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Scott Carney
a biologist with the Fish and Boat Commission



Roberta D. Pichini law office
The dam on Perkiomen Creek where Fred House and son Paul died. At least five other people previously had died there. Fred's widow hopes the dam's removal as part of a legal settlement will heighten awareness of danger and spur removal of other such dams.

Quiet crusade against deadly low-head dams

DAMS from B1
suit in Philadelphia Common Pleas Court in late 2000. "Her goal is to have this never happen again."

Other terms of the settlement, including financial compensation to House and five surviving children, have not been made public.

House said in an interview last week she hoped the removal of the Goodrich dam would heighten public awareness of the dangers of low-head dams and spur the demolition of other dams no longer in use.

"Marking them is not the answer," House said. "Signs do no good. These dams are not used for what they were built for. They serve no purpose. When a dam is causing deaths, there is no other answer. It has to be removed."

Water safety experts say that with the arrival of spring, it is important for people who use creeks and rivers to be aware of the dangers. The dams can be alluring. During normal stream flows, the long ponds that back up behind them appear benign and inviting. They are magnets for fishermen, boaters and swimmers.

For the last decade, the Pennsylvania Fish and Boat Commission, the state Department of Environmental Protection, and American Rivers, an organization that promotes free-flowing waterways, have been working to remove abandoned and unstable dams.

More than 100 in Pennsylvania have been demolished. Two-

thirds of the removals have been financed with state and federal funds and private grants.

The average demolition cost is surprisingly low: \$50,000. Often, the work can be done with a backhoe.

Scott Carney, a biologist with the Fish and Boat Commission who coordinates dam removals, said about 50 more dams in Pennsylvania are slated for removal, 15 of them in the Philadelphia area.

"It's the best thing for the environment, and it's the best thing for public safety to get rid of these things," Carney said. "When you're going down one of these rivers, it's very hard to see these dams when you're upstream. There are times when you literally cannot see them."

Carney said an engineering study will be done to determine the best way to remove the Goodrich dam.

Thomas P. Wagner, attorney for Oaks Mills Inc., a development company that bought the Goodrich manufacturing site in 1989, said his client's goal is to remove the dam within a year.

"It's no longer serving the purpose for which it was built in the 1940s," Wagner said. "It should be removed as quickly as can reasonably be done."

C. Scott Toomey, lawyer for Goodrich, did not comment on the settlement.

The dam has not been used for any industrial purpose since the mid-1980s, when Goodrich shuttered its manufacturing operation in Oaks. Goodrich sold

the 164-acre property — along with all "appurtenances," according to the deed — to Oaks Mills for \$7.5 million.

In litigation, Oaks Mills and Goodrich both denied ownership of the dam. Goodrich claimed it sold the dam to Oaks Mills. Oaks Mills said it didn't buy a dam, it only bought real estate. In the settlement, both companies have agreed to the dam removal.

The typical demolition method is to open a hole in the middle of the dam, allow the backed-up water to flow out, and then remove the flanks.

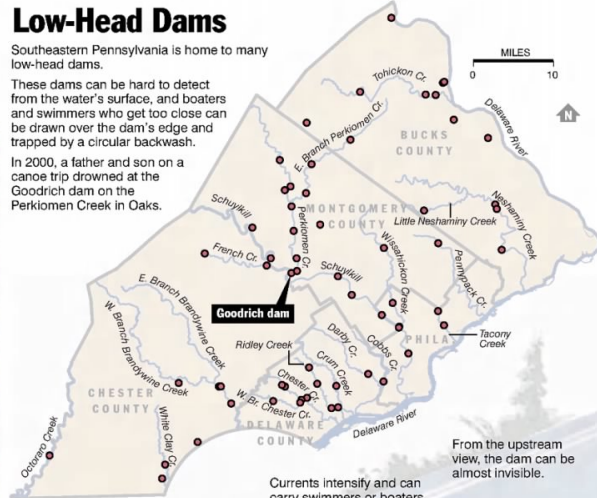
Carney said the state tries to make it as easy as possible for dam owners to do this by providing funds for demolition and by

Low-Head Dams

Southeastern Pennsylvania is home to many low-head dams.

