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Cover Photo:

Brian Mattos of Pinnacles National Monument ignites a prescribed fire for tung control at Cumberland Island National Seashore. (Story page 3 and following)

Vegetation Management Course Emphasizes Field Projects

By Susan P. Bratton

For three weeks in April, 1986, 29 park managers from nine regions studied Basic Vegetation Management in a course organized by the NPS/CPSU at the University of Georgia, Athens. The course began in the Great Smokies with lectures on natural and human disturbances, vegetation history, floras and checklists, rare and endangered species and direct human impacts. The class completed field labs on plant collection, monitoring campsite and trail erosion, and evaluating the effects of red spruce decline. Peter White and Kieth Langdon led field trips to Andrews Bald and Cades Cove to investigate historic vegetation management. The visits resulted in vigorous discussion about strategies such as mowing to maintain disturbance dependent rare plant species and fencing to exclude wild hogs from rare plant habitat.

The class then traveled to the University of Georgia for instruction in herbicide use, computer modeling and stress reduction when building roads and trails near native trees and shrubs. A high point of the Georgia sessions was a morning of slide lectures by Darrel Morrison, Dean of the School of Environmental Design. Dean Morrison discussed restoration of native plant communities, particularly prairies, and landscaping with native plants.

The class then moved to Ocmulgee National Monument where they initiated a survey of exotic woody plant species, including kudzu, mimosa, privet and Japanese honeysuckle. In evening discussion, the class evaluated the survey techniques and park needs for exotic plant control, in light of Ocmulgee's role as an archeological site. Traveling on to the coast, the class used boats and canoes to study wetland plant communities in Okefenokee Swamp.

The final week of the course was primarily field labs at Cumberland Island National Seashore. The class sampled grassland vegetation and continued productivity measurements on previously established grazing enclosures in salt marsh. The class then expanded the Seashore's vegetation monitoring system by tagging and sampling twelve 20 x 40 meter plots in live oak forest. For the last three days of the course, the class divided into four teams and tackled current vegetation management problems for the Seashore. One team attempted to remove all the exotic tung trees around Dungeness Historic District, while another team attacked the tung near Stafford Field. The teams not only tested several methods of applying herbicide, including hypo-hatchet, frilling with an ax, stump painting and painting on leaves, but the Stafford team hand grubbed smaller trees with pulaskis and conducted a five acre prescribed burn to test the effectiveness of fire for tung control. The Stafford cost/benefit data indicate that for seedlings and saplings, it is less time consuming and therefore less expensive, to hand pull or dig tung than it is to apply herbicide.

The other two Cumberland teams studied campsite damage and relocation problems. The wilderness team located a potential new campsite near Lake Whitney, while the other team planned a relocation for Stafford Campsite. Both groups established impact monitoring systems and the wilderness team collected soil and vegetation data on an existing back-country site for comparison with information from the proposed new site.

During the course, the class had to complete a

series of readings from the professional vegetation management literature, including a number of articles from scientific journals on vegetation management in National Parks. The course ended with a final exam and each Cumberland project team prepared a presentation on its work and submitted a report for the park superintendent.

Staff from the Georgia NPS/CPSU plan to follow up on the tung projects and will use the class's maps and data to construct a final report for the park. The information from the campsite relocation projects will also be directly incorporated in written management recommendations and establishing a base for future monitoring efforts.

Bratton article continues on page 4.



Using a hypo-hatchet, Tom Warner of Sequoia/Kings Canyon NPs injects herbicide into tung trees.



A cold line is established during the prescribed burn conducted as part of the tung control project.



Painting herbicide on tung plants is the job of this student in the vegetation management course.