

WATER FROM PAGE A20

Dam changes could boost trout fishing

pockets," Capparell said. "Who's going to replace that?"

A good problem to have

Despite the flood-control debate, Christopher Kocher says talks among government agencies, rafting companies, fishing groups and residents about how to best manage the river is a major victory.

"I'm actually glad we have to deal with the issue, because it means the Lehigh is cleaner than it has ever been," said Kocher, president of the Wildlands Conservancy of Lower Macungie. "We are dealing with a very special resource, and I like the fact we are working together to solve these problems."

The notion that tens of thousands of people would want to recreate in and around the Lehigh each year would have been absurd when the Corps completed construction of the dam in 1961.

From 1818-1965, the Lehigh River was controlled by the Lehigh Coal and Navigation Co., which paid the state one ear of corn per year for ownership rights. Lehigh Coal built the Lehigh Canal to move massive quantities of anthracite from Pocono mines to customers in Easton and Philadelphia. At one time, there was so much coal on — and in — the river that locals described it as "flowing black lava."

All that has changed over the past 40 years as the river has enjoyed a spectacular transformation from polluted, industrial corridor to scenic, recreational waterway. Kocher said whitewater rafting and trout fishing are fundamental to the conservancy's goal of connecting the community with the river in a personal way.

"Once somebody has a positive experience on the Lehigh River, they'll become stewards of [it] and get involved in protecting it," Kocher said.

The Francis E. Walter Dam was one of many flood control structures built in response to Hurricane Diane, but it wasn't until 1988 that Congress authorized recreation as a secondary use.

Despite that, the Corps could not significantly enhance fishing and boating because the main road across the dam property flooded any time the reservoir rose 10 feet above normal. But in spring 2005, the Corps opened a new \$3 million road along the top of the dam, allowing it for the first time to maintain a larger reservoir without disrupting public access.

In anticipation of the road's completion, the Corps collaborated with the Pennsylvania Fish & Boat Commission, the state Department of Conservation and Natural Resources and the Delaware River Basin Commission to develop new water storage and flow plans that boost recreation without compromising flood control.

The dam blocks the Lehigh just downstream of its confluence with Bear Creek. The 3,000-foot-long, 234-foot-high earthen dam controls the drainage for a 288-square-mile area and has the ability to temporarily hold back 35.8 billion gallons of water to minimize flooding in the Lehigh and Delaware valleys.

Traditionally, the reservoir has been maintained at a height of 1,300 feet, a mark at which the reservoir covers just under 83 surface acres and holds 580 million gallons of water.

In 2005, the Corps raised the reservoir to 1,335 feet, a level at which the reservoir covers nearly 102 surface acres and holds 2.34 billion gallons of water. And this year, the Corps further increased the level to 1,365 feet, at which the reservoir covers 524 surface acres and holds 5.88 billion gallons.

By holding extra water back in the spring, the Corps can use it throughout the summer to create whitewater for weekend rafting and boost weekday flows of cold water to benefit trout, which cannot survive for extended periods in water warmer than the low 70s.

Even with a couple extra billion gallons, however, Corps officials say the success of the flow plans are largely dependent upon Mother Nature. "Guarantee is a word that just doesn't [get used] in hydrology," Sauls said.

For example, in 2005, 10 of the 22 planned whitewater days were either canceled or had their flows reduced because it was an extremely dry year. This year, on the other hand, was unusually wet. Rainfall from March to September was 28.8 inches, 19 percent higher than normal.

That worked out great for rafters, who got all 11 of the planned whitewater weekends, plus bonus weekends Oct. 7-8 and this weekend.

However, this year's heavy precipitation backfired a bit for trout fishermen. After the June flood, the Corps was forced to prematurely release billions of gallons of water — including the coldest, most trout-friendly water at the base of the dam — so emergency storage capacity could be restored.

Although raising the reservoir level even higher in future years may ensure planned whitewater releases and minimum flows in a dry year like 2005, it could compromise the dam's flood-control capacity in a wet year like 2006.

"I like to think there's a happy [medium] in there somewhere," Sauls said, "but I'm also saying you're never



WHITewater RAFTERS wait their turn in Rockport, Carbon County, in August for a trip down the Lehigh. Whitewater rafting may have pumped almost \$60 million into the local economy this year.

Kathleen Cook
Special to
The Morning Call

going to make everybody happy. The name of the game is compromise."

Perfect recipe for rafters

The biggest beneficiary of the modified flow plans so far has been the commercial rafting industry. As of the Labor Day weekend, the four whitewater operators licensed to operate in Lehigh Gorge State Park had taken nearly 54,000 customers down the river, according to DCNR figures.

The number of whitewater weekends created by dam releases this year was 13, which is more than triple what it was as recently as 2004. The Pocono Mountains Vacation Bureau estimates that each whitewater release day draws 6,200 people to the area and generates \$2.28 million for hotels, restaurants, gas stations, retail shops and other businesses. If that's accurate, this year's releases were worth more than \$59 million.

Doug Fogal, co-owner of Pocono Whitewater in Penn Forest Township, said it's no secret why using the dam to create whitewater during the summer provides a huge lift for outfitters. "I don't care who you are," he said. "It's just more fun getting wet when it's warm."

DCNR has a financial interest in whitewater rafting, because licensed outfitters pay the agency \$3.92 for every customer who floats through Lehigh Gorge and \$1.92 for every one who does a shorter trip starting from Glen Onoko. Based on rafting through Labor Day, DCNR had taken in more than \$188,000 in whitewater revenue this year.

"If the water is stored and available, we feel that's a win-win situation for recreational boaters, fishermen and the ecology of the river," said Dave Madl, manager of Lehigh Gorge State Park.

