

# WHAT IS COAL ASH

## and how could it affect me?

Alabama is globally recognized for the variety of plants and animals<sup>i</sup> that live in the 145,000+ miles of rivers and streams that flow within its borders.<sup>ii</sup> However, these bountiful waters are threatened by the unregulated disposal of coal ash, a waste product produced by burning coal for electricity. Studies show that this waste is highly toxic, yet current law allows industries to store it in unlined landfills or lagoons<sup>iii</sup> that have been known to release their toxic contents.

By the end of 2014, the US Environmental Protection Agency is expected to issue a rule under the Resource Conservation and Recovery Act, a federal law that regulates the disposal of both hazardous and solid wastes. This will decide whether coal ash should be regulated as hazardous.

“Alabama has at least **forty-four ash ponds on the banks** of our rivers.”

Coal ash often contains arsenic, mercury, chlorine, fluorine, lead, copper, and selenium.<sup>iv</sup> These elements are hazardous to both human health and ecosystems. Alabama has 44 coal ash ponds located on the banks of our rivers. The EPA estimates that these ponds can hold over 24.1 billion gallons of toxic coal ash.<sup>v</sup> This quantity of coal ash on our rivers presents a grave threat to our communities and waterways. As seen in recent disasters in North Carolina and Tennessee, a spill into our waters can happen at any time.

### For more information:

Alabama Rivers Alliance - [www.AlabamaRivers.org](http://www.AlabamaRivers.org)  
Black Warrior Riverkeeper - [www.BlackWarriorRiver.org](http://www.BlackWarriorRiver.org)  
Coosa Riverkeeper - [www.CoosaRiver.org](http://www.CoosaRiver.org)  
Southern Alliance for Clean Energy - [www.SoutheastCoalAsh.org](http://www.SoutheastCoalAsh.org)

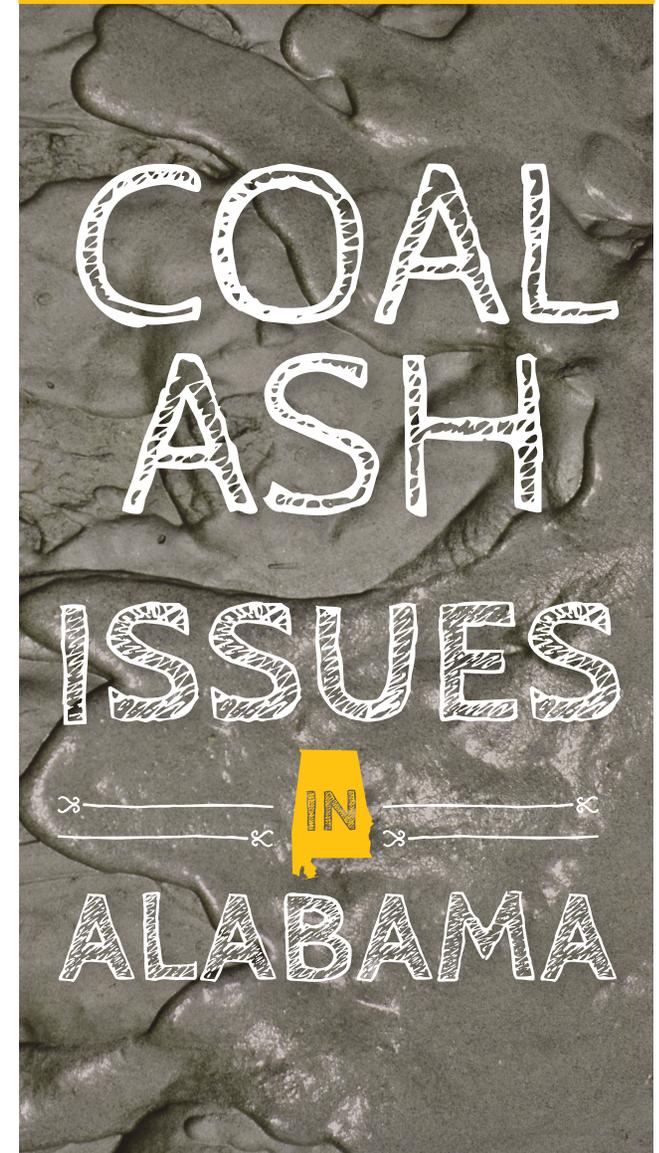
### Sources:

