

Cogongrass Management in South Carolina

by John Brubaker, President SC-EPPC

Her botany student's question, "What's this?" was one that College of Charleston Biology Instructor Dr. Jean Everett was accustomed to. However, the plant brought to her attention during that November, 2006 field trip was not.

It did not fit the keys in her taxonomic references for this area. Persisting, she correctly identified the unknown species as cogongrass (*Imperata cylindrica*). It was not a species anyone was pleased to see added to the Francis Marion National Forest list of vascular flora. In addition to being new to the forest, the record was the first for Charleston County and, alarmingly, extended the known range of the federally-listed noxious weed halfway across the state.

An early sighting of cogongrass in South Carolina was verified by the Department of Plant Industry (DPI) at Clemson University in mid-2003, when a population was reported in Hampton County. Shortly thereafter a coalition of selected agency and utility representatives convened to design a management strategy to eradicate, or at least control the spread of, this notoriously invasive species. There was a directive that cogongrass not be allowed to spread throughout the state. The DPI initiated a management protocol that included surveys, herbicide application to all populations found with landowner permission, and monitoring of all known locations. The Clemson University Department of Forestry and Natural Resources and DPI collaborated on general awareness and educational programs, and discussed establishing a cogongrass task force as an adjunct to the late Dr. Larry Nelson's Census of Invasive Species program. A few relatively small populations found along the state's western border were contained. There may have been uneasiness over cogongrass in some circles, but for three years there were few apparent signs of invasion on an unmanageable scale. However, the robust population discovered in the Francis Marion National Forest shook all complacency. Cogongrass was establishing across South Carolina, and it was unknown how far it had spread or how many acres it had come to dominate.

The Clemson University Department of Forestry and Natural Resources revisited the need for a cogongrass focus organization, and established the South Carolina Cogongrass Task Force, appointing Dr. George Kessler as Task Force Coordinator. Dr. Kessler established a SC cogongrass website, <http://www.clemson.edu/for/cogon.html>, organized a variety of training programs, distributed educational materials, and networked with agencies



and organizations statewide. No organization supports the task force more ardently than the South Carolina Exotic Pest Plant Council (SC-EPPC), which considers it part of the council. SC-EPPC members have volunteered countless hours to task force activities, and a \$30,000 grant was obtained to support task force operations for the year beginning June 1, 2007.

The most significant Task Force achievement has been the South Carolina cogongrass survey of May 15–18, 2008. Nearly 200 volunteers from agencies, institutions, utilities, and classrooms across the state participated in the survey, logging 13,587 miles of travel and 1,060 hours of work observing 1,383 sites, points, and roads. DPI inspected nearly 100 suspected cogongrass stands. Ten new colonies were confirmed and two additional counties, Greenville and Williamsburg, were added to South Carolina's list of infested counties. The task force is rightfully proud of the success of the 2008 venture, and is soliciting participation for the 2009 survey (see http://www.clemson.edu/for/cogon_surveyform.htm).

Dr. Kessler is credited with designing the 2008 *Cogongrass Survey Guide* and survey command structure. DPI Invasive Species Coordinator Steven Compton and The Nature Conservancy Ecologist/SC-EPPC Treasurer Colette DeGarady contributed the content of the comprehensive guide.

The survey was designed to cover the southwestern half of the state, some 26 counties, and include three survey subjects (tropical soda apple, cogongrass, and giant salvinia). A state leader staffed the Clemson based command center throughout the survey. The

area was divided into four regions, each with site coordinators available to receive data and answer questions, and region assignment coordinators who directed survey teams to assigned areas. Once surveys were underway, coordinators rotated between teams under their purview. Surveyors with appropriate taxonomic skills were on call to check suspected specimens upon request, and all positive identifications required verification by DPI personnel.

Many hours were devoted to planning and preparations over the months leading up to the survey. Materials were designed and distributed. Survey candidates were identified and contacted. Regional cogongrass identification courses were developed and conducted.

Interestingly, planners were at times the recipients rather than the providers for significant elements of data captured during the process. Dr. John Nelson, Curator of the University of South Carolina Herbarium in Columbia, informed the group of a 1993 journal article which cited a Hampton County, SC, cogongrass collection in 1987. That reference predates the 2003 report to DPI by 10 years, and is now considered the first record for Hampton Co. and for the state.

Williamsburg County is outside the 2008 Cogongrass Survey Area, just northeast of the region considered most probable to be infested. In early May 2008, Laurie Reid, an entomologist with the SC Forestry Commission and member of the SC-EPPC Board of Directors, was contacted by a resident of Williamsburg County concerning cogongrass that was invading his yard. Ms. Reid and Steve Compton visited the site and verified the plant as cogongrass. Its origin was an expanding stand in full flower that began at the highway and completely blanketed a neighbor's field. The field had once been a horse pasture where, according to the owner, the weed was first noticed over a decade earlier. Attempts to control it had been unsuccessful. With the owner's permission, DPI applied herbicide to the entire stand. The neighbor who reported the infestation spreading onto his property happened to be a contractor who worked on highway right-of-ways. He had attended training sessions in Georgia where he learned about the hazards of cogongrass and how to identify it. Even though not officially a part of the 2008 survey, this site information was included in that data set.

Any preconception that the survey would reveal new, more recently introduced populations in the vicinity of those already known has been dispelled. The new data shows that cogongrass has been in South Carolina far longer than previously recognized. New discoveries are as likely to be large and well established as they are to be small and relatively recent. With the addition of Greenville and Williamsburg Counties, the SC occurrence map shows cogongrass more widespread than a band along our Georgia border. The Francis Marion site looks more like the arc of a circle through the center of the state than an isolated outlier. Established populations of cogongrass are now known to thrive well into the interior of the state.

Chemical management and monitoring of known stands of cogongrass are essential to the control of the federally listed nox-



ious weed. It is critical that DPI continue to promptly spray those stands as they are found. Redoubling cleaning regimes on equipment that may have come in contact with the weed could also be helpful in curtailing its spread in South Carolina.

Ferretting-out existing populations requires that as many people as possible be taught to identify and report cogongrass. The Cogongrass Task Force, in collaboration with Clemson University, South Carolina Forestry Commission, USDA Forest Service, South Carolina Exotic Pest Plant Council, and South Carolina Native Plant Society, is now a proven educator and information resource. The May 2008 Cogongrass Survey in South Carolina was especially successful, and hopefully will be an annual event as long as the threat of cogongrass invasion remains.

*Nelson, John B. 1993. *Significant Collections: South Carolina*. *Castanea* 58(1): 59-63.

John Brubaker, brubakerj@tds.net

