

Raising Cane for Wildlife

By Jason Lewis

There are promising efforts by a multitude of partners, including two national wildlife refuges in Missouri and Illinois, to ensure the continued survival of giant cane and its associated wildlife. Giant cane, a North American native bamboo, is a critical and unique component of the bottomland and riparian forest ecosystems. Canebreaks, a monotypic stand of cane, were once a dominant landscape feature. There are historic descriptions of “widespread cane swamps” and “vast cane meadows,” but today canebreaks have been reduced by an estimated 98 percent.

A host of wildlife species exploits the resources provided by canebreaks. The Bachman’s warbler, Swainson’s warbler, swamp rabbit and a multitude of insects rely on this biologically diverse community for all aspects of their life. As a result of land conversion, grazing and fire suppression, canebreaks are now classified as critically endangered plant communities and the subject of increasing restoration efforts.

Cane restoration within the Great Lakes Region was initiated by Cypress Creek National Wildlife Refuge, IL,

in partnership with Southern Illinois University (SIU), one of the leading academic institutions researching cane restoration techniques. Cypress Creek Refuge has hosted several SIU graduate projects exploring cane propagation techniques. One of the principal limitations to cane restoration for land managers has been the lack of information regarding field tested propagation techniques and the availability of affordable planting stock.

Mingo National Wildlife Refuge, MO, and Cypress Creek Refuge coordinated a one-day cane restoration workshop in October 2008 to share cane restoration information and ideas between the academic community and land managers. More than 52 individuals representing 10 separate state, federal and private natural resource agencies and non-government organizations attended. Participants toured giant cane restoration sites managed by the U.S. Fish and Wildlife Service and The Nature Conservancy and gained hands-on experience in cane rhizome collecting and planting.

Greenhouse vs. Open Field

Mingo and Cypress Creek Refuges, Missouri Department of Conservation,

Army Corp of Engineers, SIU and the University of Missouri developed a project to propagate cane rhizomes in a greenhouse for restoration. The goals of the project were to collect rhizomes from sites around southeast Missouri, propagate them in a greenhouse administered by the University of Missouri, and use the propagules to restore cane on state and federal lands. Secondly, the project was designed to evaluate the variation in propagule growth and survival rates in the greenhouse from each collection site.

Approximately 4,000 rhizomes were collected in late February 2009.

About 2,800 were hand-planted in the greenhouse. A subsample of the potted rhizomes was treated with a time-release fertilizer. The remaining rhizomes were either kept in cold storage and planted as bare rhizomes or donated to SIU for a genetics study.

Further study is needed to evaluate the effects of fertilization. In addition, although we know that 75 percent of the greenhouse rhizomes survived, the survival rates of field-planted propagules have yet to be determined. This will be an important factor in evaluating the success or failure of the project. The two refuges planted about eight acres with a mix of greenhouse and field-planted seedlings at about 700-800 seedlings per acre. The commercial value of the cane totaled about \$60,000; we were able to complete the project for less than \$8,000.

There are scores of species whose fate may rely on the outcome of this concerted endeavor. 

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Giant cane rhizomes are being propagated in a greenhouse as part of an effort to ensure the survival of cane and its associated wildlife in Illinois and Missouri. (Jason Lewis/USFWS)