



# OVERBURDENED

## ***Unreclaimed “Zombie” Mines and Their Impacts on Coal Communities***

*Pictured above: Looney Ridge Coal Mine in Virginia, pictured here in 2021, is still unreclaimed. Photo by Appalachian Voices*

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) was designed to ensure coal mines are cleaned up. Unfortunately, downward trends in the industry and subsequent bankruptcies have revealed shortcomings in the regulatory framework, leading to a new wave of abandoned, unreclaimed coal mines. “Zombie” mines, mines which have not produced coal nor demonstrated reclamation for months or years, represent an unknown percentage of the total of disturbed coal mine lands nationally. A recent [analysis](#) of Kentucky permits found that nearly 40% of “active” mines haven’t produced coal since 2020. In today’s economic climate, any active mine is at risk of going into zombie mine status.

The decline in the coal industry has hit coal communities with a double burden — a devastating loss of jobs and tax revenues, as well as degraded sites that prevent economic development, damage homes, increase flooding, pollute water and harm local wildlife.

### Harms to Homes and Property

[In 2022](#), red water running off the former Love Branch Mine in Kentucky ruined one miner’s septic system and collapsed his dining room floor. In addition to mine runoff, residents near these unreclaimed sites have seen boulders roll downhill, landslides, and other devastating impacts that lead to years of legal battles against companies that may have gone bankrupt. Lexington Coal Company’s Crescent Mine in West Virginia committed more than 30 violations for damages such as failing to control runoff and letting boulders roll downhill. These conditions force many residents to abandon homes and land held by family for generations, often losing the value of their homes.

### Worsened Flood Impacts

A [recent study from](#) the Office of Surface Mining, Reclamation and Enforcement showed that compacted soil from large mining complexes makes downstream communities especially vulnerable to increased flooding. Engineering studies have linked inappropriately operated or unreclaimed mines to worsened flood damage in nearby communities, for example, in [Harless Creek, Kentucky](#). The devastating floods that hit communities in Kentucky, Virginia and West Virginia in July 2022 [prompted increased calls](#) for the need to investigate the potential links between unreclaimed mines and worsened flood impacts.

## Environmental Hazards to Community and Wildlife

Surface mines can impact groundwater, which can pollute nearby drinking water wells. Since many people in the region rely on well water, residents living near these sites are at [risk of water contamination](#).

Runoff from unreclaimed mines doesn't only damage homes and water systems, it contaminates local waterways with pollutants including selenium, sulfuric acid, salts and metals. These metals include aluminum, which turns local creeks a bluish-white color, and iron that creates orange waterways. Selenium is a particularly harmful pollutant common in mine run-off in Central Appalachia. While healthy in small amounts, [studies have shown](#) that high levels of selenium near coal mines negatively impact local wildlife, causing deformities including bent spines in fish, insects and birds.

Other hazards include [highwalls](#); these unstable cliffs have caused death and injury when falling rocks collapse and bury victims, or when people have fallen from these vertical cliffs.

## Prevents New Economic Opportunities

As the coal industry's decline continues, workers and communities face an uncertain future. However, putting miners back to work reclaiming mines would mitigate some of the job loss that has occurred as demand for coal has declined. In 2020, The Western Organization of Resource Councils [estimated](#) that the workforce needed to complete surface mine reclamation in Arizona, Colorado, Hopi Tribe, Montana, Navajo Nation, New Mexico, North Dakota, Utah, and Wyoming would create between 6,081 and 12,161 job-years. Appalachian Voices completed [a similar analysis in 2021](#) for Alabama, Kentucky, Ohio, and Pennsylvania, Tennessee, Virginia and West Virginia and found that reclamation of modern mines would create between 23,000 and 45,000 job-years across these seven Eastern states.

Beyond job losses, harms from unreclaimed coal mines compound to deter economic development. For example, a 100-megawatt solar farm planned on a former mine in Pike County, Kentucky, has faced uncertainty due to [years-long delays](#) in mine reclamation. By contrast, reclaimed mine sites create potential opportunities for new economic ventures and can improve resilience to environmental disasters. These projects can have a multiplier effect on many industries within the local economy.



