



Why Prairie Matters

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photo by Amy Hepler

WHENEVER I AM IN A TALLGRASS PRAIRIE, I AM ASTOUNDED BY THE DIVERSITY AND COMPLEXITY SURROUNDING ME—uncounted numbers of organisms, interacting at multiple levels, both visible and invisible to the human eye, above and below ground, shaping and in turn being shaped by the physical environment. To visit a prairie is to be immersed in the result of thousands of generations of competition and natural selection resulting in a dynamic array of diversity, which, collectively, is supremely attuned to this uniquely midcontinental landscape. Here flourish long-lived, deep-rooted perennial plants annealed by the frequent Native American fires, searing summer droughts, frigid winters, episodes of intensive grazing and trampling, and rapid, recurrent freeze-thaw cycles that exemplify the Midwest. These plants in all their varied magnificence in turn support myriad animals ranging from minute prairie leafhoppers that spend their entire lives in a few square meters to wide-ranging mammals and birds that travel hundreds or even thousands of miles in a season.

Prairie matters beyond the prairies themselves. Our grassland heritage is evident in all of Missouri's landscapes. Our original Ozark timberlands, also shaped by fire, climate, and water, have much of their flora directly descended from the grassland biome. Even our streams depend upon evenly apportioned groundwater discharge from healthy grassland systems. Here, an abundance of deep, fine roots and the resultant soil tilth create an insatiable sponge, absorbing and husbanding precious water. This water is released at measured rates to sustain the system. When native grass cover is lost, water runs off the land surface in a destructive torrent that rends the landscape parched shortly thereafter, even as the runoff races southward, carrying the region's fertility to ultimately poison the Gulf of Mexico.

Prairie matters because here are the roots of our very identity in this part of the world—a region where human history has been shaped by (and in turn shaped) our grassland heritage since the first people entered the landscape more than 10,000 years ago, following on the heels of the retreating ice sheets. Grasslands have disproportionately shaped our history and prosperity as a culture, becoming victims of their own success as society exploited the fertile prairie soils that were created by thousands of years of luxuriantly deep-rooted perennial vegetation. As one of the most productive and diverse phases of the planet's temperate grasslands was vanquished, America became the world's breadbasket, reaping the accumulated subterranean wealth of our grassland heritage.

This was the latest aria in the human agrarian opera that premiered some 14,000 years ago, with the opening stage being the birth of agriculture in the temperate grasslands of the Old World. Replayed on a varying theme during subsequent acts in Africa, Asia, the Americas, and elsewhere, the common chorus was the selection and improvement of grasses for food and forage crops, resulting in their dominance as direct and indirect providers for humanity's caloric needs. As a result, temperate grasslands are today the most endangered, least conserved of any terrestrial habitat on earth—and no temperate grasslands are more imperiled than our tallgrass prairies.

Prairie matters from a practical perspective. We depend on these biological systems—prairies and associated communities—to sustain us as a people, meeting human needs through healthy productive soils, clean and abundant waters, pollinator reservoirs, flood and erosion prevention, and countless other amenities which, though largely taken for granted, can be prohibitively expensive to re-create once system integrity is lost. No organisms are better suited than our prairie vegetation for thriving in the unique conditions of this part of the world, without the constant fixes of water, fertilizer, and pesticides required by less adapted species.

Prairie matters because of its effect on us. It defines us as a people and honors our history and heritage. Prairies give us a sense of place and identity. A crop field in Missouri looks like a crop field in Asia or Europe. But our prairie heritage! Here is a uniquely American—indeed a uniquely Midwestern—phenomenon that has shaped and defined us as a people and a region. Our prairies are a living link to both the past and future. In this we should take pride and recognize the need and responsibility to achieve conservation through sustainable stewardship practices.

Prairie matters because of its role as part of the diversity of life on earth. In the tallgrass prairie region of the Midwest is an ever-changing tapestry of more than a thousand species of flowering plants hued with the full array of the visible spectrum and beyond. Here is the ancient, haunting call of the prairie-chicken undulating across the landscape, to be replaced at sunset by stridulous love paeans resonating from subterranean concert halls of the prairie mole cricket. Here is the graceful chaos of the boldly patterned regal fritillary butterfly bouncing across the prairie breeze, a rapid flash of silver, black, and orange over the chromatically riotous palette of coneflowers, prairie clovers, poppy mallows, wild indigos, and far more. All aspects of this natural diversity inspire wonder and lift the spirit in a celebration of the lavish and intricate lattice of life surrounding us.

Culturally and ecologically, this is the foundation of our America! These prairies, the distillation of four billion years of life, are a unique entity found nowhere else in space or time. We have not treated our prairies well, even as we have reaped their benefits. To risk losing the few remaining prairie landscapes would be to permanently impoverish us as a people. Celebrate and nurture our prairies and their human and biological heritage. Steward them well even as we benefit from the richness and productive abundance bequeathed by this graminoid legacy. Our future success as a society will in part derive from the degree to which we recognize and fulfill our obligation to ensure our grandchildren and their grandchildren have the opportunity to interact with and benefit from these wondrous grasslands.