

# ...in the Mississippi Alluvial Plain

Until the early nineteenth century, canebrakes (dense thickets of cane, right) covered large portions of the river floodplains in the Mississippi Alluvial Plain. Imagine a tall and expansive stand of bamboo, 20 feet high with shoots an inch thick. Although these cane thickets sound like something from China, where you might find a panda, the taller canebrakes most commonly consisted of giant cane (sometimes called river cane), an American relative of Asian bamboo.



Canebrakes began to disappear with the rise of agriculture. Early settlers associated the cane lands with fertility, and they quickly learned to seek out canebrakes as places to establish fields. As farmland, grazing, and development encroached on the canebrakes, fires became much less frequent, and the brakes became thin and invaded by other plant species. Today, ecologists estimate that 98 percent of this unique ecosystem has been lost.

Last April, ANHC land management specialists joined staff from The Nature Conservancy to replant native cane on 10 acres at Benson Creek Natural Area in Monroe County. Restoring stands of river cane will provide habitat for more than 50 species of wildlife. Canebrakes have cultural significance as well. River cane is a part of the cultural fabric of many local native American tribes in the Mississippi River Valley.



The small parcel that started out as Pine City Natural Area (left) in 1988 is now the tenth natural area in the System to exceed 1,000 acres. The site provides vital habitat for the only known population of the federally endangered Red-cockaded Woodpecker in the Mississippi Alluvial Plain of eastern Arkansas. Our efforts to sustain this unique population gained the respect and cooperation of the staff at the Ouachita National Forest to translocate birds from populations in western Arkansas.



The natural area also contains the "Lost Pine of Arkansas." These high-quality natural stands of loblolly pines are "lost" in the sense that they are an isolated population within an area of the state that is now dominated by agricultural fields and bottomland hardwood forests. As a result, these loblolly pines have become genetically distinct from loblolly pines found elsewhere in the United States.

Konecny Grove Natural Area (below top) in the Grand Prairie region of the Mississippi Alluvial Plain is a high-quality example of rare prairie slash woodlands. Today, less than three percent of this habitat type remains in the Grand Prairie. Konecny Grove supports three species of rare plants, including a large population of the rare and fragrant ladies' tresses orchid. It is the only known site in the world for Stern's medlar, a rare shrub in the rose



family. Using federal grant funds and working with the Arkansas Forestry Commission, intensive management strategies were developed to target and eradicate invasive plant species from the entire 22-acre natural area. Contracted workers walked the site, chemically treating



and mechanically removing Japanese honeysuckle and Chinese privet. Commission staff conducted a prescribed burn (left) and followed up with a foliar application of chemical herbicide

on post burn re-sprouts. This spring, the site was toured as part of the Forest Stewardship/Forest Health Program review where commission staff gave a field presentation and pointed out the successful results.



While collaborations with professional colleagues provide important updates for the commission's biodiversity database, our staff's knowledge and expertise are also sought out by a variety of academics across the country to enhance their research work. The commission's lead botanist met graduate students from Austin Peay University (Tennessee) on a tour of the Grand Prairie of eastern Arkansas (above) for a field lecture on the flora, ecology and history of the region. He also worked with researchers from Austin Peay and the University of Tennessee to determine if Arkansas specimens of leatherflower may actually be two distinct species. Additionally, plant identification work this year, at the genetic level, involved collecting leaf tissue of the endangered plant harperella for a researcher with the Illinois Natural History Survey who is working to determine if this plant should be split into three different species.



The Mississippi Alluvial Plain is a land of big rivers. Commission scientists are adding their field expertise to other federal and state agencies, along with university students and researchers, to learn more about two of the major waterways: the White River and the lower Arkansas River (left). Staff studied fish, mussels, birds, plants and other components of large river natural communities. In conjunction with a sand removal proposal, a similar team of scientists, including our aquatic specialist and botanist, conducted a preliminary mussel survey and plant survey on the middle White River. Black sandshell mussels, a tracked species, were observed and a new site for field mint - only the third record of that plant species from Arkansas - was also documented. The data collected with these surveys will provide a glimpse of how high flood waters have affected aquatic life in larger rivers.