

## WORKPLACE RELIGIOUS ACCOMMODATION FOR MUSLIMS AND THE PROMISE OF STATE CONSTITUTIONALISM

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**ABSTRACT**—This article considers whether state constitutionalism provides greater possibilities for workplace religious accommodation than is currently available to religious minorities within federal law under Title VII of the Civil Rights Act of 1964. We approach this question via a case study of the controversy over religious accommodation for practicing Muslims employed by the JBS Swift and Company meatpacking plant in Grand Island, NE. The case study consists of analyses of the requirements for religious accommodation under federal law, examination of the reasons why religious accommodation under federal law was not achieved in the Grand Island case, and analysis of Nebraska constitutional law on the subject of religious free exercise. We find that the language in the Nebraska Constitution regarding protection of religious practice provides grounds for Muslims and other religious minorities in Nebraska to seek religious accommodations in the workplace through state government venues that they have been unable to achieve under federal law.

**Key Words:** accommodation, free exercise of religion, Muslims, Nebraska, state constitutionalism, Title VII, workplace

## USING EURO-AMERICAN HUNTING DATA TO ASSESS WESTERN GREAT PLAINS BIOGEOGRAPHY, 1806–35

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**ABSTRACT**—Historic accounts from the 19th-century western Great Plains contain significant information on Plains ungulates and other animals, particularly as they relate to provisioning the Euro-American travelers. Using data derived from these accounts, a quantitative assessment of the hunting success of the Pike, Long, Glenn, and Dodge expeditions of the early 19th century is presented to ascertain the conditions of these species in the region. These data are then used to assess historiographic models of bison overhunting. This analysis indicates that the western Southern Plains and western Central Plains had differing trajectories of overhunting explained by temporally variable human and environmental impacts.

**Key Words:** biogeography, bison, Dodge, Glenn, hunting, Long, Pike, return rates

# THE POLITICAL CONSEQUENCES OF POPULATION CONSOLIDATION IN NEBRASKA

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**ABSTRACT**—In recent decades, the migration that has long been characteristic of life in the Great Plains has meant the steady relocation of population from rural to metropolitan counties. While much has been written about the social and economic consequences of this migration, far less is known of its political consequences. In Nebraska, the least-populated counties experience the most severe out-migration, and are the most reliably Republican. To discern a relationship between population migration and political outcomes, this study analyzes the six open-seat races for United States senator that have occurred in Nebraska since 1976. An econometric model that explains Democratic vote share at the county level demonstrates that larger growth in a county's population exerts a positive and significant influence on the proportion of the vote won by the Democratic candidate, when partisanship and other race-specific variables are controlled for. Consolidation of more of the state's population into fewer counties has increased the competitiveness of well-qualified Democratic candidates.

**Key Words:** Great Plains migration, Nebraska politics, population consolidation, Senate elections

# COTTONWOOD RIPARIAN SITE SELECTION ON THE CHEYENNE RIVER SIOUX RESERVATION

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**ABSTRACT**—The construction of the Oahe Dam on the Missouri River eliminated thousands of acres of riparian and floodplain lands on the Cheyenne River Sioux Reservation in South Dakota. Restoration is needed to replace wildlife habitat. This study focused on site selection for native cottonwood (*Populus deltoides* Bartr. Ex Marsh. ssp. *Monilifers* (Ait.) Eckenwalde) restoration to help mitigate this loss. Geographic information systems technologies were used to develop a suitability model for cottonwood restoration. Tribal lands were extracted from a digital dataset of landownership. Those touched by or included in a 46 m border of the Moreau River were candidate sites. Of the 182 candidates, 50 sites were randomly selected for model development. Slope, aspect, stream length and number, soil properties, and land cover criteria were given a numeric score and these were summed; the lowest total score possible was -7 and the highest score possible was 33. The sample sites were evaluated and ranked as high (21 to 33, 7 sites), medium (7 to 20, 35 sites), or low (-7 to 6, 8 sites) for growth and maintenance of riparian cottonwood forests. Five sites were selected for cottonwood restoration using the model developed. Bare root trees were planted mechanically and by hand. Drought conditions limited survival and 50% of the area was replanted. Further data collection may increase the use of geographic information system (GIS) technology and facilitate site selection for cottonwood restoration in the northern Great Plains.

**Key Words:** GIS, *Populus*, riparian restoration

# DO INVASIVE RIPARIAN WOODY PLANTS AFFECT HYDROLOGY AND ECOSYSTEM PROCESSES?

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**ABSTRACT**—Political and socioeconomic pressures on riparian areas in semiarid regions of the Great Plains are growing as water resources become more limited. Management along waterways has altered stream ecology and hydrology in ways that encourage the invasion and expansion of native (e.g., *Juniperus virginiana*) and non-native (e.g., *Tamarix* sp. and *Elaeagnus angustifolia*) woody species. One management tool currently implemented to restore the hydrology or increase water yields along waterways in semiarid areas is the removal of vegetation or invasive species. How managers should respond to invasive woody plants to optimize hydrological functions without compromising other riparian ecosystem functions is still debatable. In this manuscript, we provide an overview of the ecological status and hydrological role of riparian vegetation in the northern Great Plains, with examples drawn from the region and other semiarid areas. Additionally, we present information compiled from published studies on water consumption of native and non-native species at both tree and stand levels, and we evaluate the ecohydrological outcomes from removal of invasive woody vegetation. Lastly, we consider the economic costs and benefits of woody species removal, and suggest considerations to help managers make decisions regarding woody species removal.

