Proc. of the 23rd Sunflower Research Workshop. January 17-18, 2001. Fargo, ND

HABITAT CHARACTERISTICS AROUND FALL BLACKBIRD ROOSTS

MARK LUTMAN[1], GEORGE M. LINZ[2], and WILLIAM J. BLEIER[1]

1. North Dakota State University Fargo, ND 58105 2. USDA NWRC Great Plains Field Station Bismarck, ND 58501

Introduction

In the fall, blackbirds form large flocks and roost overnight in cattail marshes. These blackbirds cause millions of dollars in damage to ripening sunflower fields in North Dakota, South Dakota, and Minnesota. By knowing the habitat characteristics around fall blackbird roosts sites, management officials may be able to predict future roost locations and then implement control techniques to help reduce blackbird damage to sunflower fields. We present data on the available habitat around blackbird roosts to determine if there is a relationship between the habitat and fall roost sites.

Methods

The habitat around major roosts (>10,000 blackbirds) and minor roosts (<10,000 blackbirds) was investigated in the sunflower-growing region of North Dakota. Aerial photographs obtained from the Farm Service Agency in Stutsman County, North Dakota, were used to quantify the habitat around each roost. A non-mapping technique was used to estimate the available habitat at each roost. The distance from a roost to the closest sunflower field was also measured during both field seasons to determine if blackbirds selected a fall roost site based on the proximity of a sunflower field.

Results

A total of 20 roosts were observed in this study: 11 major roosts and 9 minor roosts. All 20 roosts used in this study were greater than 10 ha in overall size. In 1998 and 1999, the distance from a major and minor roost to the closest sunflower field was measured and then compared using a 95% confidence interval. In both years, the mean distance from a major roost to a sunflower field was closer than the distance of a minor roost to a sunflower field, but no difference was detected (Figure 1). The availability of habitats around major roosts were compared to the availability habitats around minor roosts. Comparisons were performed at 3 radial distances, 1.6 km, 3.2 km, and 4.8 km. A 95% confidence interval was used at each habitat to determine if a difference was detected. At all 3 distances, there was no difference in any habitat category (Figure 2).

Conclusions

The habitats available around major and minor roosts in Stutsman County were similar at the 1.6-km, 3.2-km, and 4.8-km radial distances; no differences were detected in any habitat category. Even though there was no difference detected when comparing the distance from a sunflower field to a major or minor roost, the proximity of a sunflower field from a major roost may be an important aspect in blackbirds fall roost site selection.

Acknowledgements

This research was funded jointly by the National Wildlife Research Center, a unit within the Wildlife Services program of the United States Department of Agriculture, Animal and Plant Health Inspection Service, and the Department of Biological Sciences at North Dakota State University. Aerial photographs were provided by the Farm Service Agency in Stutsman County, ND.

