Integrated Monitoring in Bird Conservation Regions

1/11/23

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1 Home

Bird Conservancy of the Rockies (Bird Conservancy), in conjunction with its partners, conducted the 15th consecutive year of landbird monitoring for the Integrated Monitoring in Bird Conservation Regions (IMBCR) program.

IMBCR is based on a spatially balanced sampling design which provides inference to avian populations at various scales, from local management units to entire states or Bird Conservation Regions, facilitating conservation at local and national levels. The nested design also provides a consistent and flexible framework for understanding and comparing the status and annual changes of bird populations with local and regional context.

Collaboration across organizations and spatial scales increases sample sizes and improves the accuracy and precision of population estimates. Analyzing the data collectively allows us to estimate detection probabilities for species that would otherwise have insufficient numbers of detections at local scales.

For these reasons, the IMBCR program is well-positioned to address conservation and management needs for a wide range of stakeholders, encouraging an interdisciplinary approach to bird conservation that combines monitoring, research, and management.

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2 About

Connecting people, birds and land

Mission: Conserving birds and their habitats through science, education and land stewardship

Vision: Native bird populations are sustained in healthy ecosystems

Bird Conservancy of the Rockies conserves birds and their habitats through an integrated approach of science, education, and land stewardship. Our work radiates from the Rockies to the Great Plains, Mexico and beyond. Our mission is advanced through sound science, achieved through empowering people, realized through stewardship, and sustained through partnerships. Together, we are improving native bird populations, the land, and the lives of people.

Core Values
1. Science provides the foundation for effective bird conservation.
2. Education is critical to the success of bird conservation.
3. Stewardship of birds and their habitats is a shared responsibility.

Goals
1. Guide conservation action where it is needed most by conducting scientifically rigorous monitoring and research on birds and their habitats within the context of their full annual cycle.
2. Inspire conservation action in people by developing relationships through community outreach and science-based, experiential education programs.
3. Contribute to bird population viability and help sustain working lands by partnering with landowners and managers to enhance wildlife habitat.

4. Promote conservation and inform land management decisions by disseminating scientific knowledge and developing tools and recommendations.

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3 Executive Summary

In 2022, the IMBCR program's area of inference encompassed four entire states (Colorado, Montana, Utah, and Wyoming) and portions of 11 additional states (Arizona, California, Idaho, Kansas, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, and South Dakota). We surveyed across US Forest Service (USFS) Regions 1, 2, and 4 and in portions of Region 3; all of the Badlands and Prairies Bird Conservation Region (BCR 17), and portions of nine other BCRs: Great Basin (9), Northern Rockies (10), Prairie Potholes (11), Sierra Nevada (15), Southern Rockies/Colorado Plateau (16), Shortgrass Prairie (18), Central Mixed Grass Prairie (19), Sonoran and Mojave Deserts (33), and Sierra Madre Occidental (34).

Observers conducted 15,066 point counts within 1,340 sampling units between May 1 and July 25, 2022. They detected 194,859 individual birds representing 355 species. This report summarizes the results of the 2022 field season.

> To view interactive maps illustrating survey and detection locations, and tables displaying species counts and population estimates (i.e., density and occupancy), please visit the Rocky Mountain Avian Data Center (RMADC).

Instructions for using the RMADC are included in Appendix A of this report and are available on the RMADC itself (hover over the "Explore the Data" tab for tutorials). Each stratum or combination of strata presented in this report's Results section contains a web link that leads directly to the RMADC with the appropriate queries already populated. Please note that not every stratum or conceivable combination of strata is summarized in this report. However, all individual strata and all biologically

> meaningful combinations of strata, or "superstrata", can be found on the RMADC.

Long-term, rigorous monitoring provides valuable information on population status, allowing managers and biologists to focus limited resources on species of greatest concern. In the Discussion, we provide a few examples demonstrating the use of IMBCR population trends for tracking the status of designated species of concern and determining where specific populations may require management or conservation efforts.

4 Introduction

Monitoring is an essential component of wildlife management and conservation science (Marsh & Trenham, 2008; Witmer, 2005). Common goals of population monitoring are to estimate the population status of target species and to detect changes in populations over time (Sauer & Knutson, 2008; Thompson, White, & Gowan, 1998). In addition to providing basic information on species distributions, effective monitoring programs can identify species that are at-risk because of small or declining populations (Dreitz, Lukacs, & Knopf, 2006); provide an understanding of how management actions affect populations (Alexander, Stephens, Geupel, & Will, 2008; Lyons, Runge, Laskowski, & Kendall, 2008); and evaluate population responses to landscape alteration and climate change (Baron et al., 2008; Lindenmayer & Likens, 2009).

