

Prairie Notes: Managing With Fire

Seventeen acres of Valley Grove prairie were put to the torch in April, leaving a blackened landscape as counterpoint to the waving beauty of the adjoining dry thatch of the previous year's growth. The burn area, a month later, is now a lush field of green with golden alexander already blooming in great profusion. In the unburned portion of the prairie, the new growth amongst the dead grass now looks drab and messy by comparison. A prairie after a burn is beautiful, faster growing, the plants flowering more abundantly, and has a fresh rejuvenated aspect that makes one wonder why we don't burn the whole thing every year. Most people are aware that fire was naturally occurring on prairie and good for its overall health. They may not know that the Plains Indians often set fires to improve the grazing for their horses and to attract the bison herds to the lush new growth. So why don't we burn more of it with greater frequency?

Prairie grows better after a burn for several reasons: First, the build up of thatch increases the amount of shade on the soil's surface slowing the ground from warming faster in the spring, and inhibiting growth. Second, smaller stature plants, such as blue-eyed grass, may have difficulty penetrating the thick thatch altogether. Third, burning releases needed nutrients and minerals to the soil, and kills back invading trees and shrubs that could quickly shade out prairie plants.

Burning too much prairie at once and too often, however, has unintended consequences for the system as a whole, so we are trying to implement a burn plan that is better suited for a restoration the size of ours at Valley Grove. We have divided the prairie into three units of nearly equal size, which we intend to burn separately on a four year rotation, leaving one year without a burn in that sequence. Ideally, a burned area would lay alongside an area with at least two years of accumulated thatch. This gives small mammals refuge for the period of time it takes for the prairie cover to regenerate. Insect and spider eggs, as well as pupae, are not destroyed over the entire area and these species can quickly reinvade and recover after a burn. Grassland birds are declining throughout their ranges, and particularly in Minnesota. Diminishing habitat suitable for successful breeding and for the rearing of young is the primary problem. Some of these ground nesting birds require two years of thatch to be seen as usable locations to provide protection from predators and brood parasites, such as cowbirds.

Maintaining the highest degree of diversity of both plant and animal species is our main goal, and maintaining habitat to meet the needs of these species is crucial and can't be achieved without our active management on a small prairie like ours. Controlling invasive species, manipulating fire regimes, and habitat requirements are essential to meet that goal.

A special thanks to the very able burn crew of Prairie Restoration Inc. and to the Minnesota Department of Natural Resources for a grant that covered a portion of the costs.