FACT SHEET

Division of Surface Water
October 2013

Buckeye Lake Nutrient Reduction Project

Grants to Help Study, Protect and Improve Water Quality

In further support of local efforts to assess, protect and improve water quality at Buckeye Lake, Ohio EPA sought and received in 2011 a $425,000 grant from U.S. EPA to conduct two years of comprehensive monitoring in the 3,200-acre lake and its tributaries. Ohio EPA, in turn, awarded sub-grants as part of a newly launched, four-pronged Buckeye Lake Nutrient Reduction Project. Partners include Buckeye Lake for Tomorrow (BLT), Ohio Department of Natural Resources (ODNR) Division of Parks and Recreation and Fairfield Soil and Water Conservation District (SWCD). The cooperation of residents, businesses, farmers, organizations, visitors and government agencies is essential to preserve this recreational resource.

Buckeye Lake for Tomorrow

BLT is utilizing a sub-grant to develop a Buckeye Lake management and nutrient reduction plan. In shallow lakes across Ohio, nutrients such as phosphorus and nitrogen from many different sources can contribute to declines in water quality.

BLT has provided public outreach and educational workshops with lakefront homeowners to raise awareness about nutrient loading to the lake and encourage individual responsibility such as:

- phosphorus-free fertilizing;
- picking up after a pet;
- managing storm water; and
- keeping the lake clear of carp, unwanted discharges and dumped materials (even grass clippings and other organic matter).

Buckeye Lake State Park, ODNR

ODNR used grant money to retrofit two boat launches. Permeable pavement at Buckeye Lake State Park's Fairfield Beach and bio-retention islands at North Shore allow storm water to infiltrate the ground; run-off is redirected from the parking lots through constructed features to filter pollutants. Additionally, rain gardens, informational signs and a workshop for marina operators demonstrate the effective, passive control of run-off to keep nutrients from entering the lake.

Buckeye Lake Nutrient Reduction Project

Fairfield Soil and Water Conservation District

The Fairfield SWCD received a sub-grant to achieve three goals in the watershed. First, the SWCD mapped the major tributaries of Buckeye Lake using GPS and document existing land uses and surface cover along more than 70 stream miles in the watershed.

Secondly, the SWCD provided eight rain barrel workshops for lakeside homeowners, making barrels available for only 20 percent of the cost; erect educational signs about rain barrels; and install 200 rain barrel systems in Fairfield, Licking and Perry counties.

Thirdly, to demonstrate an agricultural best management practice, the SWCD worked with watershed producers to plant cover crops on 200 acres in the watershed to reduce phosphorus and sediment from flowing into Buckeye Lake and its tributaries.

Ohio EPA Studies Buckeye Lake and its Tributaries

The remainder of the U.S. EPA grant for the Buckeye Lake Nutrient Reduction Project paid for Ohio EPA to conduct another year of in-lake and tributary monitoring. Ohio EPA began collecting data in 2011 and previously studied the lake as part of the state's routine inland lakes monitoring program. A complete dataset and evaluation of all nutrient sources in the watershed will help to identify any specific actions that can be implemented to protect and improve water quality in Buckeye Lake.

At multiple points in the lake and feeder streams, Ohio EPA staff manually collected and is in the process of analyzing water and sediment samples for chemical and organic parameters, including phosphorus and nitrogen. Ohio EPA's study will focus on better comprehending Buckeye Lake's internal dynamics. Protecting the lake includes reducing the input of external nutrients and internal recycling of previously deposited nutrients. Centralized sewers and more responsible farming practices implemented throughout the watershed in recent years have helped, as will developing a strategy for further reducing nutrients.

To complement the state's manual sampling of Buckeye Lake, Ohio EPA and ODNR partnered with YSI Inc., an Ohio-based manufacturer of water monitoring systems, to strategically position an automated data station near the center of the lake in 2012. The station's sensor instrumentation continuously collected two recreational seasons worth of real-time data to help state officials, water quality experts and lake-goers alike understand what's happening below the surface of the lake. Temperature, conductivity, pH, turbidity and dissolved oxygen are measured at two points in the water column—approximately 1.5 feet and eight feet below the lake's surface. The public can access the information at ***livelakedata.com***.

About Federal Nonpoint Source Grants

The federal grants are provided under Section 319 of the federal Clean Water Act to reduce nonpoint source pollution (NPS), the leading cause of water quality impairment in Ohio. It is caused by rain or snowmelt moving over and through the ground, picking up natural and human-made pollutants including nutrients and depositing them in lakes, rivers, wetlands and other waterways. Other forms of NPS include modifying natural stream flow or habitat. NPS can have harmful effects on drinking water supplies, recreation, fisheries and wildlife.

Each year, Ohio EPA administers the Section 319 grant program for U.S. EPA and distributes millions of federal dollars to NPS projects proposed by local governments and organizations in Ohio.

Where can I get more information?

Information about the nonpoint source pollution program is available at ***epa.ohio.gov/dsw/nps/319Program.aspx*** or by contacting Russ Gibson, Nonpoint Source Section Manager in Ohio EPA's Division of Surface Water, at (614) 644-2020 or by email at ***russ.gibson@epa.ohio.gov***.