

REPORT TO ROCKY MOUNTAIN PARK

SITE VISIT & CENSUS OF BATS AT NEVER SUMMER RANCH, HOLZWARTH HISTORICAL

SITE, 1 JUNE & 9-10 AUGUST 2010

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Introduction

On 1 June 2010, Jeff Connor (RMPS) and I visited Never Summer Ranch (13 426856E, 4469406N, 8934') located in the Kawuneeche Valley, Gilpin County, to investigate bat activity in several of the historic buildings.

Methods

The on-site visit on 1 June was during the day to assess mesh netting placed around one of the building and suggest placement of bat houses at the site. On 9 August, my graduate student (Matt Willey) and I visited the site to mist net bats and to conduct a sonar survey using Pettersson D240x sonar detectors attached to Samson digital recorders. One D240x was placed near the wet-willow habitat facing east from the site and the other was placed facing north approximately 100 m away. Sonar data were analyzed using SonoBat Analysis Software version 3.0. We placed one 6m mistnets in a flyway between buildings and another near Mama Cabin.

Results

1 June. Netting around one of the cabins had inadvertently ensnared and killed several bats. Three specimens were removed and identified as long-legged myotis (*Myotis volans*). Recommendation were made to use thicker netting that rodents could not chew through thereby making holes that gave bats access to the building's attic.

9-10 August. Outflight Count: Emergence counts of bat leaving Mama Cabin (Fig. 1) at dusk revealed at least 200 individuals leaving the maternity colony of long-legged myotis (*M. volans*) before it was too dark to reliably count any further emergence.



Figure 1. Photograph of a long-legged myotis (*Myotis volans*) leaving its maternity roost located in Mama Cabin.

Captures: We captured eight individuals. Five individuals were long-legged myotis (*M. volans*), two were big brown bats (*Eptesicus fuscus*), one was a long-eared myotis (*Myotis evotis*), and one was a little brown bat (*Myotis lucifugus*)(Table 1).

Table 1. Capture data from 9 August 2011.

Common Name	Species	Sex/Age	Reproductive Condition	Weight (grams)
Long-eared myotis	<i>Myotis evotis</i>	Male/Adult	Nonscrotal	11
Little brown myotis	<i>M. lucifugus</i>	Female/Adult	Pregnant	9.4
Long-legged myotis	<i>M. volans</i>	Female/Adult	Lactating	9.5
Long-legged myotis	<i>M. volans</i>	Female/Subadult	Nonreproductive	9.3
Long-legged myotis	<i>M. volans</i>	Female/Subadult	Nonreproductive	8.9
Long-legged myotis	<i>M. volans</i>	Female/Adult	Lactating	9.6
Long-legged myotis	<i>M. volans</i>	Female/Subadult	Nonreproductive	9.4
Big brown bat	<i>Eptesicus fuscus</i>	Male/Adult	Scrotal	17.4

The capture of pregnant and lactating adult female *M. volans* is indicative of a nursery colony on site. In addition, the capture of a pregnant little brown bat (*M. lucifugus*) also indicates that there may be a nursery colony of this species on site. No data currently suggest nursery colonies of long-eared myotis or big brown bats on-site. However, our census was very limited in scope.

Sonar Data: A total of 98 sonar calls were recorded over a four hour period. Analysis of sonograms indicates the presence of the same species that were mist netted, but additionally captured the presence of the small footed myotis (*Myotis ciliolabrum*).

Discussion

Our census of the Holzwarth Historic Site showed at least one large maternity colony of long-legged myotis present and potentially a maternity colony for the little brown bat

(*M. lucifugus*). The possibility of other maternity colonies present at the site cannot be ruled out, but no data directly support other colonies. The sonar-capture of small-footed myotis at the site may indicate either a bachelor or maternity roost. Bachelor may be present in buildings for the big brown bat (*Eptesicus fuscus*) and the long-eared myotis (*M. evotis*). Only more intensive survey efforts would lead to a better accounting of the bat species present at this site. Because of the elevation of the site (~9,000'), it provides a valuable roosting and reproductive opportunity for bats that are under stress from habitat loss, climate change, and potentially White Nose Syndrome that will eventually be, or perhaps already is, present in Colorado.

Recommendations

Because of its importance as a maternity site providing a safe-haven for reproduction as well as a natural resource base of insect prey and nearby water availability, it is recommended that conservation efforts be put in-place to retain access to this site by bats. In order to move bats from historical buildings if they are deemed necessary, the proper placement of bat houses would facilitate conservation of the bat populations already present. With a total of 18 species of bats in Colorado, the Holzwarth Historical Site provides habitat and roosting opportunities for ~28% of the bat species richness in the state.