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Reports of Property Damage Mount as Longwall Mining for Coal Proliferates in Pa.

By MANUEL QUINONES of [Greenwire](#)

WAYNESBURG, Pa. -- A surge in mining damage to waterways, houses and roads has sparked a fierce debate in southwestern Pennsylvania's coal region about whether regulations are strong enough to protect property and natural resources.

At issue is a modern, mechanized take on a centuries-old mining technique that shears coal away from underground seams in massive panels that are generally hundreds of feet thick and a mile or so long.

That technique, known as longwall mining, now produces some 40 percent of all coal from U.S. underground mines, up from 5 percent in 1980, according to federal statistics. In Pennsylvania, longwall produced 38 million tons of the 48 million tons produced by underground mining in 2009, the latest full year for which statistics are available.

But while mechanized longwall mining has been a boon to coal producers, it has been a headache in recent years for many residents of Greene and Washington counties, near the West Virginia line. They say mining being done by rumbling, behemoth machines in recent years has damaged buildings, sucked water from ponds and streams and cracked roads.

"Longwall is worse than an earthquake," said Leigh Shields, owner of Shields Herb and Flower Farm, which is patrolled by peacocks and a pet emu in rural Greene County. A Consol Energy Inc. longwall project a decade ago, he said, led to a subsidence that lowered parts of his property as much as 4 feet, moved trees and cracked his home's basement floor.

Longwall mining, many residents say, caused the rupture of a dam at Greene County's Ryerson Station State Park, whose lake -- once a popular spot for boating and fishing -- remains dry. Whether Consol operations damaged the park is currently being weighed by a state court.

"A lot of locals came down and started grabbing fish and taking them to local ponds," activist Terri Davin said in an interview, discussing what happened when state workers drained the lake after the 2005 breach. "They had garbage cans and they were just throwing dead fish there."

Aimee Erickson, executive director of the watchdog group Citizens Coal Council, said the rumbling of longwall mining under a house jangles nerves as well as cracks foundations. "You could actually put an egg on the counter and watch it just roll off," she said.

A University of Pittsburgh study this year found that from 2003 to 2008 reported land damage from longwall operations increased 86 percent and building damage increased 31 percent over damage reported the previous five-year period.

It took coal companies an average of 207 days to resolve reported structural problems and 246 days for land damage, the report says. Companies took 321 days, on average, to address problems with wells, springs and ponds.

The report was prepared under a 1994 state law, Act 54, which was aimed at addressing problems caused by longwall mining and making sure companies help prevent problems, repair damage or compensate residents. Mining critics here say the law is not strong enough.

"It has been a catastrophic failure," said attorney Michael Nixon, a Citizens Coal Council board member.

State officials and mining industry representatives disagree. They do not deny that longwall mining is causing damage, but they maintain the system is working to ensure repairs or proper compensation.

"Most landowners should be thankful for Act 54," George Ellis, president of the Pennsylvania Coal Association, an industry group, said in an interview. "If we damage it, we take care of it."

As he rebutted claims about longwall mining and Act 54, Ellis raised his voice. The law, he said, represents a compromise between activists and industry.

"There is a lot of misinformation," he said. "The fear mongers are wrong. The sky is not falling."

'If you get a settlement, leave'

Critics of longwall mining say Act 54 is inferior to the 1960s-vintage law that emphasized damage prevention.

Act 54 and its restoration mandate, critics say, gives companies more leeway to extract more coal and discourages another traditional underground mining method, room-and-pillar mining, which keeps more coal underground and provides more support to properties above.

Shields, the nursery owner, said settlements provided to landowners by coal companies are mere Band-Aids for problems that mining causes. Money he got from Consol in a settlement is gone.

"It was a mistake. It bit us in the ass," he said of the settlement. "That's exactly what the coal companies wanted."

And 10 years after damage was done to his property, Shields said he is still waiting for Consol to honor a pre-mining agreement that requires the company to restore a gas connection that he said he needs to keep his greenhouse plants warm.

"If you get a settlement, just leave," he said. "It will all be broken again."

Schmid & Co., a Wayne, Pa.-based environmental consulting firm hired by the Citizens Coal Council, found agreements between a mining company and property owners often fail to solve problems on water supply issues.

The effect of longwall mining on streams is of particular concern to environmentalists, who say the practice can forever -- and they say illegally -- hurt waterways, turning streams into ponds or dry trenches.

Ben Stout, a biology professor at Wheeling Jesuit University of Wheeling, W.Va., said his studies of streams in this area show waterways suffering lasting and sometimes irreparable damage. He collects data on organisms living in regional creeks and streams.

"It's a data-rich environment," he said in a recent interview. "I like a lot of data."

