

...on Crowley's Ridge

Just as we use the dynamic information in our biodiversity database to identify targets for acquisition in the System of Natural Areas, we also use the data to identify gaps in our knowledge and identify objectives for further research and inventory. One area of focus is Crowley's Ridge - the smallest but perhaps the least studied and understood of all the natural divisions of Arkansas. The formation is generally thought to have originally been an island between the Mississippi and Ohio Rivers that became a long ridge after the rivers changed course millions of years ago. New research is looking at possible seismic activity contributing to the uplift of the ridge as well. These research questions and new theories open up exciting opportunities for discovery. The commission has contracted with Arkansas State University in Jonesboro to study the identified high-quality, remnant natural communities on the ridge. The work has focused on habitats found on sand and gravel ridges, the hardwood forests in the deep ravines (above right), and forested seepage wetlands along streams. Not only has this work given us new rare plant records, we are getting a more complete picture of the ecology of the region.



Chalk Bluff Natural Area is on the north end of the Arkansas portion of Crowley's Ridge. Despite its name, Chalk Bluff has no chalk deposits. Instead, its soils are from wind-blown materials made of light-colored clays, silts, and sands. If exposed, such soils are subject to severe erosion, creating steep slopes and deep ravines. The natural area includes a portion of the Civil War battlefield from the Battle of Chalk Bluff. A special historical marker (below) was approved for the site by the Arkansas Civil War Sesquicentennial Commission. The military advantage of the bluff and the relationship of Arkansas's ecology to events in the Civil War were also the focus of the summer workshops and lesson plans presented to 110 educators around the state as part of the Department



of Arkansas Heritage's 2011 Heritage Month focus on the Civil War. The "Nature of the Civil War in Arkansas" lesson plans are available on the DAH's new Internet education portal, the Arkansas History Hub (www.arhistoryhub.com).



Wittsburg Natural Area supports several examples of the unique character of Crowley's Ridge. The streams draining the slopes have cut deeply into the ridge, revealing the full thickness of the loess and exposing the gravels, sands, and clays below. The gravels are often studded with fossils and semiprecious stones. Petrified wood is found washed into the streams or on the hillsides. Sugar maple, tulip trees, and cucumber magnolia trees, uncommon in much of Arkansas, are well distributed in the natural area.