

Opening the floodgates to fun

Francis E. Walter Dam in Kidder Township, is a flood-control project completed by the U.S. Army Corps of Engineers in 1961. Since 2005, the Corps also has used water in the reservoir to enhance downstream recreation. **Today, the dam is used for three main purposes:**

FLOOD CONTROL

The dam was built in response to Hurricane Diane in 1955, and flood control remains the facility's primary use. The reservoir behind the dam has the ability to temporarily hold up to 35.8 billion gallons of water to reduce flooding in the Lehigh and Delaware valleys. The Corps estimates that its flood-control structures in the Delaware River Basin have prevented \$359.4 million in damage since their construction, including more than \$118 million in the past two years.

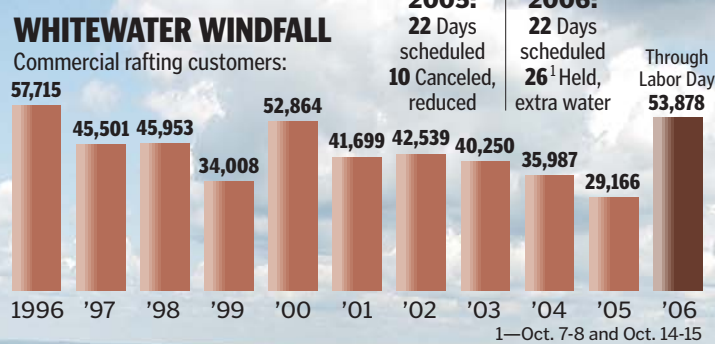
WATER FLOWS DURING 2006 FLOOD

Measurements per hour in cubic feet per second (cfs)



WHITewater RECREATION

The Corps conducts regularly scheduled weekend releases to create whitewater in the Lehigh Gorge from May to October. This year, a total of 13 whitewater weekends were held, and commercial rafting operators enjoyed their best year in a decade. The Pocono Mountains Vacation Bureau estimates that each whitewater release date draws 6,200 people to the region and has an economic impact of \$2.28 million.



FISHERIES ENHANCEMENT

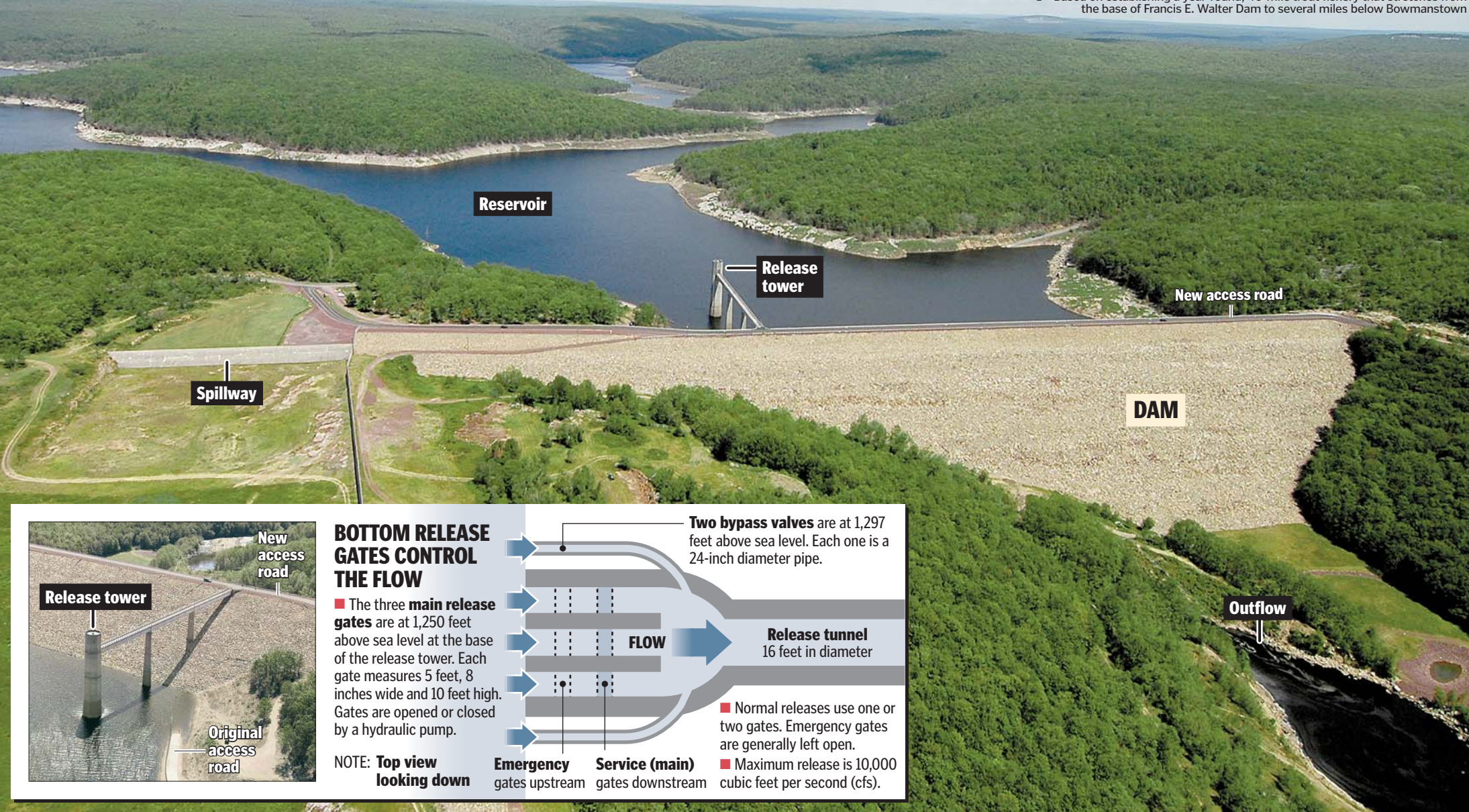
For the past two summers, the Corps has collaborated with the Pennsylvania Fish & Boat Commission and local conservation groups in an experimental effort to enhance recreational trout fishing below the dam. By increasing summertime outflows from the base of the dam, the groups hope to maintain cold-water temperatures at trout-friendly levels.

