

GRASSLAND SEED BANK COMPOSITION AND RESTORATION POTENTIAL ACROSS A LAND MANAGEMENT SPECTRUM

JASON ZYLKA*, DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL SCIENCES, UNIVERSITY OF ILLINOIS CHAMPAIGN-URBANA, W-503 TURNER HALL, 1102 SOUTH GOODWIN AVENUE, URBANA, IL 61801

BRENDA MOLANO FLORES, ILLINOIS NATURAL HISTORY SURVEY, 1816 S. OAK STREET, CHAMPAIGN, IL 61801

CHRISTOPHER WHELAN, ILLINOIS NATURAL HISTORY SURVEY, 1816 S. OAK STREET, CHAMPAIGN, IL 61801

Abstract: A variety of non-prairie landscapes are returned to prairie on a yearly basis including pastures, croplands, and old fields. Most of these restoration efforts do not take into account the seed bank associated with these non-prairie lands as a potential source of plant diversity. The main goals of this study are to examine the seed bank composition of these non-prairie lands, the relationship between above ground vegetation and seed bank composition, and the potential for using seed banks as a source of native prairie vegetation. Six different land histories were surveyed for this study: remnant prairie, restored prairie, row crop, old field, historic pasture, and pasture recently converted from row crop at the Midewin National Tallgrass Prairie (Will Co., IL). In 2008, vegetation surveys and soil cores were collected in July and October, respectively, for a total of 30 sites (five sites per land history) and 300 soil cores (10 cores per site). In 2009, soil cores were then grown in a greenhouse and the seedlings identified to species. Results indicate that the seed banks vary per land history. In addition, there were very few native prairie species present in the seed bank that were not present in the standing vegetation. Although seed banks may not provide material for prairie restoration, they can provide an idea of the present conditions and the factors that may influence (e.g., invasive species) a restoration.