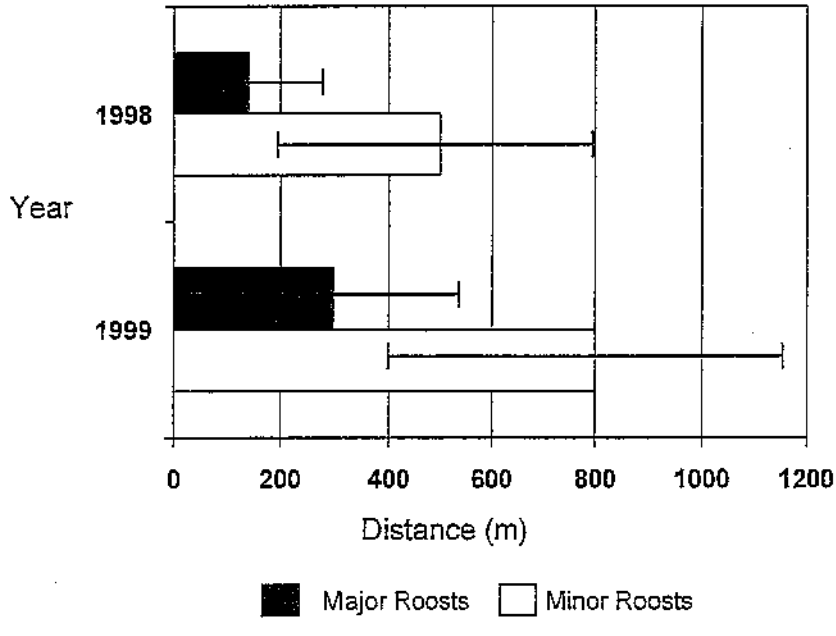

Figure 1. Distance from roosts to closest sunflower field in 1998 and 1999.

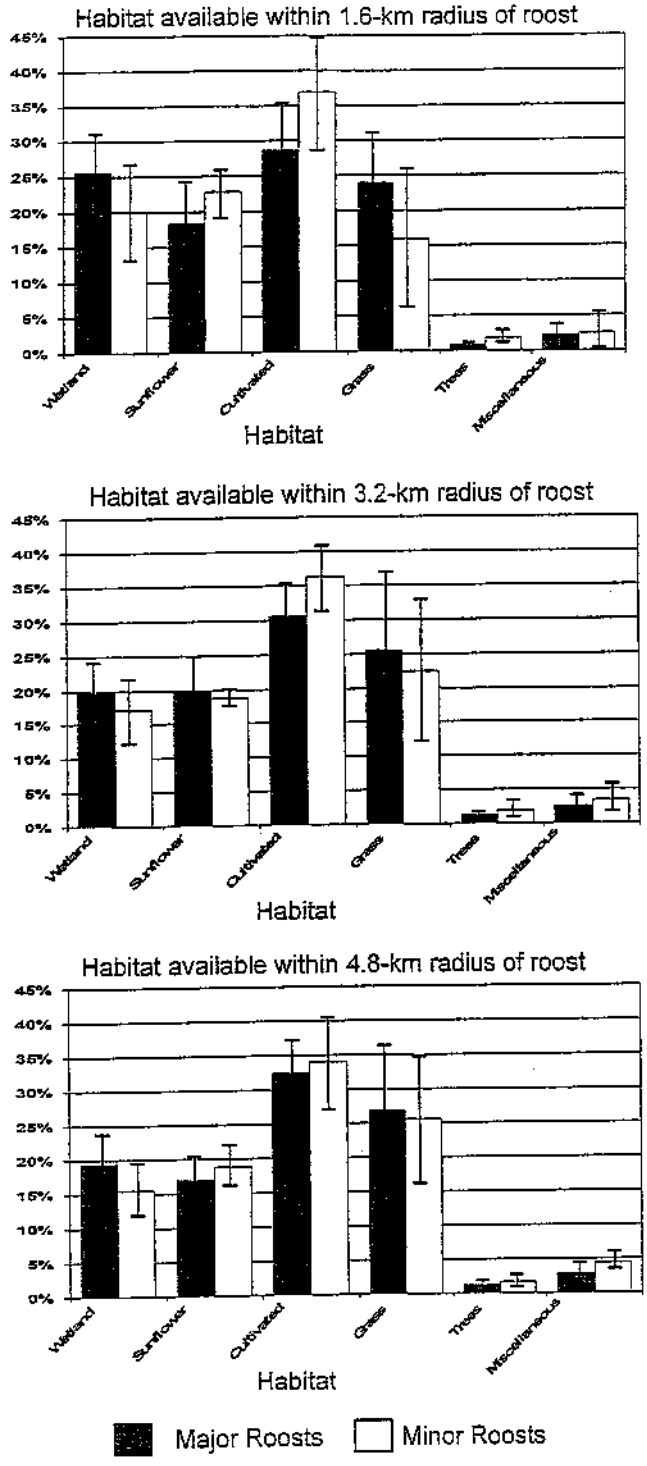

Figure 2. Habitat comparisons from major and minor roosts at 1.6-km, 3.2-km, and 4.8-km intervals.