While monitoring at local scales remains critical, there is an increasing need to monitor the consequences of environmental change over large spatial and temporal scales and address questions much larger than those that can be answered within individual management units (Dreitz, Stinson, Hahn, Tack, & Lukacs, 2017; Lindenmayer & Likens, 2009). Reconciling disparities between the geographic scale of management actions and the scale of ecological and species-specific responses is a persistent challenge for natural resource management agencies (Ruggiero, Hayward, & Squires, 1994). Population monitoring of eco-regional landscapes provides an important context for evaluating population change at local and regional scales, with the potential to identify causal factors and management actions for species recovery (Manley, Schlesinger, Roth, & Van Horne, 2005; Sauer & Knutson, 2008).

Before monitoring can be used by land managers to guide conservation efforts, sound program designs and analytical methods are necessary to produce unbiased population estimates

(Sauer & Knutson, 2008). At the most fundamental level, reliable knowledge about the status of avian populations requires accounting for spatial variation and incomplete detection of the target species (Pollock et al., 2002; Rosenstock, Anderson, Giesen, Leukering, & Carter, 2002; Thompson, 2002). Addressing spatial variation entails the use of probabilistic sampling designs, which allows population estimates to be extended over the entire area of interest (Thompson et al., 1998). Accounting for incomplete detection involves the use of appropriate sampling and analytical methods to address the fact that few, if any, species are so conspicuous that they are detected with certainty when present during a survey. Accounting for these two sources of variation ensures that observed trends reflect true population changes rather than artifacts of the sampling and observation processes (Pollock et al., 2002; Thompson, 2002).

The apparent large-scale declines of avian populations and the loss, fragmentation and degradation of native habitats highlight the need for extensive and rigorous landbird monitoring programs (Rich et al., 2004; US North American Bird Conservation Initiative Monitoring Subcommittee, 2007). The US North American Bird Conservation Initiative's (NABCI) "Opportunities for Improving Avian Monitoring" (NABCI Monitoring Subcommittee, 2007) provided goals for avian monitoring programs including:

> **Goal 1**: Fully integrate monitoring into bird management and conservation practices and ensure that monitoring is aligned with management and conservation priorities.
>
> **Goal 2**: Coordinate monitoring programs among organizations and integrate them across spatial scales to solve conservation or management problems effectively.
>
> **Goal 3**: Increase the value of monitoring information by improving statistical design.
>
> **Goal 4**: Maintain bird population monitoring data in modern data management systems. Recognize legal, institutional, proprietary, and other constraints while still providing greater availability of raw data,

associated metadata, and summary data for bird monitoring programs.

With the NABCI Monitoring Subcommittee (2007) guidelines in mind, Bird Conservancy of the Rockies and partners initiated a broad-scale collaborative bird monitoring program in 2008 entitled "Integrated Monitoring in Bird Conservation Regions" (IMBCR) (Blakesley & Hanni, 2009). See Appendix B: IMBCR Program and Stratification History for a complete history of this program. The monitoring objectives of the IMBCR partnership are to:

1. Provide robust density, population and occupancy estimates that account for incomplete detection and are comparable at different geographic extents;
2. Provide long-term status and trend data for all regularly occurring breeding landbird species throughout the study area;
3. Provide a design framework to spatially integrate existing bird monitoring efforts in the region to provide better information on distribution and abundance of breeding landbirds, especially for high priority species;
4. Provide basic habitat association data for most bird species to address habitat management issues;
5. Maintain a high-quality database that effectively merges records between regional data nodes and is accessible to all of our collaborators as well as to the public over the internet, in the form of raw and summarized data; and
6. Generate decision support tools that help guide conservation efforts and provide a better measure of conservation success.

The IMBCR design includes Bird Conservation Regions (BCRs) as sampling frames, stratified by land ownership inside each BCR (NABCI Monitoring Subcommittee, 2007). BCRs provide a spatially consistent framework for bird conservation in North America. Each BCR represents a distinct ecological region with similar bird communities, vegetation types, and resource management interests (NABCI, 2000). Population monitoring within BCRs is implemented with a flexible hierarchical framework of nested units, where information on bird populations

can be partitioned into smaller units for small-scale conservation planning, or aggregated to support large-scale conservation efforts. By focusing on scales relevant to management and conservation, information obtained from monitoring in BCRs can be integrated into research and management objectives at various scales applicable to managers (Pavlacky et al., 2017; Ruth et al., 2003).

