

Coal ash taints water in five states, study says

June 14 2016, by Bruce Henderson, The Charlotte Observer

A study of North Carolina and four other southeastern states found evidence that coal ash ponds consistently contaminate nearby lakes, rivers and groundwater, Duke University scientists say.

The effects may last for years, even when ponds are no longer used, the peer-reviewed study found. It appeared Friday in the journal *Environmental Science & Technology*.

Toxic metals such as arsenic and selenium, which occur in ash, were found in water near ash ponds at all 21 [power plants](#) in the study. Concentrations were above federal standards, meaning they threaten people or wildlife, in 29 percent of the water samples from rivers and lakes.

"With over 500 coal ash ponds in the southeastern U.S., the results presented in this study suggest significant releases of coal ash-impacted water to the environment," the study concludes.

The study was financed by the Southern Environmental Law Center, a nonprofit business that represents advocates in lawsuits against Duke Energy and other utilities over ash contamination.

Test wells have already shown that groundwater under all 14 of Duke's power plants in North Carolina is contaminated by ash. The unanswered question is whether contaminants have reached communities near the power plants.

Duke Energy says there is no [evidence](#) that has occurred. State environmental officials have found contaminants in hundreds of private wells near N.C. power plants, but say they might occur naturally.

The Duke University study did not look at private wells, although scientists are working on that now.

But the study provides new scientific footing for the ongoing debate over ash, said Avner Vengosh, a Duke professor of geochemistry and water quality.

"We're trying to provide the science that a lot of people have debated, but without the tools," he said. "It goes both ways, both against the utilities and against the advocates."

The Duke study looked at state data for 156 wells that monitor groundwater under North Carolina ash ponds.

The study found high levels of boron, an element that is an indicator of coal ash, in 58 of the wells. It found contamination above federal water standards in 48 of them, although ash elements were detected in some wells but did not break federal standards.

Duke Energy found support in the study for its position that ash does not need to be excavated from many of its 33 N.C. ponds.

"It's interesting that this Duke University study, funded by SELC, recognizes that even excavation is not a one-size-fits-all solution, and that smart closure requires ongoing monitoring and engineering - exactly the approach we've been advocating," spokeswoman Erin Culbert said.

Duke Energy will monitor groundwater for years under any method used to close the ponds, as legislators ordered in 2014, Culbert said.

The Southern Environmental Law Center said the study it financed supports advocates' insistence that ash be excavated from all Duke's ponds.

"It is true that it may be necessary to do more - contaminants may be left behind because of years of irresponsible coal ash storage by Duke Energy," said attorney Frank Holleman. "But the first, essential step is to get rid of the source of the contamination - the tons of coal ash, containing toxic substances, sitting in these unlined, leaking pits saturated by [groundwater](#)."

The N.C. Department of Environmental Quality said it had not reviewed the study and had no comment.

The study also analyzed the effect of leakage from ash ponds into [rivers](#) and lakes in Tennessee, Kentucky, Georgia and Virginia.

In nearly all cases, high levels of boron were associated with the "fingerprints" of [coal ash](#) identified by the different forms of chemical elements. More study is needed of the magnitude and long-term environmental effects of ash ponds, the researchers said.

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