Streams that have been longwalled, he said, have fewer or different organisms living in them. He points at a stream he said has never recovered from mining underneath.

"We study them as indicators of the quality of the stream. They're what make the streams function," Stout said. "These are also indicators of permanence and also sensitivity. Especially the mayflies are sensitive to pollution and changes in the environment."

Drinking water wells are being affected. It is common in southwestern Pennsylvania to see next to houses water tanks provided by coal companies as temporary water supplies.

Also vulnerable are historic properties, such as a house built in 1815 that Margie Manchester is trying to protect at her organic farm in Avella. Relatives sold the coal rights under the stately brick manse in 1917, a common story in southwestern Pennsylvania.

"They never expected longwall mining," Manchester said of those early 20th century landowners.

Such threats to property and the environment are driving away coal-region natives, said Darwin, the anti-mining activist. "We're losing population left and right here," she said.

But retreat is not an option for Erickson, the Coal Council's executive director.

"You know what," she said, "I refuse to leave."

Defending Act 54

Thomas Callaghan, director of the state's Bureau of Mining and Reclamation, maintains that properties and natural resources get more protection under Act 54 than they did under the old mining law.

The old law, he said, provided no protection or restoration for structures built after 1966, instead allowing owners to buy coal for support.

"What Act 54 does is it allows undermining, and replacement and repair versus the limited prevention standard of the old law," he said. "Our experience so far with Act 54 has been substantially positive."

And Ellis of the coal association said the industry is capable of protecting historic houses. The industry, he said, was able to prevent damage on a house built in the mid-1800s and is now listed on the National Register of Historic Places.

"We were able to work with [the owners]," Ellis said. "The house is still in one piece. There were no stories afterwards because nothing happened."

Workers with the mining company Alpha Natural Resources like to boast about their relationship with property owners with whom they have worked.

Alpha's Jeremy Rafferty, who serves as a liaison between the company and landowners who are expected to see property damage, said property owners have a host of options, including reporting problems to state regulators.

Rafferty said he has shared strong handshakes with people he's worked with. While they are not happy to endure longwall mining near their properties, he said, they were satisfied with his treatment of them.

Alpha employees also boast about the streams they have helped rebuild.

"Alpha goes above and beyond," Rafferty said.

Rafferty said he and other Alpha representatives work to develop relationships with landowners. The process involves advanced notification, a pre-mining survey of properties, numerous meetings and constant communication.

Richard Belding, 70, a property owner who endured an Alpha longwall project in 2006, said he tried to set ground rules up front in his dealings with the company.

"There is going to be no screaming and yelling, and when it's done, we're going to have a picnic," he recalled.

Belding said he enjoys the new house he bought with settlement money from Alpha. He enjoys watering his flowers and spending time on his front porch, waving at neighbors as they drive by.

"Oh, I love it. I don't miss the old house at all," he said, explaining how it took some convincing with his wife, who has since died. "It's not untraumatic. You have decisions to make."

Another property owner, Richard Barcheise and his wife, a former Alpha employee, decided to have the company try to prevent damage -- through techniques like digging ditches -- and do repairs. The company had to fix the driveway, cracks on the wall and floor, and re-do part of the roof.

"I'm hard to satisfy," he said. "I'm very well satisfied."

'Cheap electricity'

Current state permits allow Alpha at its Cumberland and Emerald mines to extract coal from roughly 50,000 acres under highways, houses and waterways.

The longwall mining star is the continuous miner, a whirring wheel that cuts the coal from the wall and sprays water to prevent explosions. A conveyor belt moves coal out of the mine, which is about 1,000 feet underground.

"This is cheap electricity," said one worker as he watched pieces of coal rolling away from the continuous miner.

The continuous mining wheel moves back and forth, scrubbing the wall as it cuts the coal. Meanwhile, the machine surrounding it -- which includes roof supports and is large enough for miners to walk inside -- moves forward electronically to push the wheel closer to the seam and cut even more coal.

Roof supports that are part of the machinery make the process safer, industry boosters say. Roof falls are a major cause of death in mining. And the process extracts so much more coal, in such an efficient way that for coal companies it is worth using the method even if they are liable for damage above.

"In any extraction industry, you are going to have damage. The issue is to fix it," the Pennsylvania Coal Association's Ellis said.

"Subsidence from room and pillar occurs 40, 50 years down the road. This was one of the benefits of longwall mining."

But people like Erickson say the longall benefits are all for the mining companies -- and, most recently, for gas drilling companies that have moved in to tap Marcellus Shale. Drilling trucks and equipment have become fixtures here.

Erickson, who said she has already been approached by a gas "land man" for access to her property, described the situation in harsh terms.

"It's like being raped by one person," she said, "and then raped again."

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