

Rare Species

Importance

Species that have adapted to the specific conditions of their environment can be indicators of a healthy ecosystem. These specialized species are susceptible to changes in water availability, temperature, elevation, geology, and land use. Declines in populations of specialized organisms often indicate environmental disruptions that can permanently alter ecosystems. Protecting rare and at risk species is integral to preserving native biological resources essential to the preservation of natural and cultural landscapes. Shortgrass prairie habitat, which dominates Sand Creek Massacre National Historic Site (NHS), supports several federal endangered, threatened, and candidate species and species of special concern listed by the State of Colorado. State-status species are listed because of low population levels, restricted habitat availability, low productive potential, or their status as keystone indicator species. Identification of special-status species in the site is essential to developing management plans.

Status and Trends in Sand Creek

In 2006, Colorado State University and the Colorado Natural Heritage Network conducted an assessment of rare species in Sand Creek Massacre NHS. Researchers documented 11 threatened, endangered, and species of conservation concern, including species listed by the State of Colorado and conservation organizations. No federally listed species were documented. However, extensive surveys documented three target-



Bleached skimmer dragonfly (*Libellula composita*).



RESOURCE BRIEF



Black-tailed prairie dog (*Cynomys ludovicianus*).

ed species: the burrowing owl (*Athene cunicularia*), mountain plover (*Charadrius montanus*), and black-tailed prairie dog (*Cynomys ludovicianus*). Others species of conservation concern documented during the survey were Swainson's hawk (*Buteo swainsoni*), scaled quail (*Callipepla squamata*), northern harrier (*Circus cuaneus*), loggerhead shrike (*Lanius ludovicianus*), bleached skimmer dragonfly (*Libellula composita*), red-headed woodpecker (*Melanerpes erythrocephalus*), white-faced ibis (*Plegadis chilis*), and northern leopard frog (*Rana pipiens*).

Discussion

Knowledge of rare species occurring in Sand Creek Massacre NHS is an important component of developing management plans, particularly for species which may be affected by activities such as mowing, developing infrastructure, and grazing. For example, management of prairie dogs in Sand Creek Massacre NHS increases habitat diversity and contributes to grassland ecosystem processes integral to the long-term viability of the existing native plant community and allied species. The presence of prairie dogs increases the probability of sensitive species occurring at Sand Creek Massacre NHS, as numerous species depend on habitat provided by prairie dogs and their burrows. The lesser prairie chicken, which historically occupied Sand Creek Massacre NHS, may be extirpated, or locally extinct, from the site and the immediate area, though suitable habitat is present.