ECOLOGY OF NORTHERN FLYING SQUIRRELS (*GLAUCOMYS SABRINUS*) IN THE BLACK HILLS, SOUTH DAKOTA

Melissa J. Hough and Charles D. Dieter  
Department of Biology/Microbiology  
South Dakota State University  
Brookings, SD 57007

ABSTRACT

There is limited information and research on the ecology of the isolated population of northern flying squirrels, *Glaucomys sabrinus bangsi* (Rhoads) in the Black Hills of South Dakota. From May through August 2005 and 2006 we captured flying squirrels with Tomahawk and Havahart live traps throughout the Black Hills. Between the two years, we anesthetized 20 female and 25 male flying squirrels with Halothane and then fitted them with radio collars. We examined home range, habitat use, and denning behavior of the collared squirrels. Males averaged larger home ranges than females [minimum convex polygon (MCP)]; 13.6 hectares (range=3.9-37.4 hectares) and 7.5 hectares (range=2.5-20.0 hectares), respectively. Flying squirrels in the 2006 study area averaged larger home ranges than the flying squirrels in the 2005 study area, 15.3 hectares (range=2.5-14.8 hectares) in 2006 and 6.7 hectares (range=4.5-37.4 hectares) in 2005. Using radio tracking information, we created GIS habitat models for flying squirrels in the Black Hills to determine differences in habitat use between the two study areas. The habitat characteristics associated with 107 dens used by flying squirrels was compared to available tree within the flying squirrels’ home ranges. Snags were selected more than expected based on availability (*p*<.001). Flying squirrels select cavities in snags, as well as live aspen (*Populus tremuloides*) and birch (*Betula papyrifera*), more than dray (external) nests. These results on home range, habitat use and denning behavior will assist wildlife professionals in the management of flying squirrels in the Black Hills.