

**MEFE Activity Descriptions**  
**September 15 - 17 Camping in lower Linville Gorge**

**History of the Gorge/Fonta Flora (9/15: Evening)**

A discussion of the history of the land that the students are camping on. Will include a discussion of the communities, major historical events in the vicinity, and the interaction of land and people throughout time.

**Fauna and Flora Hike (9/16 13:00 - 14:30)**

A brief, observational hike with a biologist/naturalist.

**Macroinvertebrates and the NCBI (9/16: 9:00 - 12:00)**

This activity is an extension of LJEA's Kids-in-the-Creek program. We will go into greater depth concerning the use of macroinvertebrates to determine the quality of the aquatic habitat and water quality. Students will collect samples, using LJEA's protocols, and use magnifying glasses and taxonomy guides to identify. Each team of students will "grade" the stream based on their sample and then the sample results will be aggregated to produce a composite grade. The differences in scores will be discussed. Prior LJEA sampling data and scores will be presented. Sources of error and the natural variability of results (seasonal and otherwise) will be discussed.

**Stream Assessment & Chemical monitoring (9/16: 15:00 - 17:00)**

The basis of this activity is the NCDEQ/Division of Water Resources Stream Assessment procedure and forms. Students will be trained in the purpose, basis, procedures and DWR forms and then the student teams will perform an assessment on a common reach of the Linville river. The results will be discussed with an emphasis on the problems and value of such subjective observations. Water quality probes and simple test kits will be used to look at the physical and chemical properties of the water in the river. Students will be provided a summary of LJEA's long-term water quality monitoring data for the river. They will be asked to reflect upon the variation and significance of results.

**Wildlife Lands Management & Wildlife of the Gorge and Lake (9/16: evening)**

Staff from the NC Wildlife Resources Commission will discuss the use, management, and value of the State Wildlife lands immediately across the river (with comments about the USFS lands that they are camping on). The diversity of wildlife (terrestrial and aquatic) on the lands and of the Lake James area will be discussed. As time allows, the purpose and expected impacts of the timber harvesting and prescribed burning of NCWRC land will be presented.

**Public Service Project (9/17: morning)**

In addition to camp cleanup, students will pick up trash and carry out trash along the banks of the Linville river.

**Wrap-up and Student Presentations (LJSP Visitor Center) (9/18: 9:00 - 13:00)**

**MEFE Activity Descriptions**  
**October 6 - 8 Camping on the Long Arm of Lake James State Park**

**LJSP Multipurpose Use and Management (10/6: evening)**

LJSP staff will host an around-the-campfire discussion of the purpose, use, and management of the Park.

**Mountain Fire Ecology & FireWise (10/7: 9:00 - 12:30 @ LJSP Visitor Center)**

This activity follows the Resource Conservation & Development Districts' fire awareness and preparedness program with a focus on the role of fire in our mountain and foothills ecology. The activity will occur in the LJSP Visitor Center. NC Forest Service staff are bringing a Fire Simulator and related instructional materials. Depending upon timing, the activity will be concluded with a brief "ecotour" of the prescribed burn area across the Fonta Flora Trail bridge onto the Long Arm.

**Public Service Project (10/7: 13:00 - 14:00)**

This is Catawba Sweep weekend. Students will spend about an hour cleaning up along the Lake James' shoreline. A certificate of public service hours will be available.

**Streambank & Shoreline Erosion and Livestaking (White Creek cove) (10/7: 14:30 - 17:30)**

Students will be transported by pontoon boat along the shoreline of Lake James observing shoreline erosion and discussing its causes, consequences, and methods of mitigating. They will end up at the Linville boat ramp and take a short hike into the White Creek cove. In the cove they will observe streambank erosion and use a common method (Bank Erosion Hazard Index - BEHI) to quantify the risk of bank erosion. Throughout the activity, RC&D staff and LJEA volunteers will be discussing methods of mitigating erosion and the benefits of doing so. The activity will conclude with students performing streamside "livestaking" and then returning to the camping area.

**Lake Wildlife: Birds of Prey & Lake James Eagle Watch (10/7: after dinner)**

Discussion and observation regarding birds of prey and LJEA's Eagle Watch program.

**Night Walk (10/7: after dark)**

Observe and learn about amphibians and other "creatures of the night" accompanied by expert guides.

**Young Professional - Emerging Contaminants in the Lake James watershed (10/8: morning)**

Students will engage in informal discussion with LJEA intern, Jesus Lovaton, who is completing research into Emerging Contaminants of Concern in the Lake James Watershed. Jesus is a native Spanish speaker (Mexico), recent graduate of Appalachian State University and hopes to have a career in Environmental Science and Ecology.

**Wrap-up and Student Presentations (LJSP Visitor Center) (10/8: 10:00 - 15:00)**

Video: "Life of a Naturalist in Puerto Rico" at 11:30

Lunch at the LJSP Visitor Center at 12:00

Meet the students and hear their presentations at 14:00

## **MEFE Activity Descriptions**

### **October 20 - 22 Camping on the Long Arm of Lake James State Park**

#### **Wetlands, Amphibians and Herpetology of the Lake James area (10/20: evening)**

Around-the-campfire discussion of research in the wetlands and riparian areas around Lake James. Explanation/demonstration of field techniques, including conservation trapping and release. Academic requirements and careers available in this field.

#### **Understanding the History and Limnology of Lake James - Water Quality Sampling (10/21: 9:00 - 15:00)**

The focus is on getting on Lake James to perform water quality sampling while having discussions of the Lake: its history, limnology, current conditions and issues such as invasive species, and how the lake is managed. Students will be provided data from prior Lake water quality sampling (including vertical profiles of Temp, pH, DO, conductivity) and challenged to interpret those data as it relates to the structure and condition of the Lake. An important program objective is exposing our participating high school students to environmental professionals and allowing for discussion of interests, academic and professional background, and other information that may help the students as they consider their college and professional careers.

#### **Public service project (10/21: 15:30 - 17:00)**

A project, to be determined, in service to Lake James State Park

#### **Wrap-up and Student Presentations (LJSP Visitor Center) (10/22: 9:00 - 13:00)**