

KENTUCKY URBAN AND COMMUNITY FORESTRY GRANT PROGRAM

Lower Howard's Creek as Clark County's Community Forest

LHC encompasses a 291-acre area within the Lower Howard's Creek watershed. It is a limestone gorge located in southern Clark County. The creek is a third order tributary of the Kentucky River, with its headwaters beginning in south Winchester, and a watershed encompassing an area of 10,800 acres. Most of LHC is also a dedicated state nature preserve which allows the Kentucky State Nature Preserves Commission to serve in an advisory role in the management of LHC. This property was acquired to preserve the site as a natural area and to preserve and restore the cultural resources, two of which are listed in the National Register of Historic Places. When staffing and funding permit, LHC offers educational programs and provides opportunities for passive recreation such as hiking.

Lower Howard's Creek is a unique area due to its geology, biodiversity and cultural resources. The area is a very deep limestone gorge with steep slopes and cliffs that are characteristic of the Kentucky River and its tributary ravines within the Bluegrass physiographic region. The area was cleared for milling and other water focused industries in the late 18th century and is now completely forested with a mature second growth, most of which dates from the late 19th century. Although the original forest community has ceased to exist, the area contains a rich assemblage of native plant species, including some state and federally listed species. The Kentucky State Nature Preserves Commission's Biological Conservation Database (KSNPC 2001) includes references to water stitchwort, running buffalo clover, nodding rattlesnake root, white walnut (*Juglans cinerea*) and *Viburnum molle*, or Missouri Arrow-wood. Four mature individual white walnuts have been documented within the Preserve boundaries. There is much concern for this tree species because a canker impairs its ability to produce seed. Canker resistant trees are noteworthy. Some of the trees at LHC were producing seeds when the initial plant survey was done in 2001. Further inventory could locate more of these trees and determine if they are still canker free. The LHC population of Missouri arrow-wood is significant. This species is a common plant in many areas of the Preserve. While no precise count of the number of individuals has been attempted, it appears that there are hundreds

of plants throughout the Preserve. They occur in practically all habitats and seedlings are in evidence. This population may be the largest and most vigorous population of this species anywhere. Timothy Weckman has recently completed a study of *Viburnum* in Kentucky (Weckman 1999) and has studied many populations of Missouri arrow-wood. He has never seen a population of this species where seedlings were in evidence. Horticulturalists from Bernheim Arboretum in Clermont, Ky. obtained a permit from the KSNPC in fall of 2004 to collect cuttings from the viburnums for propagation in their nursery. During this collection trip, numerous seedlings were documented, but few fruits were in evidence. This spring, staff at LHC observed many new seedlings, and several plants were documented while blooming. A vigorous program of honeysuckle control is ongoing where there are the greatest concentrations of the viburnums, and the promise of a healthy, reproducing population is heartening!

The spring wildflower display is especially noteworthy. The inaccessibility of parts of the Preserve kept grazing and other disturbances at a low level during much of its use as an industrial and agricultural site. The month of April is a riot of color throughout the Preserve, and most of the public hikes are held during April and May. As honeysuckle is eliminated in certain areas, the wildflowers are quick to return in abundance.

The Kentucky State Nature Preserves Commission indicates that this preserve has high botanical value, but also has some significant problems with invasive plant species. Additionally, two rare bat species have been documented at LHC, the gray bat and evening bat. This is the first documentation of the evening bat in Clark County. LHC is also significant as a critical area within the larger Kentucky River Palisades landscape which several agencies and organizations are working together to protect. The cultural resources include 18th century stone buildings that were part of the first industrial complex west of the Allegheny Mountains. Remnants of a mill dam, a mill race, quarries and small distilleries are found in the narrow gorge while the steep hillsides contain the landscape produced by an extensive quarrying system. Students of stone fences believe the area contains a greater variety of stone fence types and construction techniques than any place in the Bluegrass Region. These buildings were constructed using locally quarried limestone by skilled stone masons, and are unique examples of early European settlement.

It is anticipated that public visitation to LHC will increase over time. The construction of facilities and visitation by more people could add stresses to the natural systems of the site. An inventory of the biological resources is essential to identify management concerns and ensure protection of the native flora and fauna. The successful operation and development of the preserve will be greatly aided by a more thorough understanding of the biological components of the site. While a basic biological survey was conducted as a requirement of the Preserve's dedication as a state nature preserve, a more comprehensive biological inventory leads to better management strategies, and such an inventory has just been completed by Bill Crankshaw, retired forest ecologist. The survey describes five ecological communities within the LHC Preserve: Calcareous sub-xeric forest, calcareous mesophytic forest, cliffs, riparian corridor and terrace forest, and Bluegrass early successional forest. Dr. Crankshaw documented 1375 different plant species within the boundaries of the Preserve, and is a tireless worker, volunteering his time to develop trails, add interest to the public hikes with his vast knowledge of the forest, and helping LHC staff with exotic plant eradication.

Transportation Enhancement Act (TEA-21) grants have been successfully procured to begin the archaeological and architectural research of the cultural resources within the Lower Howard's Creek Valley. A long-term management master plan is being developed by the firm Parsons, Brinkerhoff, Quade and Douglas with this same funding. The Preserve is currently used on an irregular basis by local public and private school students as a field trip destination for education and service projects. Four central Kentucky universities and colleges are currently utilizing the preserve as a field school facility and site for numerous post-graduate theses in a variety of academic disciplines. Funding for education is at a critically low level. Professional teaching staff volunteers time to conduct classes and programs at the Preserve, even though there is currently only a small trailer available for housing teaching aids and tools for control of invasive plant species. Two PhD professors volunteer at the Preserve to train other volunteers to help with plant identification and control of exotic plant species. The Friends of Lower Howard's Creek sponsors environmental and heritage education programs, training workshops for trail guides, trail and rock fence reconstruction, and has committees researching the history of the LHC valley.

Volunteers are always welcome to join the Friends' group and learn more about the ecology of the forest at Lower Howard's Creek. A recent grant from the USDA Division of Forestry helped to develop and maintain this web site, and funding was awarded to help underwrite the costs of volunteer training as well as develop an environmental education workbook to be used by students who visit LHC.