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## Fish kill: Fertilizer nitrates may be to blame for 500 dead Parleys Creek trout

How it got there is still a mystery

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Salt Lake City and state officials believe exceptionally high levels of nitrate are responsible for a widespread fish kill on Parleys Creek last week, but they still don't know how it got into the water.

"You can get nitrates from fertilizers. That's the first thing that pops into my mind," said Florence Reynolds, who is in charge of water quality and treatment for Salt Lake City. "I don't know what other kinds of material would have a heavy enough nitrate level to show up like that."

The nitrate level in the creek at Parleys Nature Park near the mouth of Parleys Canyon was 1.66 milligrams per liter June 26 at 8 a.m. when a Salt Lake City water-quality and treatment monitoring station collected a sample as part of a water-quality project.

Last week's numbers were even more alarming at a station near Sugar House Park, where the nitrate level was 21.05 milligrams per liter. Nitrates that reach 4 milligrams per liter are toxic to cold-water fish, like the more than 500 Bonneville cutthroat trout found dead in the creek. The highest nitrate level previously recorded on Parleys Creek was 0.8.

The nitrate level was likely higher at Parleys Nature Park at one point, but the sampling took place after the nitrates had flowed downstream.

"It was very unusual to get readings that high," Reynolds said.

The temporary spike in nitrate flows points to some kind of spill or dumping. There would not have been any danger for humans or dogs swimming in Parleys Creek between Parleys Nature Park and Sugar House Park around June 26.

Mike Slater, an aquatic biologist for the Utah Division of Wildlife Resources in charge of Wasatch Front streams and creeks, said he typically finds nitrate levels between 0.3 and 0.8 milligrams per liter.

"I hope I can say that is the culprit," he said of the elevated nitrate levels. "How and where and what produced those high levels I do not know."

Human and animal waste also can lead to high nitrate levels. Some have speculated that the off-leash dog area of Parleys Nature Park may have contributed to the problem, but Slater said the fact that the origin of the fish kill occurred on the other side of Interstate 215 rules out that possibility. He also said that issues with dog waste in Parleys Creek would have shown up before this event because Salt Lake City and the DWR have been monitoring the water for years.

The trout also were likely already stressed by a water temperature of 74 degrees on June 26, which is on the threshold of tolerance for the species.

Reynolds said the water-treatment facility on Parleys Creek at Mountain Dell Reservoir is not responsible for any contamination and called the nitrate level "suspicious."

Slater said he has some leads involving bridge construction on the Parleys Trail where it crosses Interstate 215 at the mouth of Parleys Canyon, but that nothing definitive has been concluded about where the high level of nitrates developed.

The pond at Sugar House Park appears to have served as a dilution point for the nitrate because fish in Parleys Creek below the park did not suffer the fate of the trout above the pond.

Results of samples from other agencies, including the Division of Water Quality, are coming soon, but are expected to confirm that an abnormally high level of nitrate is probably what led to the fish kill.

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