

Characterization of a Recently Drained Agricultural Soil after Forty Years of Flooding and Its Influence on the Restoration to Native Wisconsin Prairie. (6505)

Authors:

- N.J. Balster* - *Univ. of Wisconsin-Madison*
- A. Wells - *Univ. of Wisconsin, Madison, WI*
- S. VanWychen - *Univ. of Wisconsin, Madison, WI*

Abstract:

Repair of dams (less than 12 meters high) from the early 1900s, built to create farm and mill ponds, is often cost prohibitive and therefore, dam removal and reestablishment of old stream channels has become a preferred alternative for most. Over the past century, more than 500 dams have been removed in the U.S.; Wisconsin has experienced the removal of more than 70 since 1950 from its nation leading ~3,700 dams statewide. Prior to removal, these reservoirs often accumulate sediment and organics, and receive increased deposition of various anthropogenic salts. After removal, exposed nutrient-rich substrates are typically colonized by a few aggressive species with little resemblance to native community types. Conversely, little research has studied the spatial variability (e.g. physical, chemical, and biological) of these recently drained soils and their capacity to support restored prairie vegetation. In this study we present a spatial characterization of the physical, chemical, hydrological, and biological components of a recently drained agricultural basin after forty years of flooding in southern Wisconsin. We examine the short and long-term soil changes (e.g. chemical, morphological) in soil development that have occurred since the basin was drained and relate these characteristics to their relative influence on its restoration to native Wisconsin prairie.

Speaker Information: Nick Balster, Univ. of Wisconsin-Madison, 1525 Observatory Dr. Dept. of Soil Sci., Madison, WI 53706; Phone: 608 263 5719; E-mail: njbalster@wisc.edu

Session Information: Wednesday, November 3, 2004, 1:55 PM-4:30 PM

Presentation Start: 2:00 PM

Keywords: Soil porosity; Prairie restoration; Dam removal; Soil aggregation