ANNUAL ECONOMIC BENEFITS OF TROUT FISHERIES

Studies done at tailwater fisheries around the country document the benefits to local economies.

River	State	Benefit (Million)
Upper Delaware River	New York	\$30 Million
Lehigh River	Pennsylvania	\$30 Million (PROJECTED)
SNAKE River	Idaho and Wyoming	\$46 Million
White River	Arkansas	\$170 Million

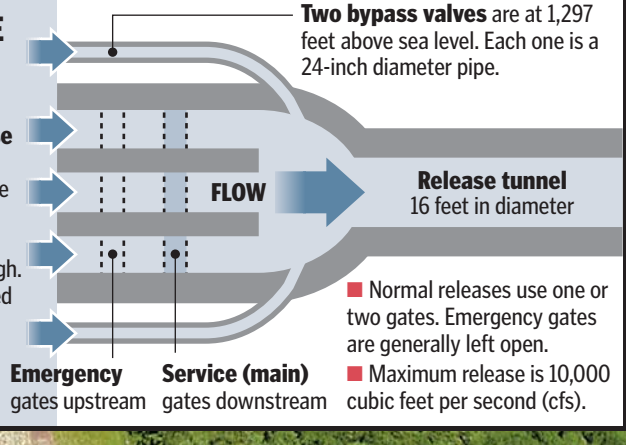
1—Based on establishing a year-round, 40-mile trout fishery that stretches from the base of Francis E. Walter Dam to several miles below Bowmanstown



BOTTOM RELEASE GATES CONTROL THE FLOW

The three main release gates are at 1,250 feet above sea level at the base of the release tower. Each gate measures 5 feet, 8 inches wide and 10 feet high. Gates are opened or closed by a hydraulic pump.

