INFLUENCE OF PHYSIOGRAPHIC, EDAPHIC AND ANTHROPOGENIC FACTORS ON THE STRUCTURE, COMPOSITION AND SPECIES DIVERSITY OF VEGETATION IN THE MAZOWE BOTANICAL RESERVE, CHRISTON BANK.

by

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ABSTRACT

The influence of physiographic, edaphic and anthropogenic factors on vegetation structure, composition and diversity of Mazowe Botanic Reserve, Christon Bank, north of Harare, Zimbabwe was investigated. The sampled area was stratified according to aspect and slope position. Vegetation attributes and data on 14 environmental variables were recorded.

Detrended correspondence analysis grouped the plots into three clusters. Separation of these clusters was along a soil depth gradient, which was positively correlated with the Axis 1 ($r = 0,89$). Monte Carlo permutation tests on the CCA results indicated that, the influence of explanatory variables was significant ($F = 2,24$ $P<0,05$) when all axes were combined. Soil depth, potassium, silt and pH significantly influenced species composition in the Botanic Reserve.

Physiographic, edaphic and anthropogenic factors had some influence on vegetation. Edaphic variables i.e. soil depth, pH, potassium and silt content were the major determinants of vegetation structure, composition and diversity in Mazowe Botanical Reserve.

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DEDICATION

This work is dedicated to the glory of God almighty. I extend this dedication to my late parents, Mr and Mrs S. Mujawo (Chikava) who are now resting with the Lord.

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