

Soil

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Opportunities for forest slash-based biochar in abandoned mine land reclamation

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Biochar has great potential as a soil amendment for abandoned mine lands that have long-term problems with erosion, soil compaction, soil acidity and hazardous contaminants such as heavy metals. Yet, the availability of biochar for such remediation efforts is often limited or exceedingly high in cost. Ongoing efforts by the U.S. Forest Service to increase biochar production from forest slash offer synergistic opportunities to link forest fuels management with forest soil reclamation projects. Here we present on the emerging capability for biochar production from forest slash in the western U.S. and two associated biochar-based remediation projects underway in the Boise National Forest. These projects center upon surface additions of slash-based biochar and native seed mix. Treatments aim to improve soil structure, pH, water holding capacity, and ultimately the establishment of native vegetation on these otherwise barren, rocky soils left from historic mining activity. Results from these pilot studies will provide insight and guidance into viable avenues and methods for utilizing slash-based biochar applications to rejuvenate ecosystem services in disturbed and contaminated soils.

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