**Key Words:** ecohydrology, evapotranspiration, *Juniperus*, phreatophytes, *Populus*, riparian forests, *Tamarix*, woody species encroachment

# ESTIMATION OF LAND SURFACE EVAPOTRANSPIRATION WITH A SATELLITE REMOTE SENSING PROCEDURE

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**ABSTRACT**—There are various methods available for estimating magnitude and trends of evapotranspiration. Bowen ratio energy balance system and eddy correlation techniques offer powerful alternatives for measuring land surface evapotranspiration. In spite of the elegance, high accuracy, and theoretical attractions of these techniques for measuring evapotranspiration, their practical use over large areas can be limited due to the number of sites needed and the related expense. Application of evapotranspiration mapping from satellite measurements can overcome the limitations. The objective of this study was to utilize the METRIC™ (Mapping Evapotranspiration at High Resolution using Internalized Calibration) model in Great Plains environmental settings to understand water use in managed ecosystems on a regional scale. We investigated spatiotemporal distribution of a fraction of reference evapotranspiration (ET<sub>rF</sub>) using eight Landsat 5 images during the 2005

and 2006 growing season for path 29, row 32. The ETrF maps generated by METRIC™ allowed us to follow the magnitude and trend in ETrF for major land-use classes during the growing season. The ETrF was lower early in the growing season for agricultural crops and gradually increased as the normalized difference vegetation index of crops increased, thus presenting more surface area over which water could transpire toward the mid-season. Comparison of predictions with Bowen ratio energy balance system measurements at Clay Center, NE, showed that METRIC™ performed well at the field scale for predicting evapotranspiration from a cornfield. If calibrated properly, the model could be a viable tool to estimate water use in managed ecosystems in subhumid climates at a large scale.

**Key Words:** energy balance, evapotranspiration, METRIC, SEBAL, water use

## HEALTH AND FERTILITY IMPLICATIONS RELATED TO SEASONAL CHANGES IN KIDNEY FAT INDEX OF WHITE-TAILED JACKRABBITS IN SOUTH DAKOTA

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**ABSTRACT**—White-tailed jackrabbit (*Lepus townsendii*) populations in the Northern Plains have been in a general decline for the past decade or longer. A suggested reason for this population decline was reduced body condition of individual jackrabbits due to habitat changes. In order to evaluate body condition, we determined the kidney fat index of 314 white-tailed jackrabbits harvested in 44 counties throughout South Dakota. We removed and weighed kidneys and all perirenal fat associated with the kidneys from collected jackrabbits. We measured kidney weight to determine times of high metabolic activity as indicated by an increase in mass. Body condition was assessed by measuring the amount of kidney fat within each collected jackrabbit. Seasonal fluctuations were evident in average kidney weight and kidney fat for both sexes of white-tailed jackrabbits. The kidney fat index in both male and female peaked in winter and was near 0% in summer. We believe that changes in body condition as indicated by the kidney fat index were related to the onset of breeding season rather than availability of food resources.

**Key Words:** kidney fat index, kidney weight, South Dakota, white-tailed jackrabbit

# HISTORIC AND CONTEMPORARY TRENDS OF THE CONSERVATION RESERVE PROGRAM AND RING-NECKED PHEASANTS IN SOUTH DAKOTA

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**ABSTRACT**—Over the past century, the interactions between agricultural land use and government cropland retirement programs have affected pheasant population change. Two government land retirement programs that returned croplands to grasslands, Soil Bank in the 1960s and the current Conservation Reserve Program (CRP), help to illustrate these connections. From 2007 to 2010, South Dakota lost 41% of its CRP lands and experienced an 18% decline in pheasants per mile. However, because of where CRP expirations have occurred and where pheasant populations are found, some regional variability is seen. Western South Dakota (Region 1) had an 80% increase in pheasants per mile and a 51% decrease in CRP land, while central South Dakota (Region 2) had a 22% increase in pheasants per mile and a 42% decrease in CRP land. Region 3 saw a 51% decrease in pheasants per mile and a 25% decrease in CRP land, and Region 4 had a 45% decrease in both pheasants per mile and land in the CRP. These differences are explained by regional land use and land cover, the extent to which row crop agriculture dominates each region, and the variability in the abundance of pheasants found in each region.

**Key Words:** Conservation Reserve Program, pheasants, South Dakota