

In the Spotlight: *Coastal Plain Forested Acid Seep & the Blood River*

by Brian Yahn, Vegetation Ecologist, Summer 2010

In Kentucky, the Coastal Plain Forested Acid Seep is one of the state's most unique and rare natural communities (KSNPC-listed as state endangered), with nearly all remaining examples of this type found along the Blood River in Calloway County. Outside of Kentucky, this community is only known to occur from a few locations in western Tennessee and southern Illinois. Limited in range and occurring under specific geology, soils and hydrology, this community is listed by NatureServe (the national authority on the status of rare species and natural communities) as globally imperiled (=G2G3). NatureServe describes threats to this community as "... threatened by siltation resulting from upslope timber removal. Adjacent upland development would alter the supply of groundwater and would impact the distinctive hydrology of this community."

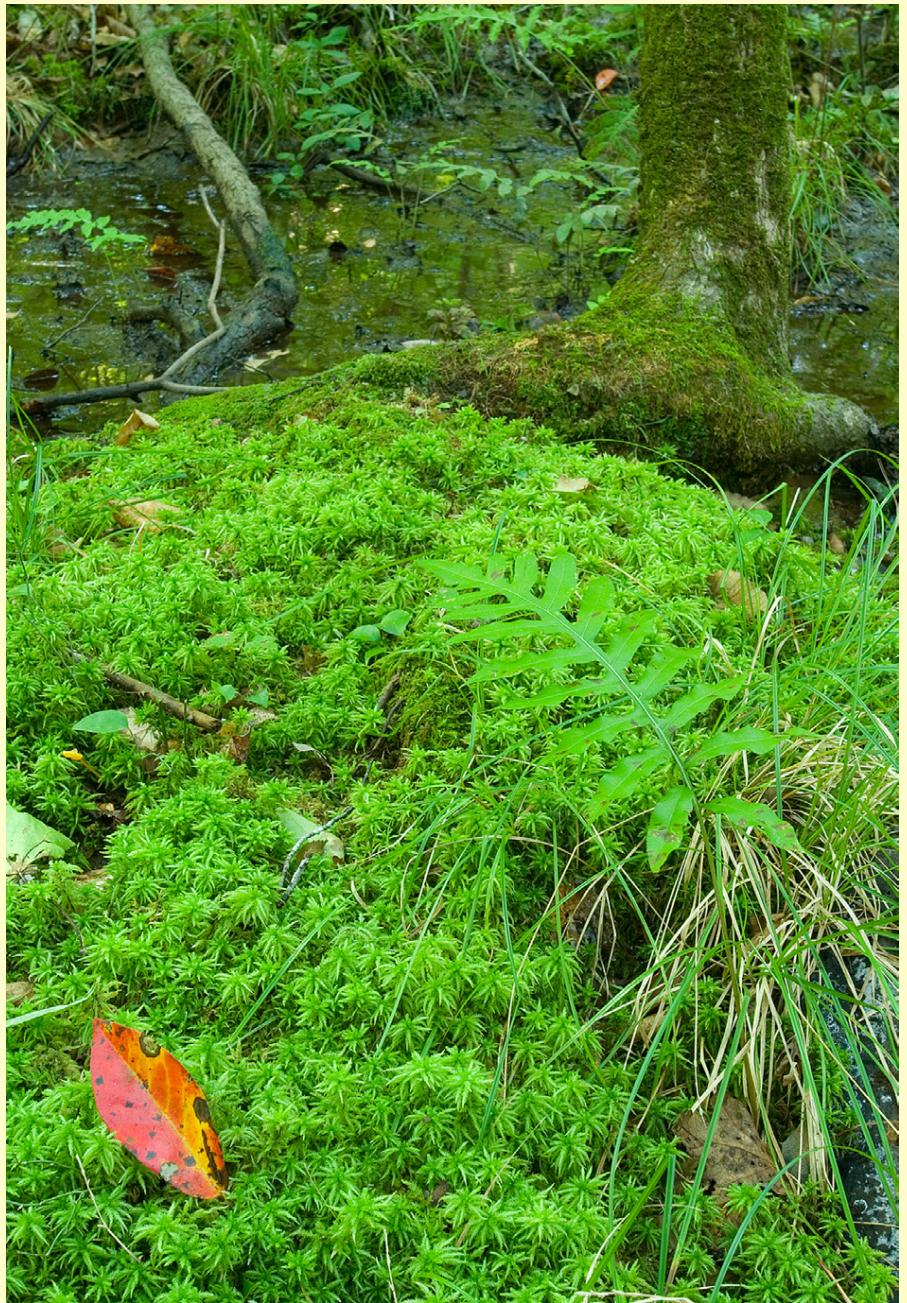
The Coastal Plain Forested Acid Seep is an unusual type of wetland community that has saturated soils often year-round, with characteristic beds of ferns and sphagnum moss. Along the hills of the Blood River corridor, this community is found near the base of dry, hardwood-dominated slopes where water continually percolates (or seeps) through sands and gravels. Occurring mostly on flat to gentle slopes, the seeps are poorly drained with mucky, acidic soils. They occur just above more extensive wet to mesic bottomland hardwood forests that lie along the Blood River. The canopy is nearly closed and includes typical wetland trees like water tupelo, blackgum, sweetgum and red maple. Subcanopy species include green ash, musclewood, red maple and swamp chestnut oak. The shrub layer includes distinctive wetland species like Piedmont azalea, possumhaw, Virginia sweetspire and winterberry. The ground layer is also distinctive with healthy mats of netted chain fern, prickly bog sedge, weak stellate sedge, lizard's tail, cinnamon fern, royal fern and often carpets of sphagnum moss. Many of these species in the shrub and ground layer are rare or infrequent in Kentucky, usually restricted to high-quality wetlands.