- <sup>i</sup> Duncan, S. R. (2013). "The Aquatic State." Southern Wonder: Alabama's Surprising Biodiversity. Tuscaloosa, AL: University of Alabama Press.
- <sup>ii</sup> NHD Plus Version 2 Website. Retrieved from <http://www.horizon-systems.com/nhdplus/>.
- <sup>iii</sup> Environmental Protection Agency. (2010). Human and ecological risk assessment of coal combustion wastes [PDF document]. Retrieved from <http://earthjustice.org/sites/default/files/library/reports/epa-coal-combustion-waste-risk-assessment.pdf>
- <sup>iv</sup> Ruhl, L., Vengosh, A., Dwyer, G. S., Hsu-Kim, H., Schwartz, G., Romanski, A., & Smith, S. D. (2012). The impact of coal combustion residue effluent on water resources: a North Carolina example. Environmental science & technology, 46(21), 12226-12233.
- <sup>v</sup> Alabama: A state's role in coal ash regulation. (2013). Southern Alliance for Clean Energy and partners. Retrieved from <http://www.southeastcoalash.org/>
- <sup>vi</sup> Dewan, Shaila. "Waste Spills at Another TVA Power Plant." New York Times, January 9, 2009. Retrieved from <http://www.nytimes.com/2009/01/10/us/10sludge.html>
- <sup>vii</sup> Letter from William G. Cronin, Widows Creek Plant Manager, to Alabama Department of Environmental Management, Environmental Data Section, "Notification of Upset Condition," (January 14, 2009); Tennessee Valley Authority, Widdows Creek Fossil Plant Gypsum Removal Project, Final Environmental Assessment, July 2009.
- <sup>viii</sup> Tennessee Valley Authority, Widdows Creek Fossil Plant Gypsum Removal Project, Final Environmental Assessment, July 2009, at 1-4.
- <sup>ix</sup> Cole, J. and Dobbins, E. G. "Effects of surface runoff from a landfill containing coal ash on water chemistry in adjacent surface water in Perry County, Alabama." (presentation, 75th Annual Meeting of the Association of Southeastern Biologists in Spartanburg, SC in April 2-5, 2014).



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## COAL ASH STORAGE SITES IN ALABAMA

Alabama has nine coal-fired power plants with at least 44 coal ash ponds resting on rivers and creeks throughout the state. These plants produce 3.2 million tons of coal ash every year, and because of the high quantity of toxic heavy metals, Alabama houses the most toxic coal ash of any other state in the US. <sup>v</sup>



**HIGH HAZARD**  
Indicates that a dam failure is likely to cause loss of human life.

**SIGNIFICANT HAZARD**  
Failure is likely to cause significant economic loss, environmental damage, or damage to infrastructure.

## WET STORAGE

Wet coal ash is often stored in ponds or lagoons neighboring directly on the banks of the nearby waterways. <sup>v</sup>

### WIDOWS CREEK CASE STUDY

On January 9, 2009, a wet storage coal ash pond spilled approximately ten thousand gallons of coal ash waste into Widows Creek, which feeds into the Tennessee River, near Stevenson, AL. <sup>vi</sup> An abandoned drain cap on a 36-inch standpipe in the gypsum pond became dislodged, sending coal ash gypsum into a secondary holding pond that overflowed into adjacent waters, contaminating them with gypsum. <sup>vii</sup> Gypsum waste is the by-product of a process used to reduce air emissions. <sup>viii</sup>

Coal ash gypsum is less toxic than fly ash, but it is still dangerous and can contain contaminants such as boron, cadmium, molybdenum and selenium. <sup>vi</sup> Spills such as the one at Widows Creek show the susceptibility of coal ash ponds to leaks and spills that can endanger both public health and the environment.

Currently, Alabama has no laws or regulations ensuring the safety and integrity of coal ash dams.

## DRY STORAGE

Dry coal ash is stored in landfills. Currently, landfills in Alabama must have groundwater monitoring and liners, but those built before this was mandated are not required to be retrofitted to meet these standards. <sup>v</sup>

### ARROWHEAD LANDFILL CASE STUDY

Arrowhead Landfill in Uniontown, AL is infamous for its problems with coal ash storage. Coal ash waste came there in the aftermath of the TVA Kingston Fossil Plant disaster that struck under three weeks before the Widows Creek spill. In Kingston, over 1.1 billion tons of fly ash flooded tributaries to the Tennessee River near Knoxville, TN. The sheer pressure of the ash flood ripped docks off banks, buried boathouses, knocked homes off their foundations, and polluted surface waters for miles.

Roughly 4 million tons of fly ash recovered from the Kingston spill was transported by open rail cars to the Arrowhead Landfill where it was used as cover material for other wastes. In 2013, scientists from Samford University found that coal ash at the landfill had escaped into an adjacent stream. Arsenic levels in this exceeded the levels set by the Alabama Department of Environmental Management standards for Fish and Wildlife classified streams. <sup>ix</sup>

Arrowhead Landfill is sited on an area rich with Selma Chalk, a supposedly impermeable subsoil. However, without proper regulation and protections, this coal ash remains a threat to surrounding communities whose citizens are predominantly minority and largely impoverished.

## HOW CAN WE PROTECT OURSELVES AND OUR ENVIRONMENT FROM THE THREATS OF COAL ASH IN ALABAMA?

Everyone has a role in continuing to improve regulation of coal ash to protect our air, land, and water, including:

**Citizens** – Citizens must remain engaged in the issue to advocate for better regulation at all levels of government and to ensure that industry is complying with existing laws.

**Federal Government** – The Environmental Protection Agency must improve existing and develop additional regulations to include the required cleanup of legacy sites and the end of wet coal ash disposal.

**State Government** – The Environmental Management Commission must ensure that state regulations for coal ash storage and coal ash discharge permits are protective of water quality and human health and that discharge permits are kept up to date to ensure ongoing protections.

**Industry** – The industries that generate coal ash, such as Alabama Power Company and the Tennessee Valley Authority, must comply with state and federal regulations.