

>> Our Waters at Risk PART 2

The Impact of Coal Ash on Indiana's Water Resources



Executive Summary

Coal ash is the material left after burning coal. It contains heavy metals that can contaminate water. Indiana has been producing millions of tons of coal ash per year much of which is now stored in massive open-air impoundments. Indiana has more coal ash impoundments than any other state in the nation.

This report is a follow up to the 2014 Hoosier Environmental Council report *Our Waters at Risk*. In the years since the publication of *Our Waters at Risk*, the regulatory framework for coal ash has changed completely with the first ever federal rule on coal ash disposal, the Coal Combustion Residuals Rule or CCR Rule as well as the Effluent Limitations Guidelines, or ELG Rule.

The CCR Rule requires groundwater monitoring at coal ash disposal sites, so for the first time in 2018 comprehensive data on the groundwater impact became available. For this report, the Hoosier Environmental Council reviewed all of the most recent groundwater data submitted under the CCR Rule for coal ash impoundments in Indiana. It shows that all but one of Indiana's monitored coal ash sites have contaminated the groundwater rendering it unfit for use as drinking water. Fourteen of the 15 sites exceed drinking water limits for molybdenum and lithium, 12 for boron, 11 for arsenic, 10 for sulfate, 6 for cobalt, 4 each for antimony and radium and 2 each for lead, selenium and thallium. The maximum concentrations detected often exceeded drinking water standards by many-fold.

Coal ash disposal can also threaten surface water, like lakes and rivers. This happens when water used to manage coal ash is discharged to waterways carrying coal ash contaminants with it. Lakes and rivers also receive the groundwater that has been contaminated by coal ash. If containment structures fail, coal ash can spill forming massive mudslide-like devastation. The risk to surface water is highest when coal ash is disposed of in the floodplain where aquifers are often shallow and flooding can induce a spill.

It is possible to dispose of coal ash in a manner that protects water resources. The key is to keep the ash from having contact with water. Using the ash in a manner

that encapsulates it, such as in concrete, is safe. For the ash that must go for disposal, a well engineered landfill at a site on high ground, out of the floodplain, with an impermeable liner and leachate collection system under the ash and an impermeable cover over the ash is the best method of disposal.

Water-protective disposal of coal ash is happening in other states. In North Carolina and South Carolina all coal ash in impoundments is being moved to lined landfills or recycled. Virginia passed a law requiring removal of coal ash from unlined impoundments adjacent to major waterways. Leaking impoundments are being excavated in Tennessee, Georgia, and Florida, as well.

Indiana stands in stark contrast. It is the state with the most coal ash impoundments, and the majority of them are in the floodplain, yet only three sites in Indiana are planning to close coal ash impoundments by removing the ash to landfills on high ground. At ten other sites plans have been submitted by Indiana's electric utilities to the Indiana Department of Environmental Management (IDEM) for closing coal ash impoundments by leaving the ash in place and building a cap over it. This leaves the groundwater beneath the ash at risk, and at most of them, leaves the ash in the floodplain. The state has started approving these "cap-in-place" plans, including at sites where the coal ash would not just be threatening the groundwater, it would actually be left sitting in the groundwater.

Indiana can do much better to protect water resources for the future – for the sake of our public health and for the protection of our precious groundwater, rivers, and Lake Michigan. Coal ash impoundments that are in the floodplain or that are a threat to the groundwater need to be excavated and the ash recycled or taken to a lined landfill on high ground. Coal ash should no longer be used as fill material where it can come into contact with water. Where coal ash has contaminated groundwater, sound cleanup methods are needed to restore the groundwater.

November 2020.

See full report at IndianaCoalAsh.org