Prescribed burning is an important management tool for preserving and rehabilitating grassland habitats in the Midwest. While much attention has been focused on how fire affects floristics, nutrient flow, and invertebrates in grasslands, little research has been directed toward understanding how this disturbance affects small mammal populations, especially in intensively cropped regions such as Illinois where these patches tend to be small. We proposed that the survival rates of small mammals in recently burned tracts would be less than rates in unburned tracts, given that prescribed burns may reduce food and cover and lead to increased predation. Our objectives were to compare the survival rates and composition of species for small mammals in recently burned (treatment) and unburned (control) vegetation. Grids of 25 trap stations were placed in the interior habitat of four grassland sites in east-central Illinois, representing primarily warm season vegetation. One grid was placed in a treatment and another set in a control portion at each site. During the summer of 2004, 389 small mammals were captured and identified, aged, sexed, weighed, and banded prior to release. Biologically and statistically important differences were found in both survival rates and species composition between unburned and burned plots at most sites, leading us to conclude that prescribed burning has an impact on the spatial and temporal distribution and abundance of small mammal species. Generally, compared to unburned tracts, the burned habitats tended to have higher numbers of white-footed and deer mouse (*Peromyscus*), lower numbers of prairie and meadow vole (*Microtus*), and larger and smaller overall survival rates for the respective species.