This matrix of wetlands along the Blood River creates environments suitable for unique wetland-dependent species found nowhere else in Kentucky, and a few found nowhere else in the world. Rare species known to occur along the Blood River (but not highlighted below) include the gray bat, central mudminnow, western mud snake, three lined salamander, threadleaf mock bishop-weed, sweetscent ladies' tresses and Nuttall's oak. From the endemic populations of the Blood River crayfish (found nowhere else on earth) to large nesting populations of great blue herons, the area's seeps, swamps, sloughs and streambeds are unmatched

in Kentucky, supporting one of the most biologically rich areas in the state.

The Blood River is far from pristine. With hydrologic changes from the creation of Kentucky Lake, ditching projects throughout the upper Blood River and continual logging activities, most areas have been altered from their natural state. KSNPC is working to protect the most sensitive, least-disturbed areas left in the Blood River system, focusing on the seeps that have high densities of rare species and the lowland forests and swamps along the Blood River that buffer habitat for the Blood River crayfish and other unique aquatic species.

[Link to Blood River Seeps State Nature Preserve](#)



Sphagnum moss and netted chain fern are characteristic plants of the Coastal Plain Forested Acid Seep community ~ photo by Ellis Lauder milk, KSNPC

KET VIDEO LINK:

Blood River Seeps State Nature Preserve



Blood River Crayfish *Orconectes burri*

KSNPC STATUS: Endangered

USFWS STATUS: None

GENERAL DESCRIPTION: A boldly marked crayfish up to 2.5 inches total length.

HABITAT: Small creeks to small rivers in woody debris or undercut banks.

RANGE: Blood River watershed in western Kentucky.

REASON FOR PROTECTION STATUS: Although this species is not in imminent risk of extinction, a highly restricted distribution places it at-risk from poor land use management or habitat degradation from stream alteration.



Photo by Ryan Evans, KSNPC

Hoary Azalea *Rhododendron canescens*

KSNPC STATUS: Endangered

USFWS STATUS: None

GENERAL DESCRIPTION: This shrub is in the heath family (Ericaceae). The flowers are usually pink, sometimes white and they appear before the leaves in the early spring.

HABITAT: Moist to wet woods of the coastal plain.

FLOWERING PERIOD: Early March to mid-May.

RANGE: Southeastern United States.

REASON FOR PROTECTION STATUS: In Kentucky, Blood River is the only place where this shrub is found. The habitat for hoary azalea is declining due to stream/wetland alteration, vegetation removal, and exotic pest plants.



Photo by Dennis Horn

Osmunda Borer Moth *Papaipema speciosissima*

KSNPC STATUS: Endangered

USFWS STATUS: None

GENERAL DESCRIPTION: Adult moths with orange and light brown forewings and cream to light orange-brown hindwings. Forewings have a few small white spots typical of Papaipema species.

HABITAT: Seeps supporting the foodplant(s).

LARVAL FOODPLANT: Osmunda ferns, especially cinnamon fern and royal fern.

FLIGHT SEASON: Late September through the middle of October.

RANGE: Eastern North America from Ontario to Florida.



Photo by Ellis Laudermilk, KSNPC

Accounts written by Ryan Evans, Deborah White and Ellis Laudermilk, respectively.