5 Methods

5.1 Study Area

5.2 Sampling Design

5.2.1 Sampling Frame and Stratification

5.2.2 Sampling Units

5.2.3 Sample Selection

5.3 Sampling Methods

5.4 Data Analysis

5.4.1 Distance Analysis Assumptions

5.4.2 Density Estimation

5.4.3 Occupancy Analysis

5.4.4 Automated Analysis

Part I

Results

6 Summary

```
library(tidyverse)
```

```
-- Attaching packages --------------------------------------- tidyverse 1.3.2 --
v ggplot2 3.4.0      v purrr   0.3.5
v tibble  3.1.8      v dplyr   1.0.10
v tidyr   1.2.1      v stringr 1.4.1
v readr   2.1.3      v forcats 0.5.2
-- Conflicts ------------------------------------------ tidyverse_conflicts() --
x dplyr::filter() masks stats::filter()
x dplyr::lag()    masks stats::lag()
```

```
library(lubridate)
```

```
Loading required package: timechange

Attaching package: 'lubridate'

The following objects are masked from 'package:base':

    date, intersect, setdiff, union
```

```
data <- read.csv("2022_annualreportdata.csv")

year <- unique(data$Year)

total.planned <- sum(data$PlannedGrids)
total.completed <- sum(data$CompletedGrids)
percent.completed <- round((total.completed/total.planned)*100)
```

```
total.points <- sum(data$CompletedPoints)

first <- min(data$FirstVisit)
last <- max(data$LastVisit)

  first <- as_date(first)
```

```
Warning: All formats failed to parse. No formats found.
```

```
  first <- paste(month(first,
                       label = TRUE, abbr = FALSE),
                       day(first),
                       sep = " ")
  last <- as_date(last)
```

```
Warning: All formats failed to parse. No formats found.
```

```
  last <- paste(month(last,
                      label = TRUE, abbr = FALSE),
                      paste(day(last),
                year(last), sep = ", "),
                      sep = " ")

  n.birds <- sum(data$nBirdSpecies)
```

Note

In 2022, field observers completed 3992 of 4113 (97%) planned surveys throughout all or portions of BCRs 9, 10, 11, 15, 16, 17, 18, 19, and 33 using the IMBCR design (Table 1, Figure 2). Reasons surveys were not completed are summarized in Table 2. Observers conducted 45314 point counts within the 3992 surveyed sampling units between NA NA and NA NA, NA. They detected 12407 individual birds representing 340 species.

Please note that not every stratum or superstratum is summarized in this report. We include details of specific strata or superstrata for which our partners are most interested. However, results from all strata and all biologically meaningful superstrata can be found on the Rocky Mountain Avian Data Center (RMADC). This online database contains species counts, density, abundance, and occupancy results per strata, and also interactive maps showing approximate survey and detection locations. Instructions for using the RMADC are included in Appendix A of this report and are available on the RMADC website (hover over the "Explore the Data" tab for tutorials). Each stratum or superstratum presented in the Results section contains a web link that leads directly to the RMADC with the appropriate queries already populated.

Unless otherwise specified, all bird species names listed in this report are from the 58th supplement to the American Ornithologists' Union Check-list of North and Middle American Birds (Chesser et al., 2017).

Trend Estimates

We estimated species population trends for data collected through 2022. Results can be found here. Individual stratum estimates are compiled by state.

To find superstratum estimates, select a spreadsheet for any state included in the superstratum. For example, to find estimates for the Badlands and Prairies Bird Conservation Region (BCR 17), select the spreadsheet for Montana, Wyoming, Nebraska, North Dakota, or South Dakota. Given the size of each state's spreadsheet, it will likely be useful to filter estimates by stratum or bird species.

Also, we do not include trend estimates for species with zero detections in a given stratum, and use caution when interpreting trends for low-density species at the superstratum (regional) level when there were zero detections in a given year. In these cases, we add a very small number to the estimate (i.e., half the minimum non-zero estimate) in order to take the log of

the estimate. This increases uncertainty around the trend estimates.

Explanation of the columns in the trend estimates spreadsheets are as follows:

Stratum: the abbreviated code for an individual stratum or the name of a superstratum (i.e., contains 2 or more individual strata)
Stratum Name: full name for an individual stratum (note, this column will contain NA for superstrata as the name is contained in the "stratum" column for superstrata)
Species: full name of bird species. Note that we record a few mammals detected on surveys, such as red and Abert's squirrels and pika
ScientificName: scientific name for each species
Mean: mean trend estimate per year based on all years a stratum was surveyed. A value of 1 indicates the population is stable, <1 indicates the population is declining and >1 is an increasing population
SD: standard deviation or amount of variation in the data
CV: coefficient of variation or ratio of the standard deviation to the mean (lower is better!)
LCI 95: lower 95% credible interval; the true estimate lies within the lower and upper 95% credible intervals with 95% probability
UCI 95: upper 95% credible interval; the true estimate lies within the lower and upper 95% credible intervals with 95% probability
LCI 90: same interpretation as 95% LCI but with 90% probability
UCI 90: same interpretation as 95% UCI but with 90% probability
Median: value that represents the midpoint of the distribution. We recommend reporting the median rather than the mean because some credible intervals have long tails so the means can be quite a bit higher than the medians, especially for estimates near zero. Medians are also more representative of the distributions
f: the probability the trend is in the direction of the mean. This is our confidence in the direction of the trend (not necessarily the magnitude). As 'f' approaches 1, our confidence increases

