DCNR, Dickinson College Monitoring Health Of Three Lakes in Cumberland County

Harrisburg, PA - Researchers at Dickinson College are collaborating with DCNR to study three Cumberland County lakes that are popular spots for fishing, boating and other recreational activities, DCNR Secretary Cindy Adams Dunn said today.

Thanks to a $27,000 mini-grant from DCNR through the South Mountain Partnership, Dickinson researchers are utilizing cutting-edge technology to monitor the health and ecology of Laurel and Fuller lakes in Pine Grove Furnace State Park and Opossum Lake near Carlisle.

The project’s goals are threefold: provide insights into how storm events and weather affect water quality; provide lake managers with a more comprehensive understanding of the lakes’ ecology; and enhance communication to the public by producing signage for lake visitors. Potential signage topics include lake ecology and history, wildlife, and a map with optimal fishing spots.

“Projects such as this define the primary goal of the South Mountain Partnership’s Mini-Grant Program -- to sustain the South Mountain landscape’s sense of place by protecting and promoting the region’s valuable natural resources,” said DCNR Secretary Cindy Adams Dunn. “To the 334,000 visitors who come to Pine Grove Furnace State Park each year Laurel and Fuller lakes are most valuable, indeed.”

Owned by the Pa. Fish and Boat Commission (PFBC), the 59-acre Opossum Lake in Lower Frankford Township is managed by the commission for recreational purposes and is especially popular with anglers.

“Scientific research is the cornerstone of fisheries management, and collaborative efforts between state government and colleges like Dickinson are crucial in our efforts to fully understand the environment,” said PFBC Executive Director John Arway. “This project fits in perfectly with our new ‘S.O.S. - Save Our Susquehanna’ Campaign and we look forward to the results of this project and using the data to help us manage Opossum Lake and the Susquehanna River watershed.”

Last month, high-frequency sensors were deployed at key locations in the three lakes, supplying lake managers high-resolution temperature and oxygen data outlining the conditions of the lake in various habitat zones. Sensory data will be recorded every hour throughout the summer and supplemented by biweekly monitoring of lake chemistry and biological communities in the lake, such as algae and zooplankton. In September, preliminary data will be analyzed and reported to lake managers.
“Information from Dickinson’s monitoring and research will be used to shape management efforts at our two parks,” Dunn said. “For instance, knowing what is triggering an influx of sediment and nutrients will allow park and resource managers to develop more customized action or effort. Examples might be a focus on streambank stabilization within the park, or working with partners to make improvements on a larger, watershed scale outside park boundaries.”

According to lead researcher Kristin Strock, an aquatic limnologist and assistant professor of environmental studies at Dickinson, the Northeast U.S. has experienced the most substantial increase in storm frequency and severity of any region in the U.S. since 1950. Rain events can increase the delivery of sediment, organic matter and nutrients from the watershed that can reduce water clarity and influence aquatic communities. While the threat of these changes to water quality are potentially great, there is currently little information to inform lake-management strategies, Strock noted.

“These lakes are important, heavily used resources in the South Mountain landscape,” said Strock. “The results from this work will help us to understand and communicate how the lakes are functioning and how they might be changing over time.”

Strock has successfully completed similar projects in Maine’s Acadia National Park and in Minnesota’s Isle Royale National Park.

“By partnering with DCNR, this new knowledge can help inform lake management now and in the future,” she said.

Steeped in natural and historical features, the 696-acre Pine Grove Furnace State Park is at the northern tip of the Blue Ridge Mountains. Visitors enjoy many recreational opportunities provided by the two lakes; hiking the Appalachian Trail; biking a rail trail and visiting the Appalachian Trail Museum. The park is surrounded by Michaux State Forest. Details on and Pine Grove Furnace and Pennsylvania’s other 119 state parks can be found at www.dcnr.state.pa.us (Select “Find a Park”).

Dickinson is a nationally recognized liberal-arts college chartered in 1783 in Carlisle. The highly selective college is home to 2,400 students from across the nation and around the world. Defining characteristics of a Dickinson education include a focus on global education -- at home and abroad -- and study of the environment and sustainability. For details: www.dickinson.edu.

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Established on July 1, 1995, the Pennsylvania Department of Conservation and Natural Resources is charged with maintaining and preserving the 120 state parks; managing the 2.2 million acres of
state forest land; providing information on the state's ecological and geologic resources; and establishing community conservation partnerships with grants and technical assistance to benefit rivers, trails, greenways, local parks and recreation, regional heritage parks, open space and natural areas.