Taming temperatures for trout

Experts from the Fish & Boat Commission and private conservation organizations say the biggest problem for trout in the Lehigh is high summertime water temperatures.

"The number that matters for trout fishing is 68 degrees," said Bachman, formerly Maryland's director of fish and wildlife. "That is the maximum temperature at which the fish are still happy. After

that, they start looking for cold water, because over 68 degrees, even if they are still feeding ... they use more energy metabolizing food than they get out of it."

The problem increases the farther downstream from the dam. That's the biggest reason the Fish & Boat Commission stocks trout only in 9 miles of the river, from the dam downstream to Sandy Run.

Trout fishing enthusiasts, however, believe the river provides plenty of suitable trout habitat even farther downstream, thanks to numerous underground springs and cold tributaries. The Lehigh River Stocking Association of Walnutport has released nearly 300,000 trout into the river between Bear Creek and Northampton since the organization was created in 1990.

"We feel very strongly that it's been a successful program, because there are an awful lot of 16- to 18-inch brownies being caught throughout the year that are in really good shape," association President Bill Derhammer said. "Some of our fish are showing up several years after they're tagged."

Considering the existing quality of the Lehigh River trout fishery, enthusiasts say it's reasonable to believe it could be better if the Corps and Fish Commission fully committed to using cold water from the dam to maintain cold downstream water temperatures throughout the summer. If that happens, advocates say, then trout will thrive and establish a self-sustaining fishery similar to what exists in the Upper Delaware and other tailwater systems — where cold water is released from the base of a dam.

"This is a very, very multifaceted thing, but really, when you strip it down, it's a very simple issue. The more cold water you can release on a continuous basis, the more fish you've got," said Bachman, a nationally known fisheries management expert from Blainsport, Lancaster County.

"The Fish & Boat Commission ought to be jumping on this like a duck on a bug, because it's a win-win for both sides. There is no good reason not to do this, as long as adequate flood control is maintained."

The Lehigh Coldwater Fishery Alliance — a coalition of guides, sportsmen's clubs and conservation organiza-

tions — believes trout fishing opportunities below the dam could be maximized if the Corps would raise its summer pool another 27 feet to 1,392 feet, a level at which the reservoir covers 824 surface acres and holds 11.9 billion gallons of water.

At 1,392 feet, Bachman said, the Corps should have enough water — even in drought years — to accommodate all scheduled whitewater releases and still maintain a minimum weekday flow between 300 and 350 cubic feet per second. If that happens, he predicts, the dam will help keep the Lehigh River cool enough for excellent, year-round trout fishing for 40 miles, or a few miles downstream of Bowmanstown.

As good as Bachman's fishing scenario sounds to ardent fishermen, Corps officials say it is an untested theory. "Everybody and their grandmother has their own opinion about what should be done and why, but they'd be hard-pressed to support it with facts," Sauls said.

Studying for the future

Bachman said research to support his position has yet to be conducted.

That's why the alliance, along with the Corps, Fish & Boat Commission, DCNR and the Delaware River Basin Commission, is advocating a federal study to determine how much water would be required to maintain a high-quality tailwater trout fishery below the dam, how many miles of trout-friendly water could be created and whether it can be done given the facility's flood-control mandate.

"There's no question the fishery can be enhanced. The question is how much," said Fish & Boat Commission Executive Director Douglas Austen. This year, the commission and DCNR signed off as non-federal sponsors of the proposed \$400,000 flow study. The agencies have agreed to cover half the cost if the Corps can secure the other half from the federal government.

The alliance and Wildlands Conservancy have been lobbying U.S. Sen. Arlen Specter, R-Pa., to include money for the study in the federal energy and water bill. Scott J. Hoeflich, Specter's press secretary, said the senator is working with the Energy and Water

Appropriations Subcommittee to earmark money for the project, but said it's too soon to know whether Specter's efforts will be successful.

Fish & Boat Commissioner Frederick P. Osifat of Carbon County has trout fished on the Lehigh River since 1966 and is excited about the possibility of improving the fishery.

"The Lehigh could be the Madison of the East," said Osifat, referring to the world-famous Madison River in Montana, "but that all remains to be seen."

Osifat said one of the biggest obstacles to enhancing the Lehigh's tailwater fishery is the Francis E. Walter Dam itself. "That dam was built 40-some years ago for flood control, period, and I don't think anybody was giving any consideration at that time of having the Lehigh become a cold-water fishery," he said.

Because of that, all three of the dam's main release portals are at the base of the dam and can only draw water from the very bottom of the reservoir. Newer dams offer portals at a variety of depths in the water column, giving operators the ability to conserve the coldest water at the bottom and blend released water to achieve a desired outflow temperature.

"It's not practical, under current features of the dam, to store cold water for long periods," Sauls said.

Given that the study likely will recommend significant modifications to the dam's control tower, Osifat believes it's unrealistic to expect anything to happen quickly.

"To say that it could be done would be wonderful," he said. "But what's going to be required? Are there going to have to be major improvements at the dam breast? If so, who is going to pay for it?"

Druckenmiller, the fishery alliance president, believes whatever investment is needed at the dam will be minimal in comparison to the long-term economic impact.

"Let's say we have to do a \$50 million upgrade to the reservoir, heck yeah it would be worth it," he said. "If we can bring in \$30 million in economic impact annually, that modification will be paid off in two or three years."

Besides, Druckenmiller said, it's much too soon to start worrying about that. Even after the study is funded, it will take two years to complete. After that, Druckenmiller said, it could be another six to eight years before any dam modifications are completed and a new fisheries management plan implemented.

And there always will be the issue of flood control. Fromuth, the basin commission official, said any plans to significantly increase the reservoir level would require built-in safeguards that would force the release of large volumes of water before major storms.

"We have the position that flood control has to be paramount with this dam," he said. "We don't want to see big risks taken."



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