(e.g., if the trend estimate is 1.16 and 'f' is 0.88, then we are 88% sure the population is increasing)
N.Detect: the number of detections used to estimate trend for each species-stratum combination
N.Strata.Det: the number of strata with a detection used to estimate regional (superstrata) trends. This column will contain an "NA" for individual strata.
N.Strata: the number of strata contained in a superstratum (minimum number of strata within a superstratum is 2). This column will contain an "NA" for individual strata.

Number of Species with Estimates

The way we present density and occupancy estimates in the final report has changed from years prior to 2018. In the past, if a species had been detected in a stratum in a previous year, but was not detected in the current year, we did not provide density or occupancy estimates for that species in that stratum. We now include estimates for these species. In these cases, the estimate for a given year is zero or very close to zero. We consider these to be legitimate estimates of zero occupancy or density because the species occurs in the area of interest, but was not detected in a particular year.

This change means that the number of species with density or occupancy estimates for a given stratum or superstratum in a given year is not comparable to the number of species with estimates for that stratum or superstratum and year in reports prior to 2018. The number of species in the current report will include species with zero, or near zero estimates, if that species has been detected in previous years, whereas reports before 2018 will not. Therefore, there may be more species with estimates for a given stratum in a final report for 2018 and later.

Planned and Completed Strata

BCR = Bird Conservancy of the Rockies; DoD = Department of Defense; GBBO = Great Basin Bird Observatory; IBO = In-

termountain Bird Observatory; KBO = Klamath Bird Observatory; UDWR = Utah Division of Wildlife Resources; WYNDD = Wyoming Natural Diversity Database.

