Smoky Mountains National Park means controlling invasive plants, managing forest insects and diseases, and restoring native meadows and wetlands. These tasks are carried out by the Vegetation Management crew, which since 1990 has been led by Supervisory Forester Kristine Johnson.

Johnson's first experience in the Smokies was in 1976 when she spent a year in the remote backcountry fir forests doing research for her master's thesis in forestry. Her subject was the effect of the balsam wooly adelgid on Fraser fir. After a stint as a technician with the U.S. Forest Service in Asheville, she started with the National Park Service at Chickamauga–Chattanooga National Military Park and then enjoyed five years as a ranger on the Blue Ridge Parkway stationed at Soco Gap before being hired at GSMNP in 1990 as a forestry technician.

"The work we do includes forest health in all aspects," said Johnson, who is retiring this month after more than 30 years in the Smokies. Her career has been devoted to reducing the introduction into the park of exotic plants, insects, and diseases.

An example of how Vegetation Management preserves the park's native landscape is the treatment and conservation of native hemlocks ailing from hemlock woolly adelgid (HWA) infestation. When the park's hemlock trees began to show signs of lethal infestation of the HWA, a non-native insect that feeds on the sap of hemlock trees, the Vegetation Management team responded by pioneering an aggressive conservation of hemlocks on a forest scale.

The plan was to first protect the trees

with temporary treatment, then work to establish natural predators to keep the adelgid in check. It was the first landscape-wide hemlock conservation mission of its kind.

Motivated by a wide-reaching vision to save the park's hemlocks and their valuable role in the landscape, the veg crew used GPS tracking to monitor every tree treated. With 410 hemlock conservation sites, the group has worked to protect large canopy trees in every major campground, trailhead, and picnic area in the park.

"These efforts have been backed by a Management Directive to Prevent Introduction and Spread of Exotic Plants and by the Superintendent's Compendium on Firewood Regulations," Johnson said. "These two documents codified years of research results, public engagement, and internal debate to require the park to inspect quarry material, soil, and other construction materials and to restrict firewood used in campgrounds to heat-treated wood."

The touchstones of Johnson's leadership are building partnerships with other agencies, organizations, and the public as well as securing competitive funding to create programs to remove invasive plants and manage forest insects

and diseases.

For example, Vegetation Management has worked with educational nonprofit park partner Great Smoky Mountains Association to develop interpretive materials to help visitors realize that by bringing firewood into the park, they could be bringing in the next new pest to destroy the park's forests. GSMA also funds interns for the labor-intensive work of removing and controlling invasives.

"Almost every day of the year, the veg crew is out working to remove exotic plants, treat hemlock and ash trees, restore grassy balds, monitor and detect forest insects and diseases, and help educate the public," Johnson said. "Visitors sometimes remark how miraculous it is that the park doesn't have kudzu, not knowing that exotic plant management began in the 1940s and the work of many across the years brought these views of native plant communities for visitors and functional habitat for wildlife."

Another aspect of the legacy Johnson leaves behind is the impact on GSMNP of ending agricultural cattle leases and instigating the restoration of natural habitats in Cades Cove and Chilogatee Branch. Thanks to her oversight, native

grassland and wetland habitats are thriving in what had been barren, eroded, overgrazed pastures.

"We restored streams that had been channelized to a natural, sustainable meander, reconstructed drained wetlands, and grew native plants from seed collected onsite and planted," she said. "One reward was seeing the first short-eared owls hunting on a winter evening over restored native meadows in Cades Cove."

Johnson has enjoyed introducing hundreds of interns and seasonal employees to the Smokies, providing an organized start to their professional lives, and seeing them engage in the discovery and obvious results of their work.

"We've shared some experiences like the midnight view of a Perseid meteor shower from Mt. Sterling fire tower, the first peregrine falcons to return to Little Duck Hawk Ridge for a successful nest after almost losing them forever to DDT, and a lot of glorious sunsets over the Tennessee Valley from Gregory Bald," she said.

One of the employees she has mentored is Forester Jesse Webster. "The impact she has made on me, and on many others, is hard to put into words," he said. "From what I have seen over the years, Kris is diligent in her commitment to protecting the Smokies that she loves and has always taken the time to help others grow in their career and develop a deeper understanding for this special place and how to better care for it. 'Awesomeness' is an easier way to say it."

Johnson's immediate future includes a plan to volunteer for more of the "fun" aspects of field work and to keep exploring in her beloved Smokies.

Reflecting on her long career, she said: "Not every day in the field is wonderful, but there is always something to notice for the first time and more to learn about the natural world."

Frances Figart is the editor of "Smokies Life" magazine and the Creative Services Director for the 29,000-member Great Smoky Mountains Association, an educational nonprofit partner of Great Smoky Mountains National Park. Learn more at SmokiesInformation.org and reach the author at frances@gsmassoc.org.

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