

Cleveland Barrens Natural Area Preserve

1288 acres - Russell County, Virginia

The Site: Along the Clinch River in southwestern Virginia, Cleveland Barrens Natural Area Preserve contains a series of significant dolomite barrens, thirteen rare plant species, and three rare insect species. The site lies within the Clinch River Valley, one of the top six biodiversity hotspots in the United States. The preserve was acquired with funds from the 1992 Virginia Parks and Natural Areas Bond with assistance from The Nature Conservancy.

Natural History: One of the most unique features of the preserve is a globally rare community type known as dolomite barrens. Dolomite bedrock contributes high levels of calcium and magnesium to the soils. At the Cleveland Barrens Natural Area Preserve, six significant barrens occur on steep southwest-facing slopes. One of these is the largest such barren in Virginia, covering seven acres. These unusual openings in the surrounding forest canopy are characterized by thin, rocky soils and dominated by native warm season grasses such as Indian grass (*Sorghastrum nutans*), big bluestem (*Andropogon gerardii*), and little bluestem (*Schizachyrium scoparium*). The southwest aspect of the barrens produces harsh growing conditions as evidenced by stunted, drought-stressed redcedar (*Juniperus virginiana*) scattered among the grasses and forbs.

Most of the rare plants in this Natural Area Preserve occur within the dolomite barrens. Open, sunny habitat conditions are required to support these shade-intolerant species that are more typical of the Midwestern U.S. For example, blue-hearts (*Buchnera americana*) and Great Plains ladies tresses (*Spiranthes magnicamporum*) are commonly found in the hill prairies of Illinois.

The Cherokee clubtail (*Gomphus consanguis*) is a rare, poorly known dragonfly species endemic to the southeastern U.S. which inhabits small, spring-fed streams. The Olympia marble (*Euchloe olympia*) is a butterfly species inhabiting barrens. The larvae feed exclusively on rockcress (*Arabis*) and the flight period for adults is mid-April to late May in Virginia.

The preserve rises above the Clinch River, a main tributary in the upper Tennessee River basin renowned for its aquatic biodiversity. This watershed in southwestern Virginia and northeastern Tennessee contains more imperiled aquatic species than any other in the U.S. There are 31 species of rare mussels and 17 rare fish species in the upper Clinch River watershed. Immediately downslope is The Nature Conservancy's Cleveland Island Preserve. The waters around the island support many species of endangered freshwater mussels.

Resource Management: Natural Heritage scientists will continue to study the unique flora and fauna of the preserve. To maintain the open dolomite barrens, a prescribed burning program is being developed. DCR will continue to collaborate with The Nature Conservancy and other conservation organizations and neighboring landowners to protect the upper Tennessee River basin.

Public Access: There are no public access facilities. The preserve is available for research and educational activities as well as periodic group interpretive tours by arrangement with the Southwest Region Steward (see below).

Compatible Uses: Compatible uses include hiking, bird watching, nature study, and photography. Some uses are prohibited, including off-road vehicles, horseback riding, and the collection of animals, plants, and minerals.

Location: The preserve is located in Russell County near the town of Cleveland. From Abingdon, take 19 North/Alt. 58 West to Hansonville. Take 19 North for 5.5 miles to Business 19 North at Lebanon. Take Route 82 in Lebanon. Go approximately 7 miles to the town of Cleveland. The preserve is west of Route 82 and just southwest of town.

Natural Heritage Resources

Plants

hairy rockcress (*Arabis hirsuta* var. *adpressipilis*) G5T4Q/S1S2
blue-hearts (*Buchnera americana*) G5?/S1S2
Craw's sedge (*Carex crawei*) G5/S2
matted spikerush (*Eleocharis intermedia*) G5/S1
pink thoroughwort (*Eupatorium incarnatum*) G5/S2
western stiff gentian (*Gentianella quinquefolia occidentalis*) G5T?/S1?
small-headed rush (*Juncus brachycephalus*) G5/S2
drooping bluegrass (*Poa saltuensis*) G5/S2
smooth lance-leaved buckthorn (*Rhamnus lanceolata* var. *glabrata*) G4G5TU/S1
whorled nutrush (*Scleria verticillata*) G5/S2
great plains ladies tresses (*Spiranthes magnicamporum*) G4/S1
silky aster (*Symphyotrichum pratense*) G?/S1
prostrate blue violet (*Viola walteri*) G4G5/S2

Animals

Yellow-headed lichen moth (*Crambidia cephalica*) G4/S1S2
Olympia marble (*Euchloe olympia*) G4G5/S2S3
Cherokee clubtail (*Gomphus consanguis*) G2G3/S2
a noctuid moth (*Polychrysis morigera*) G4/S2S3

Community

limestone/dolomite barren

For more information contact:

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Department of Conservation & Recreation
[CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES](http://www.dcr.virginia.gov)

*Natural Heritage Program-
Conserving Virginia's biodiversity through inventory,
protection, and stewardship*

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