## The Impact of Coal on Bio-diversity Loss: A Silent Crisis



Coal mining and combustion have profound implications for bio-diversity, driven primarily by habitat destruction, pollution, climate change, water resource depletion, the spread of invasive species, and economic pressures. First and foremost, mountaintop removal mining can decimate entire mountain ranges, obliterating habitats for countless species. The runoff from these mining operations often contaminates nearby water sources, further exacerbating the risks to local wildlife and vegetation.

Pollution from coal-fired power plants also poses a significant threat; a 2021 report by the Environmental Integrity Project revealed that such plants in the U.S. released 11 million pounds of toxic metals into the environment. These pollutants can bio-accumulate in aquatic organisms, disrupting ecosystems and food chains. Furthermore, the Intergovernmental Panel on Climate Change (IPCC) highlighted that coal combustion is responsible for about 40% of global CO2 emissions, which not only alters habitats but also increases the frequency and severity of extreme weather events.

The intense water consumption associated with coal mining — ranging from 1 million to 5 million

gallons per day for dust mitigation and cooling – can affect local water sources, diminishing availability for aquatic life and other human uses. This depletion of exacerbates the challenges faced by native species.

Disturbed lands from surface mining can facilitate the introduction of invasive plant species, with a BioScience study indicating increases of up to 100% in their prevalence. These invaders pose a significant threat to native flora and fauna, leading to lasting shifts in local ecosystems.

Finally, communities dependent on coal extraction often find themselves trapped in a "resource curse," where short-term economic benefits hinder investments in sustainable practices. This scenario not only leads to bio-diversity loss but also stifles long-term economic potential.

Addressing the multifaceted impacts of coal on bio-diversity is essential preserve to our ecosystems and ensure a sustainable future. As awareness is crucial for both grows, it policymakers and communities to prioritize transition strategies that mitigate these harms while supporting economic resilience.



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