

PREVENTING HARMS FROM METALS MINING

Patrick Fanning // Chesapeake Bay Foundation // PFanning@cbf.org
Jessica Sims // Appalachian Voices // jessica@appvoices.org

WHY IT MATTERS

Small-scale mining for gold, copper, zinc, and lead occurred in the 19th and early 20th centuries in Virginia and is now evidenced by hundreds of abandoned or unreclaimed mines.¹ The mine sites run along a geological gold-pyrite belt which extends from Fairfax to Halifax Counties. More recently, a large-scale version of this toxic industry has tried to move forward in the Commonwealth before a comprehensive regulatory framework and sufficient financial assurances are in place. This could put the public health and drinking water of millions of downstream residents at risk.

Metals mining is a land-intensive process and is the nation's #1 toxic pollution source.² Mineral or metal mining can be a very toxic process both during processing and in storage and waste operations. Mining procedures can result in perpetual acid mine drainage, catastrophic waste containment failures, destruction of cultural heritage, and the devastation of local economies as a result of the boom-and-bust cycle of the industry.^{3,4} With recent federal efforts to expand drilling for metals on federal land, there must be proactive measures taken to ensure Virginia's safety.⁵

Virginia must be protected from the potential harms of the large-scale metals mining industry. This must include notifying the public when the industry may impact their communities, supporting communities along the gold-pyrite belt, especially rural and historically Black communities most at risk from potential mining contamination, and preserving our precious water resources and agricultural lands.

CURRENT LANDSCAPE

Community members in Buckingham County alerted the public after learning a junior mining company, or prospecting company, had been exploratory drilling near Virginia's gold-pyrite belt in Buckingham County since 2020.⁶ The company announced "high grade" findings.⁷ This led to legislation requiring the 2022 study, "Potential Impacts of Gold Mining in Virginia" conducted by the National Academy of Sciences. It highlighted many threats from gold mining: cyanide contamination, perpetual acid mine drainage, and catastrophic waste containment failures.⁸ Legislation to prohibit the use of cyanide in mineral mining and processing passed unanimously in 2024, eliminating one potential threat to Virginia's water and environment and was reiterated in 2025 legislation.^{9,10}

But, as there is no permitting or notification require-

ment for exploratory drilling for mineral mining, nor an in-depth study on the potential impacts of other likely pursued metals like copper, zinc, and lead, Virginia communities may be unaware of nearby prospecting and its potential impacts. Expanded exploration efforts for copper in Southside have also been announced.¹¹ Of additional consideration are federal efforts to expand the mining of critical minerals, or metals, on federal lands. This intensifies our need to proactively address any toxic processes associated with the industry.

But, Virginia's current mineral mining regulations are not designed to address modern-day industrial base and precious metals mining. Rather, they focus on the majority of active non-metals mining permits – sand, gravel, and stone aggregates, which involve distinctly different processing methods, and do not have the same toxicity impacts.

The gold-pyrite belt intersects innumerable environmental justice communities, often overburdened with existing pollution, and the surface drinking water systems for 3.2 million people are downstream of the belt.^{12,13,14} The belt crosses the James River, which brings millions of dollars into Virginia's economy from commercial fishing and attracts over 7 million visitors annually.¹⁵

As the Commonwealth works to safeguard our watersheds and agricultural lands, the introduction of a new significant source of pollution – industrial metals mining – threatens the viability of those efforts. Additionally, hundreds of historic metal mines lie abandoned across Virginia's landscape.¹⁶ The cost to taxpayers of reclaiming these abandoned sites is an economic burden, and the negative health and environmental impacts of not reclaiming these sites are dangerous.¹⁷

OPPORTUNITIES

To protect people and the Commonwealth's natural resources, specifically its rivers, streams, and agricultural lands, Virginia must put in place an effective regulatory framework for mining metals and be fully informed on the potential impacts from the metals mining industries.

While the Commonwealth exercises due diligence in reviewing outdated and insufficient regulations, it should implement a 'pause' on permitting any new metals mining projects to the extent of its authority. The granting of permits for the mining of gold, copper, lead, or zinc, for example, without sufficient knowledge of project impacts, or with deficient reg-

PREVENTING HARMS FROM METALS MINING

Patrick Fanning // Chesapeake Bay Foundation // PFanning@cbf.org
Jessica Sims // Appalachian Voices // jessica@appvoices.org

ulatory oversight of impacts is inappropriate given the potential environmental, human health, and economic harms.