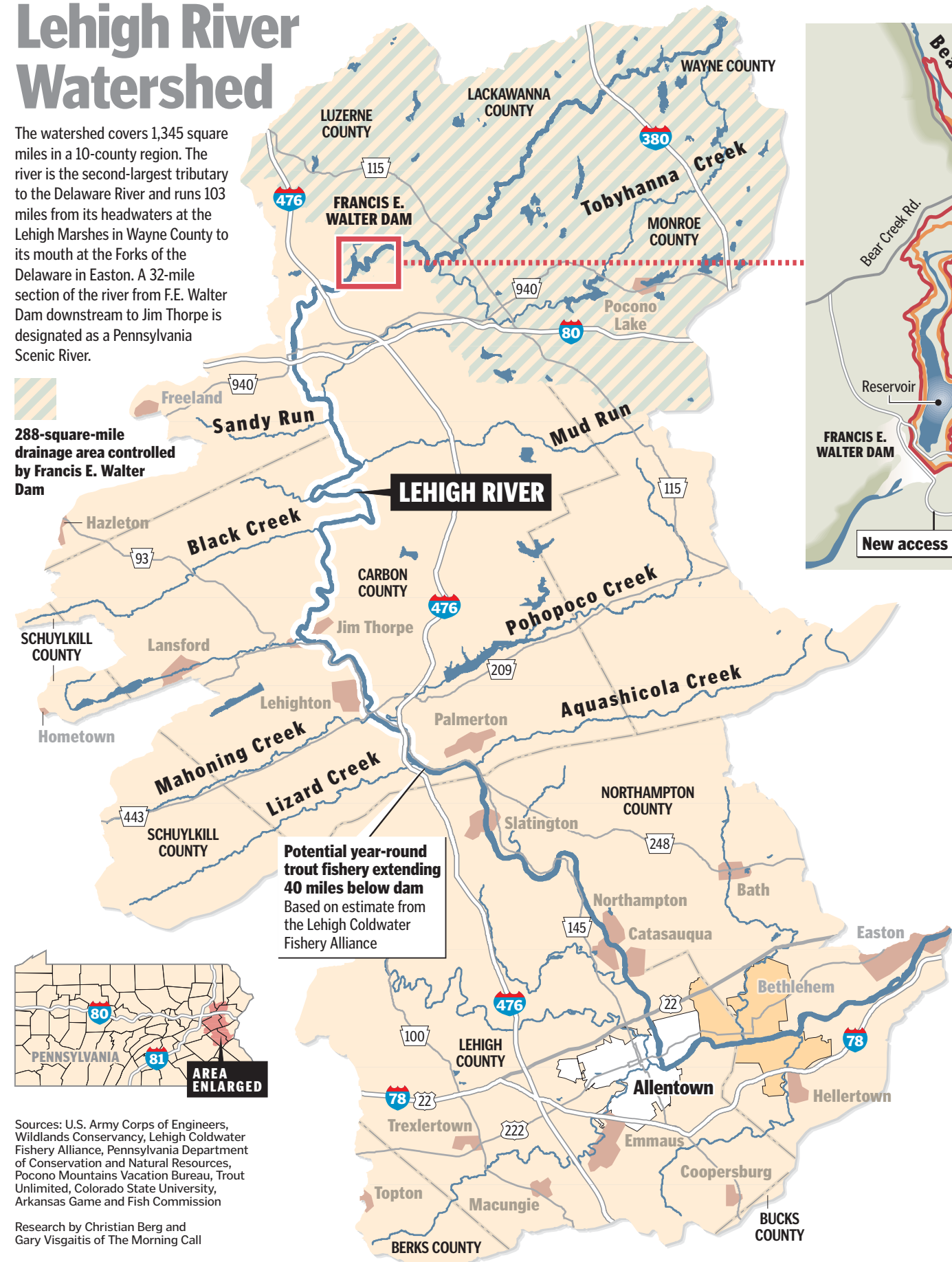
NOTE: Top view looking down



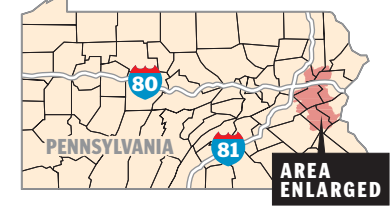
Lehigh River Watershed

The watershed covers 1,345 square miles in a 10-county region. The river is the second-largest tributary to the Delaware River and runs 103 miles from its headwaters at the Lehigh Marshes in Wayne County to its mouth at the Forks of the Delaware in Easton. A 32-mile section of the river from F.E. Walter Dam downstream to Jim Thorpe is designated as a Pennsylvania Scenic River.

