

## Duke Energy's Bad Creek Outdoor Classroom

The Blue Ridge Escarpment twists along the North Carolina/South Carolina border just above Lake Jocassee, creating river gorges and waterfalls. Forests, streams and flora provide a panoramic backdrop for Duke Energy's Bad Creek Pumped Storage Hydroelectric Station, located just inside the South Carolina state line.

The Bad Creek Outdoor Classroom is a unique addition to the station's rustic setting. Student visitors can learn about the environment and how Duke Energy generates electricity. Located in a small clearing, the classroom's covered area, tables and benches give students and teachers an opportunity to experience the region's wildlife and ecosystems. Two nature trails take full advantage of the opportunities presented by this natural forest community.

Duke Energy employees, retirees and volunteers spent more than 200 hours building the Outdoor Classroom.



Bad Creek  
Outdoor Classroom

## Nature Trails



The nature trails introduce students to scientific concepts such as photosynthesis, tropism and classification. Guided by their teachers, students are challenged to identify tree and plant species along each trail.

The trails feature bluebird boxes, plant identification signs and wooden shelters with hinged lids that let students view insects in a natural setting. Food stands along the trails provide the opportunity to study turkey, bobcat, coyote and bear tracks. Vernal ponds, which receive no inflow, provide a source of water for wildlife inhabiting the area.

### Eagle Trail

Eagle Trail is a short quarter-mile hike through a mature

South Carolina mountain forest. Trees, shrubs and wildflowers along the trail are common to the area. More than a dozen trees measure over 100 feet in height and four feet in diameter, creating a towering canopy.

Mountain forests such as this help stabilize the soil, prevent erosion and protect trout streams. In addition to their scenic beauty, forests provide a food source for deer, turkey, ruffed grouse, black bear and other species.

### Bear Trail

An easy hike, the mile-long Bear Trail offers students just the right challenge. Much of the trail passes through a “man-made” forest community created by Duke Energy upon completion of the Bad Creek Pumped Storage Hydroelectric Project in 1991. This conservation planning was part of Duke Energy’s original Bad Creek project.

During plant construction, Bear Trail was part of a major work area. Some of the earth removed during construction was placed along the trail’s path, forming a hill now covered by sawtooth oaks and other vegetation.

Duke Energy environmentalists selected sawtooth oaks for this “reclamation area” because of the large number of acorns the trees produce each fall, providing an ideal food source for area wildlife. Over the years, local tree species, shrubs and other growth have made this area part of the natural landscape.



## Special Features

### Classroom

The open classroom includes a white board and six oversized picnic tables where students can listen to lectures and participate in discussions. Supplies stored in the classroom include bottled water, pencils, paper, binoculars and collection equipment.

### Butterfly Garden

Butterflies appear in the spring and can be observed through the fall. The butterfly garden contains several plant species attractive to butterflies as places to lay their eggs or as a food source. Butterflies are important to the pollination of many plant species.

### Weather Station

With instruments from the classroom, students can check the temperature, rainfall and barometric pressure, identify cloud formations and gather other weather-related information.

### Feeding Stations

Several feeding stations have been constructed along the trails to attract animals. Nearby sand captures animals’ tracks, and students use field guides to identify them.



## Scheduling the Classroom

Teachers can schedule field trips to the Bad Creek Outdoor Classroom by contacting Allan Boggs at Duke Energy. Students should dress for an outdoor experience. Supportive shoes such as athletic or leather walking shoes should be worn – no sandals or flip-flops. Jackets or other outdoor wear should be appropriate for adverse weather conditions.

Additional information regarding registration can be found at the Bad Creek Outdoor Classroom at [duke-energy.com](http://duke-energy.com).

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## Bad Creek Pumped Storage Hydroelectric Station

Within a short distance of the Outdoor Classroom is the Bad Creek Pumped Storage Hydroelectric Station. This 1,065-megawatt facility is located in Oconee County, eight miles north of Salem, S.C. The four-unit station, which began generating electricity in 1991, is the largest hydroelectric station on the Duke Energy system.

Bad Creek has the unique ability to operate in either generation or pumping mode. In generation mode, water held in an upper reservoir flows by gravity through a turbine generator, producing electricity before emptying into a lower reservoir (Lake Jocassee) – just like a conventional hydroelectric station.

In pumping mode, excess electricity available during low-demand periods spins the turbine generators in reverse. Water from the lower reservoir is pumped back to the upper reservoir for reuse in the generation mode.

