

DYNAMICS OF LITTER AND SOIL MICROARTHROPOD COMMUNITIES DURING THE RECLAMATION PROCESS

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Effects of mining and time since reclamation on soil microarthropod communities were examined. Five study sites were utilized: an unmined site, an old site (reclaimed 1977), two intermediate age sites (reclaimed 1981 with different vegetation), and a new site (reclaimed 1987). Each site was divided into 100 subplots (2 by 5 m) of which six were randomly sampled (soil cores) monthly throughout 1988. In total 360 subplots were sampled and 3911 microarthropods (89% mites and collembolans) were collected.

Statistical analyses revealed significant effects of both month and site on total mites, total collembola, and total organisms. Interactions of month by site were significant for collembola and total organisms. Shannon-Weiner diversity indices increased with the time since reclamation and were maximal for the unmined site. Microarthropod communities of reclaimed sites differed from unmined sites, and reclaimed sites showed some recovery over time. Reclamation vegetation did not affect soil microarthropod communities.

*Masters Thesis
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