

UAFS Permit 2014-015.

Name:

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Are you requesting renewal of a previously approved permit applicaton?

No

Type of activities at The University of Akron Field Station and Bath Nature Preserve

Research

Project:

Do Birds of a Feather Eat More When Together?

Date/Dates requested:

December 2014 to February 2015

Number of people in group: 2

I am requesting permission to use a Research Area.

No

I am requesting permission to use a Sensitive Area.

No

I am requesting permission to use areas outside of the designated Research or Sensitive Areas.

No

I would like to use the Martin Center for Field Studies and Environmental Education for this prop...

No

Will the activity involve destructive sampling/collecting?

No

Which Research Areas?

UA Field Station Grounds

Beefy's Woods

Description: (of the whole project, of which the work at BNP is a part)

- I. Hypothesis 1: Birds will feed more actively when not in the presence of a predator compared to when a predator is nearby.

Hypothesis 2: There is a positive relationship between the size (number of birds) of a bird flock and average foraging rate of birds in that flock.

II. Background: In North America, small woodland birds tend to flock more in the winter than during other times of the year. Two main explanation for this flocking behavior have been suggested, including (a) birds collect more food when in a flock, and (b) birds reduce their risk of predation when in a flock because there are more “eyes” keeping watch for predators. By having more eyes keeping lookout for predators, birds in flocks may be able to forage at a higher rate.

III. Methods:

a. Study Sites:

A total of eight sites will be set up (each site >500 m apart):

1. Doylestown
2. Miller Road
3. Fort Island Park #1
4. Fort Island Park #2
5. Fairlawn Soccer Fields
6. Bath Nature Preserve #1
7. Bath Nature Preserve #2
8. Broadview Heights

b. Study Period: November 1 – December 15, 2014

c. Research Protocol:

- (1) Set bird feeders at each of 8 sites (2-3 days in advance of collecting data). Bird feeders are simple platform feeders (25 cm x 25 cm) attached to a snow fence stake. Place black sunflower seeds in each feeder.
- (2) Once birds find feeder, begin collecting data. Each trial will start in the morning (7:00 - 11:00), though some afternoon sessions may be required.
- (3) Place 200 pre-counted seeds into feeder. A five minute trial begins when birds start coming to feeder. Two observers are fully or partially concealed >25 m from feeder.

- (4) For the 5-minute period, the following are tabulated: number and species of birds in flock and number of times each species visits feeder.
- (5) After 5 minutes, quickly collect seeds remaining in the feeder, place in plastic bag, and tag the bag as “no predator.” At later time, count seeds remaining, subtract from 200 to give number of seeds taken.
- (6) Immediately after first trial has been completed, set out model of a Cooper’s Hawk (predator of small birds), place 200 seeds into feeder, and retreat to concealed location.
- (7) During a 5-minute period, repeat counting of birds and visits to feeder as described above. Collect seeds and tag plastic bag as “predator.”
- (8) Repeat 4-6 times for each site and under as varied flock “conditions” (small and large) as possible.

d. Data Summary and Analysis: Each “paired” set of trials will be compared to one another in order to best control for differences in flock size, time of day, weather conditions, and other factors that might affect bird foraging behavior. For each trial, data includes average number of visits per bird in the flock (per 5 minute period) and the size of the flock (defined as small [≤ 4 birds] or large [>4 birds]). From this, data will be summarized in bar graphs and tables, such as:

	Small Flock	Large Flock
No Predator	Avg no. seeds taken per bird in flock	Avg no. seeds taken per bird in flock
Predator	Avg no. seeds taken per bird in flock	Avg no. seeds taken per bird in flock