

THE EFFECT OF MINE SPOIL RECLAMATION ON SPECIES COMPOSITION AND ABUNDANCE OF ANTS

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The effect of strip mine reclamation on ant community structure was investigated. Six study areas, each with different reclamation histories, were sampled to test for effects of age since reclamation, reclamation method, and land use after reclamation. The six areas consisted of an unmined control area; an area reclaimed in 1987; an area reclaimed in 1983; and two areas reclaimed in 1978, one of which had been grazed by cattle since 1985. An additional area, reclaimed in 1981 with mixed grass species (side oats grama and alamo switch grass), was examined to test for the effects of an alternate reclamation method.

The red imported fire ant, Solenopsis invicta, was present on all study areas. Statistical analysis indicated significant effects of month and study area on fire ant abundances. Diversity index values suggest that colonization is open to several ant species early in the reclamation process, but the presence of the red imported fire ant, Solenopsis invicta, confounds ant community recovery. Grazing by cattle and reclamation with mixed grasses appear to accelerate infestation by Solenopsis invicta.

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