

Various Forest PEXX MYGA MIPE TAST GLVO BLBR TAHU

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

Abstract

The study dealing with diversity of small mammal communities found within several different forest habitats in Itasca State Park and nearby Prairie sites, tested the two sites diversity comparison's and displayed which communities had small mammals which were common in both locations. The prairie had the most abundant small mammal diversity. The most common small mammal in all of the communities was the *Peromyscus* (PEXX).

Introduction

Itasca State Park is located in the Northern Region of Minnesota. The park spans 32,690 acres consisting of tree life such as Quaking Aspen, Bigtooth Aspen, Paper Birch, Red White Pine and other species. There are approximately 60 different types of mammals ranging in all areas of the park. The diversity of the park's small mammals, are very abundant, spanning their communities in the forested areas of Itasca Park. Adjacent to the nearby park is a prairie with a very diversity density of small mammals.

Diversity comparisons, within small mammal communities of the forested sites, around Itasca State Park and nearby prairie sites, were administered through field research. The field study displayed which communities possessed higher species diversity and whether or not species of small mammals were common in both locations.

Methods and Materials

Three to four-person group were formed and assigned to a site. The sites consisted of Burned Deciduous, Unburned Deciduous, Aspen, Burned Red Pine, Unburned Red Pine, and Bog for the forested sites in the Itasca State Park. The prairie sites consisted of Rush North, Rush South, Coborn East, Coborn West, Waubun Wet, and Waubun Dry.

Traps were set in 4x 10 trap grids of Sherman traps. On every line 2 Longworth traps were randomly dispersed next to an accompanying Sherman trap (40 total Sherman traps and 8 Longworth traps), totaling 48 traps per site.

Traps were checked and rebated for three consecutive days.

144 trap nights were utilized, restricting three sites at one time. All captures were marked and then released.

B Deciduous	7	1	0	1	0	0	0
UB Deciduous	8	1	1	0	0	0	0
Aspen	0	0	0	0	1	0	0
B Red Pine	8	4	0	3	0	0	0
UB Red Pine	8	2	0	1	0	0	0
Bog	0	0	1	0	0	0	1
6/3/2010							
B Deciduous	12	5	0	1	0	0	0
UB Deciduous	10	5	0	1	0	0	0
Aspen	0	0	0	0	0	0	0
B Red Pine	8	4	0	2	0	0	0
UB Red Pine	14	1	0	0	0	0	0
Bog	3	0	1	1	0	0	0
6/4/2010							
B Deciduous	7	1	0	1	0	0	0
UB Deciduous	17	2	0	0	0	0	0
Aspen	2	2	0	0	0	0	0
B Red Pine	6	4	0	5	0	0	0
UB Red Pine	11	5	0	2	0	1	0
Bog	4	0	1	0	0	0	0
Total	125	37	4	18	1	1	1

Results:

Prairie	ZAHU	PEMABA	MIPE	SPTR	COCR	MIOC	PEXX	SOHA
6/9/2010								
Rush South	1	1	0	0	0	0	0	0
Rush North	0	2	1	0	0	0	0	0
Coborn East	0	0	1	0	0	0	0	0
Coborn West	0	0	0	0	0	0	0	0
Waubun Wet	0	0	0	0	1	0	0	0
Waubun Dry	1	0	0	0	0	0	0	0
6/10/2010								
Rush South	1	0	1	2	0	0	0	0
Rush North	0	0	1	1	0	1	0	0
Coborn East	0	0	1	0	0	0	0	0
Coborn West	0	0	0	1	0	0	0	0
Waubun Wet	1	0	1	0	0	0	0	0
Waubun Dry	0	0	0	0	0	0	0	0
6/11/2010								
Rush South	3	0	3	1	0	0	1	0
Rush North	0	0	1	0	0	1	2	0
Coborn East	0	0	1	0	0	0	0	0

Coborn West	0	0	1	2	0	0	0	0
Waubun Wet	0	0	0	0	0	0	0	0
Waubun Dry	4	0	0	0	0	0	0	1

Prairie CONT 6/11/2010	BLBR	MIXX	MUXX
Coborn East	1	1	0
Waubun Wet	0	0	1

COMPARISON	Different species count	Species Count
Rush South	5	14
Rush North	5	10
Coborn East	4	5
Coborn West	2	4
Waubun Wet	3	4
Waubun Dry	3	6
B Deciduous	3	36
UB Deciduous	4	45
Aspen	3	5
B Red Pine	3	44
UB Red Pine	4	45
Bog	5	11

Discussion

From both tables, you can clearly see that the prairie had a lot more diversity of species than the various forest habitats. However the forest habitats have a lot more captures than the prairie. The prairie is an open area with little to no canopy cover. As a result, risk of predation is high for there are very little places to hide. Since we were baiting small mammals that are a food source for many raptors, it could account for the very few captures we had. Another reason for the low capture in the prairie compared to the forest is because of the environment itself. Prairies do not have the same carrying capacity for small mammals as forest. The forest may have more species captured, but that is just by numbers. It does not factor in recapture as well. More often than not it is a *Peromyscus* (PEXX). This was the most abundant mammal captured. At most there would be four different types of species per forest habitat. Overall there was seven different species found in the various forest habitats. As for the prairie, at most there would be three different species per prairie habitat. However there was ten different species found overall.

