Southern Illinois' exposed rock cliffs are one of Illinois' rarest habitats.

The Shawnee Hills Cliff Communities

Cliff communities are among the most variable and harsh of the biotic communities in southern Illinois.

A cliff community is characterized as a natural exposure of bedrock along with the associated variety of soils, rock debris and plants and animals that inhabit it. Characteristics of the associated community are determined by composition of the exposed rock, rainfall, elevation and direction of exposure. In these communities, the soil is thin or absent, the parent material is at or near the surface, and they are maintained at an early stage of succession by the substrate or by natural disturbance.

The Shawnee National Forest is the primary caretaker for the high-quality examples of Shawnee Hills cliff communities remaining in Illinois. The Shawnee Hills region is an area of unglaciated uplands with rugged topography, with many escarpments, bluffs and ravines, and it is restricted to southern Illinois, southwestern Indiana and western Kentucky. In Illinois, the Shawnee Hills are located in the far southern portion of the state where they form a band from Fountain Bluff along the Mississippi River on the west to the mouth of the Wabash River on the east and south to the edge of the Ohio River lowlands.

(Photo courtesy Joe McFarland.)

French's shootingstar (*Dodecatheon frenchii*)

(Photo courtesy Michael Jeffords.)

There are seven biotic communities on, or in close association with, the cliffs in this region—dry limestone cliffs, moist limestone cliffs, dry sandstone cliffs, moist sandstone cliffs, sandstone overhangs, limestone talus and sandstone talus.

These rare communities, and the associated sensitive species, face several significant threats, including: physical damage by human use (mining, quarrying, logging, rock climbing); human use of sandstone overhangs and rock houses; increased rate of erosion; a decrease in moisture regime, or increased drying and shading of microhabitats; herbicide use in the vicinity; and changes upstream or upslope that could change water-flow patterns.

One of the most successful conservation and protection programs has been the designation of Special Use Areas within the National Forest system in which certain activities, such as logging, off-road vehicle recreation, or other potentially destructive activities are restricted. In Illinois this includes such well-known sites as Bell Smith Springs Ecological Area, La Rue-Pine Hills/Otter Pond Research Natural Area, Little Grand Canyon/Horseshoe Bluff Ecological Area and Lusk Creek Canyon Ecological Area.

—**Steven R. Hill**, Illinois Natural History Survey, Champaign

Nineteen plants designated as endangered or threatened in Illinois grow on, or in close association with, cliffs in the Shawnee Hills: Bradley's spleenwort, black-stem spleenwort, American barberry, Ofer hollow reedgrass, Bellow's-beak sedge, black-edged sedge, red honeysuckle, yellow honeysuckle, short-sepaled beardtongue, shortleaf pine, southern sanicula, early saxifrage, ovate catchfly, filmy fern, French's shootingstar, rock clubmoss, rock chestnut oak, American orpine and small flower-of-an-hour. At least two plant species formerly known on the cliffs have disappeared from the state in recent years: starry cleft phlox and barren strawberry.