

## 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, flowers 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 be aware that the Plains Indians often set fires to improve the grazing for their horses and to attract the bison herds. So why don't we burn more of it and with greater frequency?

Prairie grows better after a burn. First, the build-up of thatch increases the amount of shade, preventing the ground from warming faster in the spring – slowing and inhibiting growth. Second, smaller stature plants, such as blue-eyed grass, may have difficulty penetrating the 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, have 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 Valley Grove's. We have divided the prairie into three burn units of nearly equal size, which we intend to burn separately on a four-year rotation, hopefully in conjunction with the adjoining prairie restoration on our neighbor's land to our west. Ideally, a burned area would lay along side an area with at least two years of 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 insect pupae, are not destroyed over the entire area, and these species can quickly reinvade after a burn. Grassland birds are declining throughout their ranges, but 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 for the sites to be seen as usable locations to provide protection from nest predators, such as crows, fox, coons, and, surprisingly, deer. Deer will actually eat young nestlings whenever they are found, as an easy source of protein and calcium for this otherwise herbivorous animal. Cowbirds are another problem for many small grassland bird species. These nest parasites evolved as herd followers, feeding on insects stirred up by the passing of bison. This transitory feeding strategy was so successful that, over time, they stopped building their own nests, and instead laid their eggs in the nests of other species. Leaving the incubating and rearing of young to the unwitting foster parents allowed them to continue following the moving herds that were their bread and

butter. Some more aggressive open-country birds, such as red-winged blackbirds and kingbirds, vigorously defend their nesting territories from cowbirds, but smaller birds cannot manage it. For them to nest successfully requires a landscape with no tall vantage points for cowbirds to perch on, within a hundred-yard radius. Anything less and the cowbird's uncanny bird-watching abilities render the nest-sites extremely vulnerable.

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

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