7 U.S. Forest Service

```
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```
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```

7.1 Region 1

7.1.1 Region 1 National Forests

7.1.1.1 Region 1 National Forests: Total

We obtained results for Region 1 National Forests: Total by compiling and jointly analyzing data from 29 strata.

Field technicians completed 134 of 132 planned surveys (102%) in 2022. Technicians conducted 1410 point counts within the 132 surveyed grid cells between NA NA and NA NA. They detected 157 bird species, including 5 priority species.

Bird Conservancy estimated densities and population sizes for 196 species that were detected in any year during which surveys were conducted, 9 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 91 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Region 1 National Forests: Total for 203 species that were detected in any year during which surveys were conducted, 10 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 136 species.

To view a map of survey locations, density and occupancy results and species counts within Region 1 National Forests: Total across all years of the project, follow the web link below. Hit

"Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

USFS-Region 1 National Forests

7.1.1.2 Beaverhead-Deerlodge National Forest

We obtained results for Beaverhead-Deerlodge National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 91 point counts within the 10 surveyed grid cells between NA NA and NA NA. They detected 65 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 118 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 36 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Beaverhead-Deerlodge National Forest for 114 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 49 species.

To view a map of survey locations, density and occupancy results and species counts within Beaverhead-Deerlodge National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Beaverhead-Deerlodge National Forest

7.1.1.3 Bitterroot National Forest

We obtained results for Bitterroot National Forest by compiling and jointly analyzing data from three strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 104 point counts within the 10 surveyed grid cells between NA NA and NA NA. They detected 65 bird species, including 2 priority species.

Bird Conservancy estimated densities and population sizes for 104 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 35 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Bitterroot National Forest for 112 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 60 species.

To view a map of survey locations, density and occupancy results and species counts within Bitterroot National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Bitterroot National Forest

7.1.1.4 Clearwater National Forest

We obtained results for Clearwater National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 69 point counts within the 7 surveyed grid cells between NA NA and NA NA. They detected 61 bird species, including 1 priority species.

Bird Conservancy estimated densities and population sizes for 106 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 32 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Clearwater National Forest for 104 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 51 species.

To view a map of survey locations, density and occupancy results and species counts within Clearwater National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Clearwater National Forest

7.1.1.5 Custer National Forest

We obtained results for Custer National Forest by compiling and jointly analyzing data from four strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 116 point counts within the 12 surveyed grid cells between NA NA and NA NA. They detected 98 bird species, including 9 priority species.

Bird Conservancy estimated densities and population sizes for 153 species that were detected in any year during which surveys were conducted, 14 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 45 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Custer National Forest for 156 species that were detected in any year during which surveys were conducted, 14 of which are priority species. The

data yielded robust occupancy estimates (CV $<$ 50%) for 61 species.

To view a map of survey locations, density and occupancy results and species counts within Custer National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Custer National Forest

7.1.1.6 Flathead National Forest

We obtained results for Flathead National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed 8 of 7 planned surveys (114%) in 2022. Technicians conducted 83 point counts within the 7 surveyed grid cells between NA NA and NA NA. They detected 60 bird species, including 1 priority species.

Bird Conservancy estimated densities and population sizes for 109 species that were detected in any year during which surveys were conducted, 3 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 27 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Flathead National Forest for 110 species that were detected in any year during which surveys were conducted, 3 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 54 species.

To view a map of survey locations, density and occupancy results and species counts within Flathead National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To

view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Flathead National Forest

7.1.1.7 Gallatin National Forest

We obtained results for Gallatin National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed 8 of 7 planned surveys (114%) in 2022. Technicians conducted 61 point counts within the 7 surveyed grid cells between NA NA and NA NA. They detected 64 bird species, including 1 priority species.

Bird Conservancy estimated densities and population sizes for 119 species that were detected in any year during which surveys were conducted, 3 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 31 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Gallatin National Forest for 117 species that were detected in any year during which surveys were conducted, 3 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 38 species.

To view a map of survey locations, density and occupancy results and species counts within Gallatin National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Gallatin National Forest

7.1.1.8 Helena National Forest

We obtained results for Helena National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 95 point counts within the 8 surveyed grid cells between NA NA and NA NA. They detected 79 bird species, including 4 priority species.

Bird Conservancy estimated densities and population sizes for 127 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 41 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Helena National Forest for 125 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 51 species.

To view a map of survey locations, density and occupancy results and species counts within Helena National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Helena National Forest

7.1.1.9 Idaho Panhandle National Forest

We obtained results for Idaho Panhandle National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 145 point counts within the 15 surveyed grid cells between NA NA and NA NA. They detected 81 bird species, including 7 priority species.

Bird Conservancy estimated densities and population sizes for 118 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 47 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Idaho Panhandle National Forest for 116 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 56 species.

To view a map of survey locations, density and occupancy results and species counts within Idaho Panhandle National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Idaho Panhandle National Forest

7.1.1.10 Kootenai National Forest

We obtained results for Kootenai National Forest by compiling and jointly analyzing data from three strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 317 point counts within the 27 surveyed grid cells between NA NA and NA NA. They detected 98 bird species, including 6 priority species.

Bird Conservancy estimated densities and population sizes for 130 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust density estimates (CV < 50%) for 54 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Kootenai National Forest for 136 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 68 species.

