



0

GREAT SMOKY MOUNTAINS NATIONAL PARK

Smokies Lab Receives LEED Gold Certification

The Twin Creeks Science and Education Center at Great Smoky Mountains National Park has just received certification at the gold level under the US Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system.

"As stewards of America's most prominent and pristine natural and cultural resources, the National Park Service strives to set the best possible example of developing its facilities in such a manner as to make them as energy efficient and sustainable as we possibly can," said superintendent Dale Ditmanson. "In addition, we design structures that minimally disrupt and are visually harmonious with the settings in which they are placed."

The LEED certification process evaluates structures based upon five environmental categories – sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Additional credit is given for design innovations.

In the case of the Twin Creeks Science Center, the park employed a wide range of practices and materials – minimizing the clearing of the surrounding forest, utilizing many of the boulders uncovered as landscape materials, chipping all the trees cut during construction for use as landscape mulch, and constructing wetland pools to filter and clean rooftop and parking area water runoff. The building also incorporates low-flow sinks and shower fixtures and waterless urinals.

The building conserves energy by using large, insulated windows to maximize use of daylight, but also open and close automatically to take advantage of cool mountain breezes instead of air conditioning. High-efficiency light fixtures adjust automatically to compensate for changes in outside light entering the building. Temperature controls are computerized to reduce energy use on nights and weekends when the building is unoccupied.

The Twin Creeks Science and Education Center is located about two miles from and 1,000 feet above Gatlinburg, Tennessee. Its exterior is clad in regional river stone around the base, with cedar wood and generous amounts of glass above. Five high, gabled dormers echo the mountain scenery surrounding it. Covered porches at each of the two entryways serve as extra gathering and work space.

The \$4.5 million, 15,000 square-foot building houses the park's air quality, vegetation management, and inventorying and monitoring staffs, and also provides climate-controlled storage space for the tens of thousands of plant and animal specimens in the park's natural resource collection. Space is available for visiting researchers who come to the park temporarily and add to the understanding of the park's natural resources. The lab also has a classroom/meeting room that can be used by school groups, including students in the "Parks-As-Classrooms," to watch and interact with researchers.

"We are extremely proud that the building has received this recognition," Ditmanson said. "We also need to acknowledge our partners in making its completion possible: the Friends of the Smokies, the Great Smoky Mountains Association, and the City of Gatlinburg. They stepped up generously when it became apparent that the federal funds available would fall short of that needed to make the lab the excellent facility that it has become."

Contact Information

Name: Bob Miller