

THE EFFECT OF STRIP-MINING AND RECLAMATION ON SMALL MAMMAL COMMUNITIES

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Four habitats on and around a strip-mine in East-central Texas were sampled for small mammals by a mark-recapture grid study to determine the effect of strip-mining operations on terrestrial ecosystems. Surface vegetation and soil organic matter were also sampled and caloric values determined to identify the relationships between mammalian populations and energy availability.

Populations of each mammalian species are estimated and the Shannon-Weaver indices of species diversity plus species richness and species evenness components are computed for each month for mammals occurring in three of the four habitats. Diversity of the four areas are discussed and compared. An index of similarity is computed and intercommunity similarities of the mammal fauna are discussed.

Home range and longevity are computed for those species occurring in abundance on each of the study areas, and other life history items such as breeding season, habitat selection, and growth rates are noted.

Techniques to improve habitat quality for wildlife and grazing on strip-mined lands are proposed and discussed.

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