To view a map of survey locations, density and occupancy results and species counts within Kootenai National Forest across all years of the project, follow the web link below. Hit "Ok"

on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Kootenai National Forest

7.1.1.11 Lewis and Clark National Forest

We obtained results for Lewis and Clark National Forest by compiling and jointly analyzing data from three strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 152 point counts within the 12 surveyed grid cells between NA NA and NA NA. They detected 78 bird species, including 2 priority species.

Bird Conservancy estimated densities and population sizes for 125 species that were detected in any year during which surveys were conducted, 5 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 36 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Lewis and Clark National Forest for 126 species that were detected in any year during which surveys were conducted, 5 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 41 species.

To view a map of survey locations, density and occupancy results and species counts within Lewis and Clark National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Lewis and Clark National Forest

7.1.1.12 Lolo National Forest

We obtained results for Lolo National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 68 point counts within the 9 surveyed grid cells between NA NA and NA NA. They detected 71 bird species, including 2 priority species.

Bird Conservancy estimated densities and population sizes for 131 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 35 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Lolo National Forest for 129 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 54 species.

To view a map of survey locations, density and occupancy results and species counts within Lolo National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Lolo National Forest

7.1.1.13 Nez Perce National Forest

We obtained results for Nez Perce National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 109 point counts within the 8 surveyed grid cells between NA NA and NA NA. They detected 77 bird species, including 3 priority species.

Bird Conservancy estimated densities and population sizes for 112 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 40 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Nez Perce National Forest for 109 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 46 species.

To view a map of survey locations, density and occupancy results and species counts within Nez Perce National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Nez Perce National Forest

7.1.2 Region 1 National Grasslands

7.1.2.1 Region 1 National Grasslands: Total

We obtained results for Region 1 National Grasslands: Total by compiling and jointly analyzing data from three strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 143 point counts within the 15 surveyed grid cells between NA NA and NA NA. They detected 75 bird species, including 4 priority species.

Bird Conservancy estimated densities and population sizes for 131 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 25 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Region 1 National Grasslands: Total for 127 species that were detected in any year during

which surveys were conducted, 6 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 50 species.

To view a map of survey locations, density and occupancy results and species counts within Region 1 National Grasslands: Total across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

USFS-Region 1 National Grasslands

7.1.2.2 Little Missouri National Grassland

We obtained results for Little Missouri National Grassland by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 50 point counts within the 5 surveyed grid cells between NA NA and NA NA. They detected 48 bird species, including 11 priority species.

Bird Conservancy estimated densities and population sizes for 100 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV < 50%) for 22 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Little Missouri National Grassland for 90 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 34 species.

To view a map of survey locations, density and occupancy results and species counts within Little Missouri National Grassland across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red

located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

ND-BCR17-MG

7.1.2.3 Cedar River National Grassland

We obtained results for Cedar River National Grassland by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 55 point counts within the 5 surveyed grid cells between NA NA and NA NA. They detected 42 bird species, including 15 priority species.

Bird Conservancy estimated densities and population sizes for 73 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 14 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Cedar River National Grassland for 73 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 24 species.

To view a map of survey locations, density and occupancy results and species counts within Cedar River National Grassland across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

ND-BCR17-RG

7.1.2.4 Grand River National Grassland

We obtained results for Grand River National Grassland by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 38 point counts within the 5 surveyed grid cells between NA NA and NA NA. They detected 26 bird species, including 7 priority species.

Bird Conservancy estimated densities and population sizes for 72 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 11 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Grand River National Grassland for 67 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 13 species.

To view a map of survey locations, density and occupancy results and species counts within Grand River National Grassland across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

SD-BCR17-RG

7.2 Region 2

7.2.1 Region 2 National Forests

7.2.1.1 Region 2 National Forests: Total

We obtained results for Region 2 National Forests: Total by compiling and jointly analyzing data from 21 strata.

Field technicians completed 90 of 82 planned surveys (110%) in 2022. Technicians conducted 857 point counts within the 82 surveyed grid cells between NA NA and NA NA. They detected 159 bird species, including 11 priority species.

Bird Conservancy estimated densities and population sizes for 217 species that were detected in any year during which surveys were conducted, 21 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 80 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Region 2 National Forests: Total for 222 species that were detected in any year during which surveys were conducted, 23 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 127 species.

To view a map of survey locations, density and occupancy results and species counts within Region 2 National Forests: Total across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

USFS-Region 2 National Forests

7.2.1.2 Arapaho and Roosevelt National Forests

We obtained results for Arapaho and Roosevelt National Forests by compiling and analyzing data from one stratum.

Field technicians completed 15 of 13 planned surveys (115%) in 2022. Technicians conducted 126 point counts within the 13 surveyed grid cells between NA NA and NA NA. They detected 73 bird species, including 8 priority species.

Bird Conservancy estimated densities and population sizes for 103 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 30 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Arapaho and Roosevelt National Forests for 101 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 34 species.

To view a map of survey locations, density and occupancy results and species counts within Arapaho and Roosevelt National Forests across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CO-BCR16-AR

7.2.1.3 Bighorn National Forest

We obtained results for Bighorn National Forest by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 37 point counts within the 3 surveyed grid cells between NA NA and NA NA. They detected 24 bird species, including 4 priority species.

