

Small Mammal Community Diversity Within Nearby Prairie Sites and Forested Sites Around  
Itasca State Park

**Abstract:**

Diversity and species richness of mammals were tested at two different habitats near Itasca State Park, a prairie and a forest. We thought that each of these would be similar between the two habitats. Traps were set and checked for three days to get data to test our hypothesis. We found that the prairie had greater species richness, but the forest had more diversity.

**Introduction:**

A prairie site and a forest site both have a certain amount of diversity in and between each of them. We hypothesize that each site will have a number of animals that is in one or the other and some animals that live in both habitats. We also suspect that both habitats will have a similar amount of diversity. We set traps at each site and checked them for three days each to measure the differences in diversity of each habitat.

**Methods:**

We went to two different prairie sites. One site was Frenchman's Bluff, which had an unburned and a burned area where we tested. The other site was the Waubun prairie, which had a wet and dry area that we tested. Between these four areas we set up 370 traps. Traps were set in straight lines, which were designated by a letter and then numbered along the line. We went out on three consecutive days after setting the traps and checked them for animals. We recorded the animals that we trapped on each day in the site. The same procedure was performed in the forest site. There were six different forest sites we tested: burned and unburned red pine, burned and unburned deciduous, aspen, and a bog. 55 traps were set in each site and were checked over a course of three days. We recorded the animals captured in each site and pooled the data into one set.

**Data:**

The prairie site had eight different animals and a total of 62 caught (Figure 1). The mammal caught in greatest proportion at the prairie was *Spermophilus tridecemlineatus* at 3.27%, or 36 total. *Microtus pennsylvanicus* was caught the second most at 1.45%, or 16 total. The other six mammals caught were in the 1-2 total caught range. 5.64% of the total traps

caught an animal. The forest site had six different mammals caught in it. It also had 9.80%, or 97, of the total traps catch a mammal (Figure 2). The greatest proportion caught in the forest was the *Peromyscus* with 45, or 4.55%. *Myodes gapperi* was in a close second with 41, or 4.14%, caught. Eight *Tamias striatus* were caught and the other three mammals were only caught one time each.

### Discussion:

The forest site was more diverse, but the prairie had greater species richness. The prairie had a greater species richness by two species, with a total of eight compared to six at the forest sites. The forest was more diverse because a greater proportion (+4.16%) of the traps set in the area caught a mammal. Three mammals were caught at both sites: *Peromyscus*, *Zapus hudsonicus*, and *Blarina brevicauda*. There are several reasons why some of these mammals were only found at one site and not the other. Some mammals prefer only a certain type of habitat, such as *Myodes gapperi* preferring wooded areas. Another reason could be that a preferred food is not in one of the areas that we test and is in the other. It could have also been by chance that we did not catch a certain species in one of the habitats even though it lives there.

### Figures:

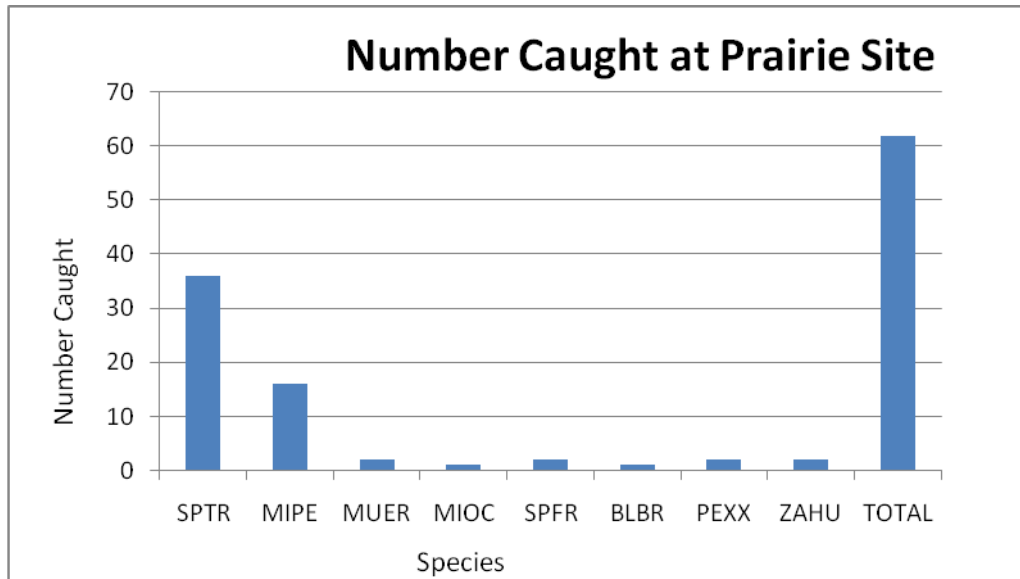


Figure 1. The number of times each species was caught on the prairie site.

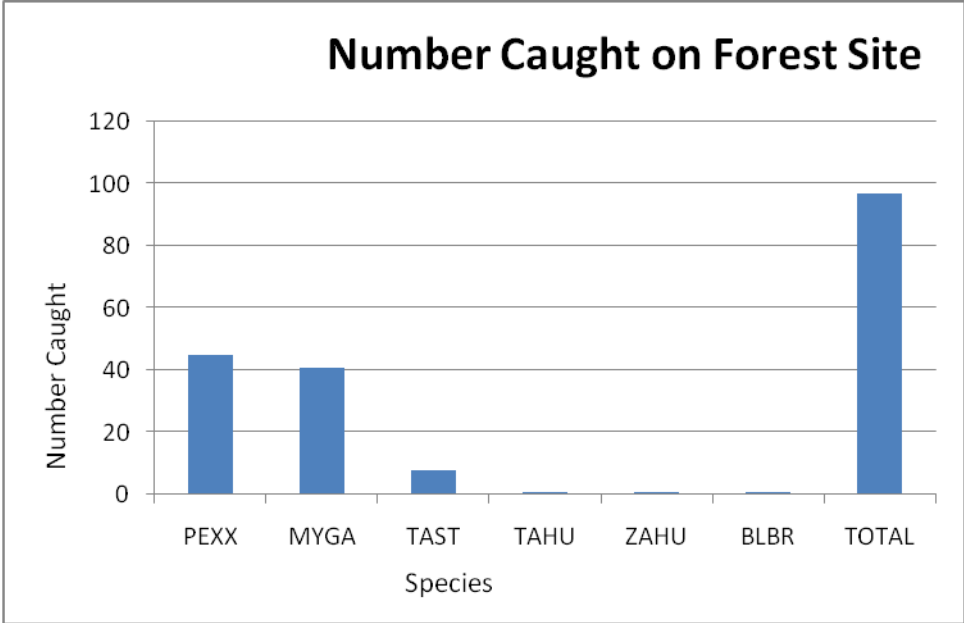


Figure 2. The number of times each species was caught at the forest site.