Land Use Impact on Plant and Sediment Nutrient Enrichment in Grazed Seasonal Wetland Ecosystems. (S10-gathumbi110857-Poster)

Authors:

- S.M.Gathumbi - *Archbold Biological Station*
- P.J.Bohlen - *Archbold Biological Station*
- D.A.Graetz - *University of Florida*
- A.D.Steinman - *Annis Water Resources Institute*

Abstract:

Land use practices are perhaps the most important factors influencing plant productivity, soil and plant nutrient enrichment, and within-stand nutrient cycling in grazed seasonal wetlands in agricultural landscapes. We examined the impact of management practices in improved and semi-native pasture on sediment nutrient enrichment, seasonal plant productivity and nutrient enrichment in seasonal wetlands in south central Florida. Soil nutrient concentrations decreased with depth for both land use types. Total soil C and N were significantly greater ($P<0.05$) in wetlands surrounded by semi-native than in those surrounded by improved pastures but only in the upper 0-15 cm. Plant and soil (0-15 cm) N:P and C:P ratios were lower in improved pasture wetlands compared with semi-native pasture wetlands, suggesting greater P enrichment in the surface layer of improved pasture wetlands. Seasonal biomass productivity varied more across seasons in semi-native wetlands than in improved pasture wetlands. Our results suggest that conversion of native rangelands into more intensively managed pasture systems increases nutrient concentration in plants and soils and alters the seasonal plant production potential in wetlands embedded in those pastures.

Corresponding Author Information:

Stanley Gathumbi
Archbold Biological Station
300 Buck Island Ranch Road
Lake Placid, FL 33852

phone: 863 699 0242
fax: 863 699 2217
e-mail: sgathumbi@archbold-station.org

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