MONITORING FIRE EFFECTS IN GRASSLANDS ON NATIONAL PARK UNITS OF THE NORTHERN GREAT PLAINS

Andy Thorstenson and Cody L. Wienk
Northern Great Plains Fire Management Office, Wind Cave National Park, 26611 U.S. Highway 385, Hot Springs, SD 57747, USA

ABSTRACT

The Northern Great Plains (NGP) Fire Ecology Program began installing fire effects monitoring plots in national park units of the NGP in 1997. Since then, >200 plots have been installed in forest stands, shrublands, grasslands, and riparian areas of ten park units. The general goal of the NGP Fire Ecology Program is to provide vegetation information to the fire management and resource management programs of these parks. This presentation will focus on 41 grassland plots (27 native prairie and 14 nonnative grass) in six park units that have been sampled at least four growing seasons following application of prescribed fire. Prescribed fire has been applied to 28 of these plots once and to 13 plots twice. Park units included in this analysis are Badlands National Park, Devils Tower National Monument, Knife River Indian Villages National Historic Site, Scotts Bluff National Monument, Theodore Roosevelt National Park, and Wind Cave National Park. Plot sampling protocols used are standard National Park Service (NPS) protocols outlined in the NPS *Fire Monitoring Handbook*. Percent cover data were collected using point-intercept method along one 30-m transect at each site. Data will be analyzed to compare pre-burn and 4- or 5-y post-burn values to detect changes in percent cover and relative cover for individual species and for functional guilds of species. The most common goals of prescribed fire in the NGP parks are to maintain native prairie and reduce nonnative grass species. We will also assess the success at which prescribed fire has been used to meet these goals.

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