To create an effective regulatory framework, the Commonwealth must seek a broad analysis of existing metals mining regulations, not limited to just one commercial product. The review should engage environmental, health, and energy state agencies. As the threat of large-scale mining is statewide, and would have both short- and long-term impacts, existing bonding, reclamation, closure, and monitoring regulations must also be comprehensively evaluated and updated.

Any review processes must include robust public engagement and education. Economic, human health, and environmental implications of metals mining and reclamation should be part of all evaluations. To increase public awareness, prospecting companies that are performing drilling operations should be required to notify county officials and nearby residents.

ENDNOTES

1. *Gold*. (n.d.). Virginia Department of Energy. <https://energy.virginia.gov/geology/Gold.shtml>
2. *Releases by chemical and industry*. (n.d.). U.S. Environmental Protection Agency. <https://www.epa.gov/trinationalanalysis/releases-chemical-and-industry>
3. *Acid mine drainage*. (n.d.). Earthworks. https://www.earthworks.org/issues/acid_mine_drainage
4. *Mining*. (n.d.). Earthworks. <https://www.earthworks.org/issues/mining>
5. Trump, D. J. (2025, March 20). *Immediate Measures to Increase American Mineral Production*. The White House. <https://www.whitehouse.gov/presidential-actions/2025/03/immediate-measures-to-increase-american-mineral-production>
6. *Aston Bay announces exploration agreement for gold exploration property in Virginia, USA*. (2019, March 4). Aston Bay Holdings. <https://astonbayholdings.com/news/aston-bay-announces-exploration-agreement-for-gold-exploration-property-in-virginia-usa>
7. *Aston Bay intercepts 37.70 g/t Au over 1.5 m and 6.56 g/t Au over 2.18 m in completed Phase 2*. (2023, August 10). Aston Bay Holdings. <https://astonbayholdings.com/news/aston-bay-intercepts-37.70-g-t-au-over-1.5-m-and-6.56-g-t-au-over-2.18-m-in-completed-phase-2/>
8. *The Potential Impacts of Gold Mining in Virginia*. (2023). National Academies Press EBooks. <https://doi.org/10.17226/26643>
9. Virginia Stormwater Management Act, Va. Code Ann. § 62.1-44.15:24 (2024). <https://legacylis.virginia.gov/cgi-bin/legpp604.exe?241+ful+CHAP0135+pdf>
10. Virginia Water Protection Permit Program, Va. Code Ann. § 62.1-44.15:20 (2024). <https://lis.blob.core.windows.net/files/1074180.PDF>
11. *Aston Bay Offering Document under the Listed issuer Financing Exemption*. (2024). Aston Bay Holdings Ltd. https://astonbayholdings.com/site/assets/files/1645/bay_-_listed_issuer_financing_form_45-106f19_april_2024-1.pdf
12. *Virginia – Mapping for Environmental Justice*. (2021). Mapping for Environmental Justice. <https://mappingforej.berkeley.edu/virginia>
13. Virginia Administrative Process Act, Va. Code Ann. tit. 2.2, ch. 2, art. 12 (2024). <https://law.lis.virginia.gov/vacodefull/title2.2/chapter2/article12/>
14. *Gold and pyrite in drinking water*. (2021, November 3). Southern Environmental Law Center. https://static1.squarespace.com/static/619bd6e54d45ff6263eef5a7/t/619d531a13f8a334f9967a9a/1637700412250/Gold-Pyrite_DrinkingWater_November+3+2021.pdf
15. *State of the James*. (2023, June 15). The James River Association. <https://thejamesriver.org/about-the-james-river/state-of-the-james>
16. *Mineral mining*. (n.d.). Virginia Department of Energy. <https://energy.virginia.gov/mineral-mining/mineralmining.shtml>
17. Pipkin, W. (2022). *Developers strike contamination from Virginia gold mines*. Bay Journal. https://www.bayjournal.com/news/pollution/developers-strike-contamination-from-virginia-gold-mines/article_e13b5500-958c-11ec-b325-e7be704ed91b.html

TOP TAKEAWAYS

Prospecting companies are performing drilling operations without the knowledge of county officials and nearby residents.

Virginia lacks regulations for large-scale mineral or metals mining. There is no existing comprehensive regulatory framework that includes bonding, reclamation, closure, or monitoring requirements for new metals mining projects.

Large-scale mineral or metals mining can use toxic materials in processing, and the impacts of toxic substances on Virginia's water resources could be catastrophic.