288-square-mile drainage area controlled by Francis E. Walter Dam



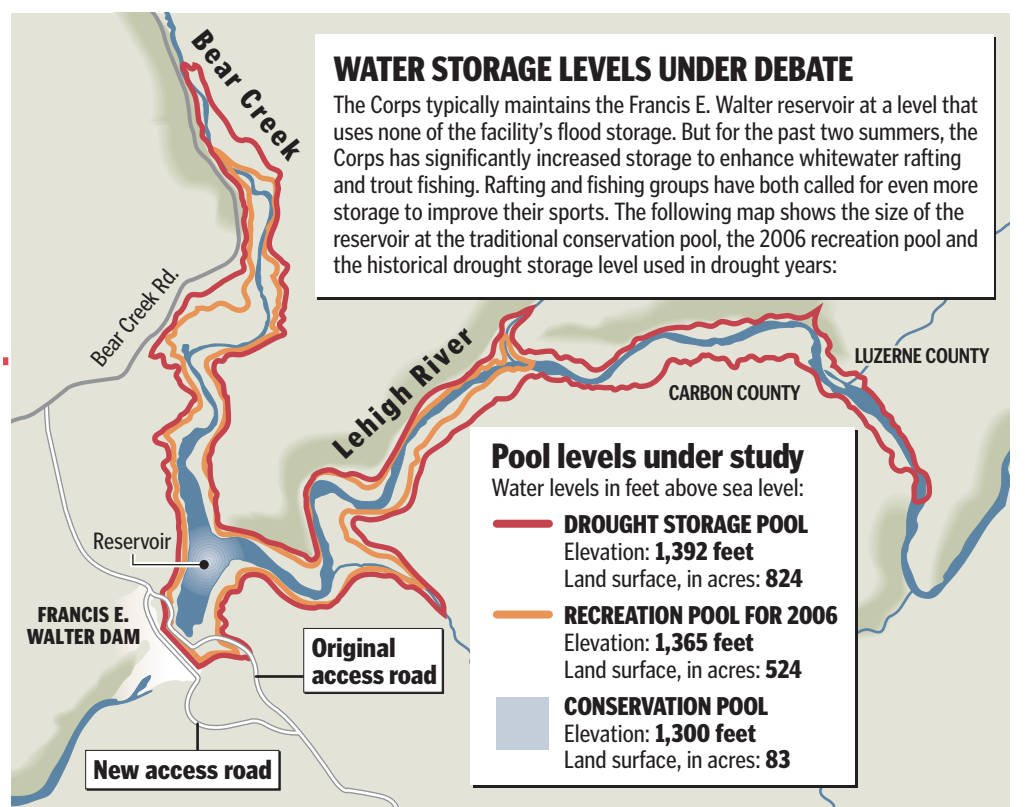
Potential year-round trout fishery extending 40 miles below dam. Based on estimate from the Lehigh Coldwater Fishery Alliance



Sources: U.S. Army Corps of Engineers, Wildlands Conservancy, Lehigh Coldwater Fishery Alliance, Pennsylvania Department of Conservation and Natural Resources, Pocono Mountains Vacation Bureau, Trout Unlimited, Colorado State University, Arkansas Game and Fish Commission

WATER STORAGE LEVELS UNDER DEBATE

The Corps typically maintains the Francis E. Walter reservoir at a level that uses none of the facility's flood storage. But for the past two summers, the Corps has significantly increased storage to enhance whitewater rafting and trout fishing. Rafting and fishing groups have both called for even more storage to improve their sports. The following map shows the size of the reservoir at the traditional conservation pool, the 2006 recreation pool and the historical drought storage level used in drought years:



DAM FACTS

- Top of dam is 1,474 feet above sea level, 234 feet above the lowest point in the reservoir.
- Spillway is 1,450 feet above sea level, 450 feet long and is 24 feet lower than the top of the dam.
- Dam is 3,000 feet long, 1,000 feet wide at its base and 30 feet wide at its breast.
- The outlet tunnel for water released from the dam is 16 feet in diameter and 1,150 feet long.
- The Corps only owns property up to a 1,400 foot elevation. They have easements with private landowners to flood up to 1,450 feet on a temporary basis.
- 1,392 feet is the tree line around the reservoir basin. 1,392 feet is also the highest level at which the reservoir has ever been maintained on a long-term basis. The Corps has kept the level at 1,392 feet in drought years at the request of the Delaware River Basin Commission, which uses the water to keep the salt line from moving too far up the Delaware Bay near Philadelphia.

WATER TEMPERATURE THE KEY FOR TROUT

Dean Druckenmiller, president of the Lehigh Coldwater Fishery Alliance, says the following three steps are critical to improving the Lehigh's tailwater trout fishery:

- Complete the proposed flow study to determine how high the conservation pool level at Francis E. Walter reservoir can be raised without compromising flood control.
- Increase water storage early in spring to capture water at its coldest.
- Modify the control tower to avoid losing cold water during whitewater releases and after floods.



Dean Druckenmiller
Gary Visgaitis The Morning Call