

## Art and Biodiversity of the Great Plains

by LaReesa Wolfenbarger & Alicia Mullarkey

The Great Plains extends from Canada to Mexico and from the Rocky Mountains to roughly 500 miles eastward and covers an area of over 500,000 square miles. The eastern edge of the Great Plains has been defined at least 50 ways. At its minimum, the Great Plains only includes the unglaciated areas in the interior lowland. The exhibit that we will see delineates the Great Plains over a much larger area. No matter what boundary, in expanse alone, it truly is a Great Plains! Disturbance and extremes in temperature and rainfall are key characteristics that influence the biodiversity of the area. In the western Great Plains, the land lay in rainshadow of the Rocky Mountains and is highest in elevation, causing a more arid climate. Rainfall increases eastward so that at the eastern edge, prairies have grasses that may be as tall as 8 feet.

The interior plain of the U.S. is far from any large mass of water that would buffer temperature; therefore, winters are cold and summers are hot. As an adaptation to the arid environment, grasses are short in stature in the western Great Plains and minimize the amount of water that evaporates from their leaves. Grasses and other native plants on the Great Plains invest heavily in root systems. The rule of thumb is that what one sees above ground is about one third of the plant! A large percentage of animals in the Great Plains burrow as a strategy to deal with temperature extremes. During the winter, some animals migrate to warmer climates while others hibernate to avoid the cold temperatures outside.

Micheal Forsberg is nature photographer and conservationist native to Nebraska capturing images of the natural landscapes, flora and fauna that make up the Great Plains. His photography takes us on a tour of the diversity of organisms that call the open spaces of the remaining grasslands of the Great Plains home. From the dance of the prairie chickens and migration of the sandhill cranes to the stampedes of bison through the bluestem, Michael's work shows us the uniqueness of the prairie landscape and impresses upon us the importance of conserving these wide-open spaces as a part of our natural history.

Prairie ecosystems are composed of thousands of living organisms, but by far the most dominant feature of these systems are the native grasses, including big bluestem, little bluestem, Indian grass, switch grass, and sideoats grama. The combination of native grasses and wildflowers provide the habitat necessary to support a vast array of prairie wildlife. Knowing how to identify these native prairie grasses, understanding their role in the landscape, and learning how Native Americans used these plants helps us to connect with our natural prairie heritage.

Botanists and naturalists have long used plant pressing and mounting to preserve, document and study plant species, their habitats and their distribution. Scientific plant specimens are typically stored in herbariums, which serve as libraries of the flora around the world. People have also long enjoyed creating art with plant materials. Plant pressing is a great activity for all ages and is a great way to bring biology and art together!