Nitrogen, phosphorus and cation concentrations in a fine-loamy, carbonatic, mesic fluventic calciudoll A horizon encroached upon by Typha latifolia. (S10-drohan074821-Poster)

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Abstract:

Aggressive species competition by Typha latifolia in wetland systems of marl-derived soils threatens the unique native vegetation in these areas. We examine soil A horizon pH, carbon, phosphorus and nitrogen concentrations, exchangeable K, Mn, and Fe and water levels in a fine-loamy, carbonatic, mesic fluventic calciudoll under encroachment by Typha latifolia. Six wells were installed and weekly water depth measurements were taken from January through May, 2002. Thirty 0.4 kg A horizon soil samples were taken from three transects that spanned across 3 dominant plant communities in the wetland. Results indicate that carbon percentages are not significantly different in cattail versus non-cattail communities. Statistically significant lower soil pH and higher N and P concentrations were found in cattail areas. Nutrient loadings suggest that the cattail invasion in these regionally atypical soils is aided by nutrient inputs as in other wetland systems. Well readings suggest an old road is altering the wetland hydrology and aiding the encroachment. Our study provides information on cattail encroachment aided by nutrient loading and deeper water in a unique wetland habitat.

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