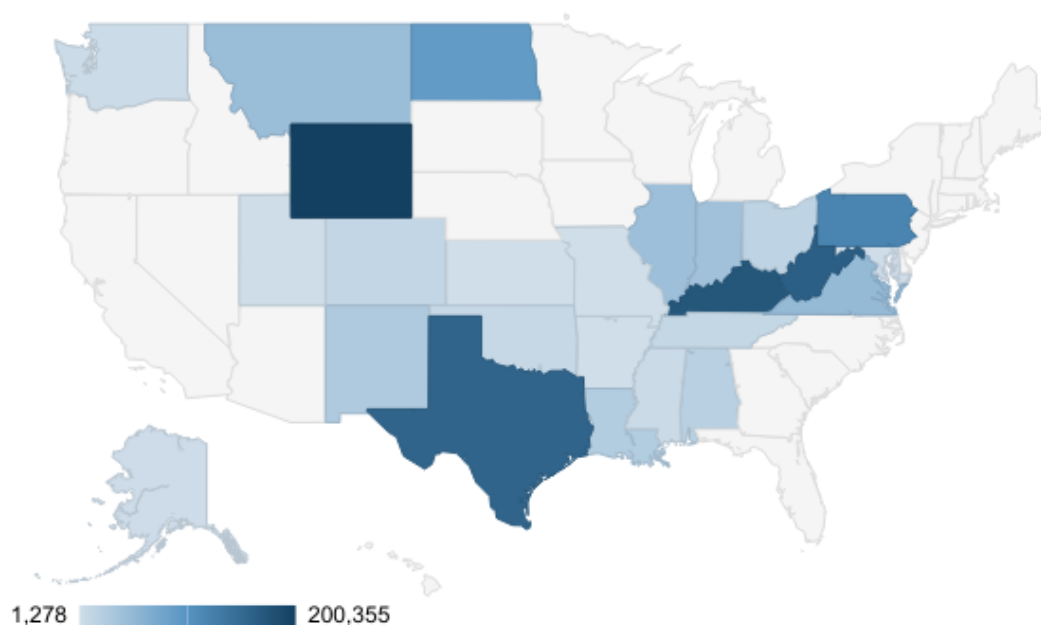
*Above Left: Home near Eagle Butte Mine in Wyoming. Above Center: Washed out roadway following July 2022 flooding in Virginia. Above right: Image from December 2023 of a mine in Pike County, Kentucky, that has not produced coal since 2019. Photos courtesy of Appalachian Voices and Powder River Basin Resource Council*

## Estimating the Extent of Unreclaimed Modern Coal Mines

Researchers estimate the total outstanding cost of reclamation could be as high as \$9.8 billion dollars in the Appalachian states alone. Conservative estimates show that over a million acres of coal mines, an area larger than Rhode Island, are in need of partial or full reclamation.

The estimates shown in this map and in the chart below were compiled in February 2024 using 2020-2023 OSMRE Annual Evaluation Reports as well as individual analysis due to differences in reporting methods. Estimates include all acreage disturbed by coal mining that are held by coal companies and under an active SMCRA permit. The federal government does not assess outstanding reclamation liability. Refinement to state and federal data collection and reporting is needed to gain a clearer understanding of the amount of acreage in various stages of reclamation and outstanding reclamation costs.

### Estimated Acreage of Land Disturbed by Coal Mining



Nationally, over one million acres of modern coal mines require full or partial reclamation. Many of these sites are, or are at risk of becoming, zombie coal mines.

As shown by the map above, the threats that unreclaimed modern-era coal mines pose to communities are a national issue. This material was created in February 2024 by Appalachian Voices and Appalachian Citizens' Law Center. To learn more about new legislative opportunities to help solve this growing problem, please contact [Chelsea@AppVoices.org](mailto:Chelsea@AppVoices.org).