

Soil and Plant Science Division

Technical Soil Services

Southeast Soil Survey Region

Ecological Inventory for Canebrake Conservation

Southeast Regional and Special Projects Office

Purpose

On June 10–11, 2026, a multi-disciplinary team from NRCS and Mainspring Conservation Trust conducted baseline ecological inventories at three flood plain sites in Major Land Resource Area 130B, Southern Blue Ridge, in North Carolina. This work was requested by the NRCS North Carolina State Conservationist and supports a cooperative agreement between NRCS and the Eastern Band of Cherokee Indians (EBCI) to expand and improve giant cane (*Arundinaria gigantea*) habitats, or canebrakes. The team consisted of soil conservationists from NRCS North Carolina, ecologists from the Soil and Plant Science Division (SPSD), and a representative from the Mainspring Conservation Trust.

Giant cane is an emerging conservation focus because canebrake ecosystems occupy only a small fraction of their historical range. The purpose of the ecological inventories at the three sites was to get baseline inventories prior to conservation treatments on the canebrakes. The team identified all the plant species at the sites and measured their size and abundance using various statistical sampling techniques (fig. 1). Follow-up ecological inventories will assess the response of the canebrakes after conservation treatments to help determine the best practices for canebrake restoration.



Figure 1.—Members of the team conducting an ecological inventory using the line-point intercept method in dense riparian flood plain vegetation that includes giant cane.

Background

Giant cane is important both culturally and to the conservation of the land and wildlife where it has historically grown. Giant cane, also known as rivercane, has a long history of providing essential materials for Indigenous cultures, including baskets, weapons, and musical instruments. The rhizomatous roots of giant cane are excellent at stabilizing riverbanks, helping protect valuable agricultural land in mountain valleys. Giant cane also provides critical habitat to the larvae of native pollinators and plays a role in maintaining the viability of all the ecosystems in the area, including the productivity of some agricultural systems.

Through a cooperative agreement with NRCS North Carolina, the EBCI is working to develop regional expertise in giant cane restoration, focusing on propagation of new sites as well as expansion and revitalization of existing canebrakes. There continues to be debate in the canebrake restoration community about how giant cane will respond to management of overstory competition, controlled burning, weeding, grazing, and mowing in canebrakes. The three paired soil and ecological inventories at the sites prior to vegetation treatments will provide a baseline for follow-up assessments to determine the effectiveness of the treatments (fig. 2).



Figure 2.—Photo documentation of a plot corner at one of the sites.

Key Outcomes

The baseline observations the team collected will enable repeated follow-up assessments to track vegetation response to treatments over time. These follow-up assessments will begin post-treatment in 2026 and continue through at least the 2028 growing season. Understanding canebrake responses to management will help landowners, planners, and cane farmers anticipate outcomes from various treatments and will empower them to make informed management decisions, which will benefit the EBCI and help conserve the land and local wildlife.