



What Does the Data Tell Us?

STUDENT ACTIVITY INSTRUCTIONS

Materials Needed:

- [2019 MRBO Nest Monitoring Report](#)
- Report Scavenger Hunt worksheet
- Notebook
- Pencil or Pen

Introduction (Read before doing the activity)

Understanding what factors affect species' reproductive success is imperative to being able to conserve species successfully. In the first video you learned about the Missouri River Bird Observatory's nest monitoring project including why we are studying grassland birds and how we monitor these nests. In this activity you will get to examine the real-life results of this monitoring project and what these data tell us about our grassland birds.

Activity Instructions:

1. Report Scavenger Hunt! To familiarize yourself with the structure of the report and what it entails, you will be "hunting" for the information located within the report that is listed on your Report Scavenger Hunt worksheet.
2. After you have completed the scavenger hunt, hopefully you are now familiar with what the report contains and where certain information is located. Now it's time to dive deeper and examine the data! Let's start with Table 9 *All nests monitored in 2019*. Answer the following questions in your notebook:
 - a. What species of nest did the technicians find the most of?
 - b. In which prairie did the technicians find more nests: Taberville or Wah'Kon-Tah?
3. Now go to Table 10 *Fate of all species nests in 2019* and answer the following questions in your notebook:
 - a. How many failed nests and how many successful nests were there in the control units?
 - b. How many failed nests and how many successful nests were there in the treatment units?
 - c. For 2019, did the control or treatment units have a higher success rate?

1. Examine Table 12 Nest survival for all species, target species, Bell's Vireo, and Dickcissel. Using Table 11 Fate of Target Species from 2016-2019 to determine how the report writer did the math for the nest survival percentage for Target Species 2016-2019 for both the Treatment and Control Unit and show your work in your notebook.
 - a. Hint: How do you calculate percentage?
2. Next let's examine Figure 3. Full-cycle nest survival for all species, target species, Bell's Vireo, and Dickcissel. Answer the following questions in your notebook:
 - a. What type of graph is this?
 - b. Why was this type of graph used?
 - c. What do these graphs show us?
 - d. How does the full-cycle nest survival of the target species from 2016-2019 in the treatment units compare to the full-cycle nest survival of the target species for 2016-2019 in the control units?
3. This study is not yet complete as a larger sample size is needed to provide any conclusive evidence. However, for the sake of learning more about how to look at data, what do these findings suggest about the effect of the Patch-burn grazing management (aka treatment) on the nesting success of grassland birds? Write down your thoughts in your notebook.

Conclusion

Monitoring the effects of patch-burn grazing on the nesting success of grassland birds is essential to understanding the effectiveness on this management tool to both conserve grassland birds and work the land with cattle. Hopefully this activity gave you a glimpse into the methodology and evidence-based examination that goes into scientific study.