These dams can be hard to detect from the water's surface, and boaters and swimmers who get too close can be drawn over the dam's edge and trapped by a circular backwash.

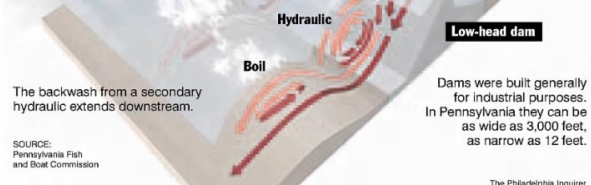
In 2000, a father and son on a canoe trip drowned at the Goodrich dam on the Perkiomen Creek in Oaks.



From the upstream view, the dam can be almost invisible.
Currents intensify and can carry swimmers or boaters over the dam.

These dams can be death traps for boaters, swimmers and waders, especially in periods of high water or after storms.

When a person is trapped at the base of the dam, it is almost impossible to escape the powerful, churning waters. It is like being caught in a giant washing machine.



The backwash from a secondary hydraulic extends downstream.

Dams were built generally for industrial purposes. In Pennsylvania they can be as wide as 3,000 feet, as narrow as 12 feet.

SOURCE: Pennsylvania Fish and Boat Commission

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keeping regulatory hurdles to a minimum.

The Fish and Boat Commission wants dams removed to restore the natural ecology of state waterways and to reopen long-blocked migratory paths for fish.

The Department of Environmental Protection wants unused and unstable dams removed for safety.

DEP maintains a list of 275 low-head dams in Pennsylvania that, by law, must be marked with no-trespassing signs, danger signs and warning buoys. About one-quarter of those dams are on creeks and rivers in Philadelphia, Bucks, Chester, Delaware and Montgomery Counties. The Goodrich dam is

one of them.

An estimated 2,000 similar but less dangerous dams in the state do not require such markings.

Still, water safety experts say even small dams can be deadly in high water.

New Jersey, according to that state's Department of Environmental Protection, has 120 low-head dams. A department spokesman said their removal is not a high priority.

After filing suit, Pichini, lawyer for House, and other lawyers at the firm of Litvin, Blumberg, Matusow & Young, meticulously researched the history of the Goodrich dam.

Among other things, they learned that four young people,

17 to 23, had drowned there while canoeing in February 1977. The parents of those victims sued B.F. Goodrich. As part of a settlement, the company agreed in 1980 to post warning signs at the dam.

In August 1993, a 19-year-old Upper Merion Township man who was swimming in the Perkiomen drowned in the spinning waters at the base of the dam. Although warnings were required, there were no signs or buoys to alert Fred and Paul House to the Goodrich dam as they paddled down the Perkiomen on May 24, 2000.

Fred House, a systems engineer at Lockheed Martin Corp. in King of Prussia and father of six adopted children, was taking his youngest son on a canoe outing from Collegeville to Valley Forge National Historical Park. A friend was waiting to meet them at the park, but they never arrived. Their canoe and life jackets were found in the boil at the base of the Goodrich dam. The body of Paul House was recovered downstream a few days later. Fred House was not found for two months.

Joanna House, 44, has remarried since the tragedy. Three of her sons are grown and living on their own. Two daughters are still at home.

House said all the family members share loving memories of Fred and Paul.

She sees the demolition of the dam as a memorial to them. "I hope that will put them at peace," she said. "I know Fred would have wanted that. He would not have wanted anyone else to go over. He would love this part of it — that this is for a greater good."



In a family photo, Frederick J. House blows out the cake's candles, with help from (from left) Samantha, Ashleigh and Paul, three of the six children he and his wife, Joanna, had adopted. He was celebrating his 39th birthday. House was a systems engineer at Lockheed Martin Corp. in King of Prussia.

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