Bird Conservancy estimated densities and population sizes for 99 species that were detected in any year during which surveys were conducted, 5 of which are priority species. The data yielded robust density estimates (CV < 50%) for 15 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Bighorn National Forest for 98 species that were detected in any year during which surveys were conducted, 5 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 26 species.

To view a map of survey locations, density and occupancy results and species counts within Bighorn National Forest across

all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR10-BI

7.2.1.4 Black Hills National Forest

We obtained results for Black Hills National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 52 point counts within the 6 surveyed grid cells between NA NA and NA NA. They detected 51 bird species, including 3 priority species.

Bird Conservancy estimated densities and population sizes for 140 species that were detected in any year during which surveys were conducted, 10 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 22 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Black Hills National Forest for 137 species that were detected in any year during which surveys were conducted, 11 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 85 species.

To view a map of survey locations, density and occupancy results and species counts within Black Hills National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Black Hills National Forest

7.2.1.5 Grand Mesa, Uncompaghre and Gunnison National Forests

We obtained results for Grand Mesa, Uncompaghre and Gunnison National Forests by compiling and analyzing data from one stratum.

Field technicians completed 5 of 4 planned surveys (125%) in 2022. Technicians conducted 39 point counts within the 4 surveyed grid cells between NA NA and NA NA. They detected 47 bird species, including 2 priority species.

Bird Conservancy estimated densities and population sizes for 105 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 27 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Grand Mesa, Uncompaghre and Gunnison National Forests for 105 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 40 species.

To view a map of survey locations, density and occupancy results and species counts within Grand Mesa, Uncompaghre and Gunnison National Forests across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CO-BCR16-GM

7.2.1.6 Medicine Bow National Forest

We obtained results for Medicine Bow National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 75 point counts within the 6 surveyed

grid cells between NA NA and NA NA. They detected 61 bird species, including 2 priority species.

Bird Conservancy estimated densities and population sizes for 137 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 34 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Medicine Bow National Forest for 136 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 54 species.

To view a map of survey locations, density and occupancy results and species counts within Medicine Bow National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Medicine Bow National Forest

7.2.1.7 Nebraska National Forests

We obtained results for Nebraska National Forests by compiling and jointly analyzing data from three strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 64 point counts within the 6 surveyed grid cells between NA NA and NA NA. They detected 55 bird species, including 2 priority species.

Bird Conservancy estimated densities and population sizes for 130 species that were detected in any year during which surveys were conducted, 3 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 27 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Nebraska National Forests for

121 species that were detected in any year during which surveys were conducted, 3 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 55 species.

To view a map of survey locations, density and occupancy results and species counts within Nebraska National Forests across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Nebraska National Forests

7.2.1.8 Pike and San Isabel National Forests

We obtained results for Pike and San Isabel National Forests by compiling and analyzing data from one stratum.

Field technicians completed 5 of 4 planned surveys (125%) in 2022. Technicians conducted 36 point counts within the 4 surveyed grid cells between NA NA and NA NA. They detected 40 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 97 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 21 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Pike and San Isabel National Forests for 92 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 34 species.

To view a map of survey locations, density and occupancy results and species counts within Pike and San Isabel National Forests across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red

located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CO-BCR16-PS

7.2.1.9 Rio Grande National Forest

We obtained results for Rio Grande National Forest by compiling and jointly analyzing data from three strata.

Field technicians completed 12 of 11 planned surveys (109%) in 2022. Technicians conducted 118 point counts within the 11 surveyed grid cells between NA NA and NA NA. They detected 79 bird species, including 5 priority species.

Bird Conservancy estimated densities and population sizes for 133 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 42 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Rio Grande National Forest for 129 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 66 species.

To view a map of survey locations, density and occupancy results and species counts within Rio Grande National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Rio Grande National Forest

7.2.1.10 Routt National Forest

We obtained results for Routt National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 80 point counts within the 8 surveyed grid cells between NA NA and NA NA. They detected 53 bird species, including 3 priority species.

Bird Conservancy estimated densities and population sizes for 119 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 29 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Routt National Forest for 118 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 47 species.

To view a map of survey locations, density and occupancy results and species counts within Routt National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Routt National Forest

7.2.1.11 San Juan National Forest

We obtained results for San Juan National Forest by compiling and analyzing data from one stratum.

Field technicians completed 5 of 4 planned surveys (125%) in 2022. Technicians conducted 33 point counts within the 4 surveyed grid cells between NA NA and NA NA. They detected 61 bird species, including 3 priority species.

Bird Conservancy estimated densities and population sizes for 122 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 29 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout San Juan National Forest for 121 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 48 species.

To view a map of survey locations, density and occupancy results and species counts within San Juan National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CO-BCR16-SA

7.2.1.12 Shoshone National Forest

We obtained results for Shoshone National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 126 point counts within the 9 surveyed grid cells between NA NA and NA NA. They detected 73 bird species, including 5 priority species.

Bird Conservancy estimated densities and population sizes for 141 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 39 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Shoshone National Forest for 144 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The

data yielded robust occupancy estimates (CV < 50%) for 45 species.

To view a map of survey locations, density and occupancy results and species counts within Shoshone National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Shoshone National Forest

7.2.1.13 White River National Forest

We obtained results for White River National Forest by compiling and jointly analyzing data from three strata.

Field technicians completed 13 of 11 planned surveys (118%) in 2022. Technicians conducted 93 point counts within the 11 surveyed grid cells between NA NA and NA NA. They detected 72 bird species, including 3 priority species.

