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Scott Lake In Sinkhole Hotbed

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LAKELAND -- The two apparent sinkholes in Scott Lake are not peculiar to the area near the exclusive, gated community now watching its private lake disappear.

Research by D.S. Saxena, a Lakeland forensic geotechnical engineer, has identified six sinkholes that have occurred over the years within a two-mile radius of Scott Lake.

That's six of the more than 150 sinkholes documented in the county over several decades.

Drawing what are called "possible lineament" lines -- a geological version of connecting the dots between sinkholes -- Saxena has determined two lines that intersect in or near the lake showing spots that are ripe for sinkholes.

Lineament lines show the potential for developing sinkholes. One of the points happens to be in the north section of the lake and the other toward the southeast section, which are very close to the present sinkholes off Pier Place Drive.

"You go back and put two and two together," said Saxena, who is the chief consultant with ASC geosciences as well as a fellow and member of the National Academy of Forensic Engineers.

Scott Lake also differs from many lakes in Polk that have banks that gently roll up from the water.

"Scott Lake is sort of in a bowl," Saxena said. "There's more than a 20-foot elevation difference."

The house that has sustained the most damage so far belongs to Glenda Fontaine and Steve Beebe. The back of their waterfront place is perched close to the water and now appears to be slipping toward the lake.

The county is keeping an eye on the home, but so far it has not been condemned.

Saxena, though, has a couple of key concerns regarding Scott Lake.

"There's a possible deep-seated problem in the water body that may have extended to the bank," Saxena said. "And the second is the stabilizing of the steep bank."

But for all the concern about the lake, there is some good news.

"I don't think the water would drain out," Saxena said. "It's highly unlikely that Scott Lake will be dry."

The Southwest Water Management District sent a sinkhole expert to help Scott Lake homeowners with their vanishing lake Friday. The agency still has no plans to do its own experiments to determine what's wrong or to fix the private lake.

Swiftmud will offer technical assistance such as analyzing data and will serve as a liaison between homeowners and the Department of Environmental Protection, which governs the bottom of the lake.

Swiftmud spokesman Michael Molligan said homeowners on the lake had brought



A dock stands over puddles of water that used to be the south end of Scott Lake in Lakeland on Friday. The water level in the lake has dropped because of two sinkholes. (SCOTT WHEELER/The Ledger)



Saxena looks at the map that he and a friend, Bill Casey, have kept. Saxena says six sinkholes are within a 2-mile radius of Scott Lake. (SCOTT WHEELER/Ledger photos)

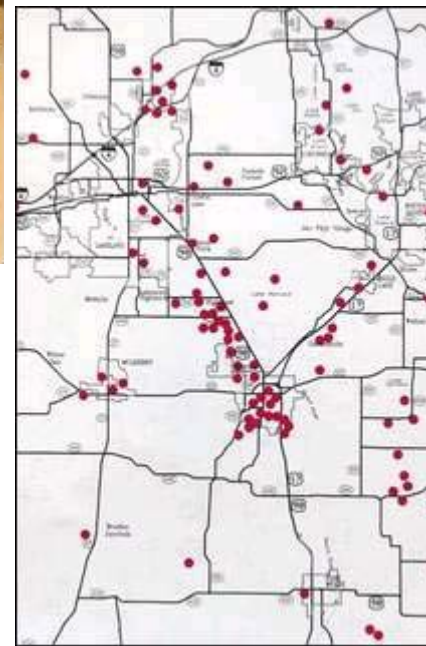
in BCI, an engineering firm, which found one of the sinkholes to be 50 feet deep at one point.

Although it appeared Friday morning that the lake had shrunk about another five feet from its banks, Molligan said Friday afternoon that "it does appear the lake has stopped receding or slowed receding."

Without any real data on the lake, however, Molligan would not say the problem is solved. But he did offer hope.

"Sometimes, sinkholes just fill themselves in," Molligan said.

Sinkholes are caused when the sandy or clay bridge between a lake's bottom and porous limestone aquifer beneath collapses.



The bridge breaks down over time. But sinkholes are more frequent when dry periods are followed by heavy rains such as this week's encounter with Tropical Storm Alberto.

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A map kept by D.S. Saxena, above, indicates with dots the sinkholes in Polk County that he has plotted.