



Environmental Science: Bird Feeding and Habitat Loss

Paper citation: Westrich J and Garrity A (2016). Bird Feeding Experiment: Do Wild Birds Feed in a More Wooded or Exposed Area?. J Emerging Investigators 79: 1-4

Paper questions

In reading through the assigned papers, please answer the following questions:

1. What makes this research important and relevant to you?

Birds add to the ecological diversity around us and are an intricate part of many food webs. Additionally, they act as pollinators and help spread other seeds. To maintain this, bird habitats, as well as the habitats of other animals, need to be protected. This study helps us understand bird habitats.

2. What do the authors state as their hypothesis in the introduction?

The authors expected birds to eat more in wooded areas than birds in exposed areas.

3. The authors go on to conclude that habitat loss plays a significant role in bird feeding habits. Do you think that their data on exposed/wooded areas are comparable to habitat loss?

The data don't explicitly link habitat loss to feeding habits. However, they can be argued to be related. If birds prefer wooded areas and the amount of wooded areas decreases, feeding habits could be impacted. To turn this into a more definitive claim, more studies would need to be done which address this question.



4. What **statistical measures** were compared to determine statistical significance? With Confidence Intervals, what does it mean if zero is included in the calculated range?

The authors look at a 95% confidence interval of how much food was consumed. This is the range of 2 standards of deviation around the mean on either side. If 0 is included in the calculated range, it means that the ranges of the two means being compared overlap. In other words, it means there is no statistical difference.

5. The authors show that their studies from 2011 and 2012 have differences in significance. Looking at **Figure 1**, is there any particular trial that seems unusual? Can this explain any differences in the results?

Trial 3 in 2011 seems to be an outlier for the exposed feeder. This one data point could skew the significance for all the 2011 trials.

6. Do the authors present any alternative explanations about why the significance may have been different?

The authors list a range of things that could have happened. In 2012, measurements were done more precisely. The authors also do not rule out suspicious feeding activity, such as other animals (e.g. squirrels) getting access to the bird food.

7. What are some shortcomings of this paper? Any other questions that you would want answered to better understand the impact of global warming and habitat loss on birds?

More trials, or longer trial periods, could lead to more robust data. Checking feeder levels every day could also help avoid complications seen in trial 3 in 2011. A logical follow-up question would be 'why do birds prefer wooded areas?' An answer to that could help focus conservation efforts.



8. List some more variables that could be tested in a follow-up study:

A wider range of habitats with various levels of wooded-ness.

Separate data by bird species.

Seasonal fluctuations.