

Comparison of Long-term Recovery Between Managed and Unmanaged Reclaimed Mine Lands

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Reclaimed mine lands account for high portions of land within southeastern Ohio, and fully restoring these lands to their original state requires much time and effort. The legal requirements for reclamation are minimal, and restoration and land management after reclamation is ideal when financially possible. Reclamation aims to promote drainage, prevent acid production and establish vegetative cover, while post-reclamation restoration and management aims control invasive plants, prevent erosion, and aid in returning a disturbed habitat to its original condition. The objective of this study is to compare species richness, vegetation diversity, proportion of native to invasive plants, and percent organic matter between reclaimed mine lands that have experienced post-reclamation management, including further plantings, invasive removal, grazing, or burning, and reclaimed mine lands that have not been managed after an initial vegetative cover established. Vegetation composition was assessed at 42 sites (21 managed and 21 unmanaged sites) using the North Carolina Vegetation Survey method. The results found that cover of native plants was not significantly different between managed and unmanaged sites, but the cover of invasive plants was significantly larger in unmanaged sites. The occurrence of invasive species correlates to the success of a site because invasive plants benefit from disturbance. The vegetation diversity and species richness was higher in managed sites. There was a significant difference between organic matter in managed and unmanaged sites. Post-reclamation management allows a site to be more successful by creating higher diversity and therefore a better ability to adapt to change or disturbance.