

Landscape Ecology and Reclamation Success. Paul T. Tueller, Professor of Range Ecology, Department of Range, Wildlife and Forestry, University of Nevada, Reno.

To all landscapes, including reclaimed ones, there is a spatial diversity with both horizontal and vertical boundaries. The juxtaposition of these boundaries and the influence of these entities (patches or polygons) one on the other must be considered as reclamation is carried out. It is conventional wisdom that reclaimed landscapes seldom correspond to predisturbance landscapes. The arrangement of plant communities on reclaimed landscape will follow patterns explained by ecosystem ecology and therefore the resultant patterns are predictable leading to knowledge useful to managers. The result will be improved long-term management of reclaimed landscapes. Remote sensing, because of its unique capability of looking at spatial aspects of landscapes and relating them to ecological ancillary information, can provide data useful for the understanding of these relationships. This, however, will require a detailed understanding of the spectral characteristics of scene components followed by pixel modelling to map and interpret the landscape polygons that are depicted as spectral information classes. Geographic Information Systems (GIS) technology for spatial data analysis coupled with multivariate statistical evaluations of the data will provide rapid interpretation of potential scenarios as outcomes to the reclamation process. Multivariate statistical approaches include both classifications to place like segments of a landscape together and ordinations to assist in explaining the environmental gradients that control organisms on a landscape.

ADDITIONAL KEY WORDS: Landscape ecology; reclamation; remote sensing; Geographic Information Systems.

