

Data Applications: Biological Services for Forest Plan Monitoring

Using Data Integration to Model Focal Species' Distribution on the Kaibab National Forest

Overview

The Kaibab National Forest is reassessing the status of focal songbird species and their response to forest management actions as per the Kaibab National Forest Land Management Plan. This information is used to compile the biennial monitoring report required under the 2012 Planning Rule. Through the first biennium of monitoring, the forest recognized that one of the focal songbird species, the ruby-crowned kinglet (*Regulus calendula*), may not have sufficient detections to evaluate occupancy trends using a standard monitoring protocol. As a result, there is a need to re-evaluate the ruby-crowned kinglet as a focal species, as well as the monitoring approach used to detect it. Citizen science applications have the potential to increase sustainability in future monitoring.

Project Summary

This pilot study is a collaborative effort between the Kaibab National Forest, Rocky Mountain Research station and the Enterprise Program. We will use species distribution modelling (Miller, Pacifici, Sanderlin, and Reich, 2019; Pacifici et al., 2017) of select focal songbird species on the Kaibab National Forest. We will combine data collected through structured Integrated Monitoring in Bird Conservation Regions (IMBCR) monitoring (Pavlacky et al., 2017) (figure 1) and data from citizen scientists through eBird (<http://www.ebird.org>; Sullivan et al., 2009) to assess adaptive monitoring goals, including applications to assessing forest treatment effects. Data integration using IMBCR data and eBird data illustrates how to build capacity and sustainability with monitoring.

Expected Deliverables

- Data and analysis tools that could inform future monitoring approaches for focal species on the Kaibab National Forest (and potentially beyond).
- Analysis tools and models that could inform future decisions on the Kaibab National Forest.
- Increased coordination with local conservation groups and other organizations that contribute to the agency's broader shared stewardship strategy.
- Presentations at local and national wildlife meetings.

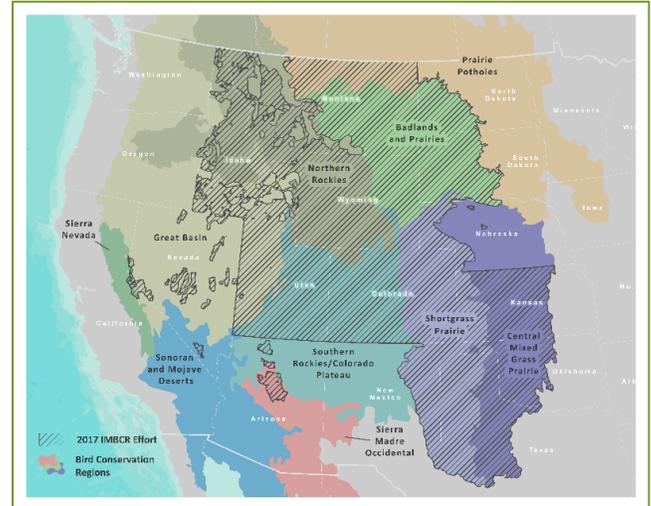


Figure 1. Extent of the Integrated Monitoring in Bird Conservation Regions program.

For More Information

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