Bird Conservancy estimated densities and population sizes for 121 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust density estimates (CV < 50%) for 42 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout White River National Forest for 118 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 59 species.

To view a map of survey locations, density and occupancy results and species counts within White River National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest).

To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

White River National Forest

7.2.2 Region 2 National Grasslands

7.2.2.1 Region 2 National Grasslands: Total

We obtained results for Region 2 National Grasslands: Total by compiling and jointly analyzing data from eight strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 353 point counts within the 29 surveyed grid cells between NA NA and NA NA. They detected 102 bird species, including 11 priority species.

Bird Conservancy estimated densities and population sizes for 176 species that were detected in any year during which surveys were conducted, 21 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 43 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Region 2 National Grasslands: Total for 182 species that were detected in any year during which surveys were conducted, 22 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 63 species.

To view a map of survey locations, density and occupancy results and species counts within Region 2 National Grasslands: Total across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

USFS-Region 2 National Grasslands

7.2.2.2 Nebraska National Grasslands (Buffalo Gap, Fort Pierre and Oglala)

We obtained results for Nebraska National Grasslands (Buffalo Gap, Fort Pierre and Oglala) by compiling and jointly analyzing data from four strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 99 point counts within the 8 surveyed grid cells between NA NA and NA NA. They detected 56 bird species, including 5 priority species.

Bird Conservancy estimated densities and population sizes for 138 species that were detected in any year during which surveys were conducted, 15 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 15 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Nebraska National Grasslands (Buffalo Gap, Fort Pierre and Oglala) for 135 species that were detected in any year during which surveys were conducted, 15 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 39 species.

To view a map of survey locations, density and occupancy results and species counts within Nebraska National Grasslands (Buffalo Gap, Fort Pierre and Oglala) across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Nebraska National Grasslands

7.2.2.3 Cimarron National Grassland

We obtained results for Cimarron National Grassland by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2022. Technicians conducted 18 point counts within the 2 surveyed grid cells between NA NA and NA NA. They detected 25 bird species, including 9 priority species.

Bird Conservancy estimated densities and population sizes for 42 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 6 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Cimarron National Grassland for 40 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 9 species.

To view a map of survey locations, density and occupancy results and species counts within Cimarron National Grassland across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

KS-BCR18-CM

7.2.2.4 Comanche National Grassland

We obtained results for Comanche National Grassland by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 45 point counts within the 5 surveyed grid cells between NA NA and NA NA. They detected 37 bird species, including 9 priority species.

Bird Conservancy estimated densities and population sizes for 94 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 18 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Comanche National Grassland for 92 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 19 species.

To view a map of survey locations, density and occupancy results and species counts within Comanche National Grassland across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CO-BCR18-CO

7.2.2.5 Public Lands on Pawnee National Grassland

We obtained results for Public Lands on Pawnee National Grassland by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 111 point counts within the 8 surveyed grid cells between NA NA and NA NA. They detected 29 bird species, including 10 priority species.

Bird Conservancy estimated densities and population sizes for 41 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust density estimates (CV < 50%) for 10 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Public Lands on Pawnee National Grassland for 35 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 9 species.

To view a map of survey locations, density and occupancy results and species counts within Public Lands on Pawnee National Grassland across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CO-BCR18-PG

7.2.2.6 Thunder Basin National Grassland

We obtained results for Thunder Basin National Grassland by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 80 point counts within the 6 surveyed grid cells between NA NA and NA NA. They detected 53 bird species, including 19 priority species.

Bird Conservancy estimated densities and population sizes for 104 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 20 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Thunder Basin National Grassland for 106 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 26 species.

To view a map of survey locations, density and occupancy results and species counts within Thunder Basin National Grassland across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR17-TB

7.3 Region 3

7.3.1 Region 3 National Forests

7.3.1.1 Coronado National Forest

We obtained results for Coronado National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed 20 of 18 planned surveys (111%) in 2022. Technicians conducted 162 point counts within the 18 surveyed grid cells between NA NA and NA NA. They detected 123 bird species, including 27 priority species.

Bird Conservancy estimated densities and population sizes for 124 species that were detected in any year during which surveys were conducted, 27 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 61 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Coronado National Forest for 126 species that were detected in any year during which surveys were conducted, 27 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 69 species.

To view a map of survey locations, density and occupancy results and species counts within Coronado National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Coronado National Forest

7.3.1.2 Kaibab National Forest

We obtained results for Kaibab National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed 80 of 62 planned surveys (129%) in 2022. Technicians conducted 655 point counts within the 62 surveyed grid cells between NA NA and NA NA. They detected 112 bird species, including 3 priority species.

Bird Conservancy estimated densities and population sizes for 130 species that were detected in any year during which surveys were conducted, 3 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 65 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Kaibab National Forest for 130 species that were detected in any year during which surveys were conducted, 3 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 77 species.

To view a map of survey locations, density and occupancy results and species counts within Kaibab National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Kaibab National Forest

7.4 Region 4

7.4.1 Region 4 National Forests

7.4.1.1 Region 4 National Forest Total

We obtained results for Region 4 National Forest Total by compiling and jointly analyzing data from 36 strata.

Field technicians completed 143 of 147 planned surveys (97%) in 2022. Technicians conducted 1556 point counts within the 147 surveyed grid cells between NA NA and NA NA. They detected 170 bird species, including 6 priority species.

Bird Conservancy estimated densities and population sizes for 200 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 96 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Region 4 National Forest Total for 209 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 141 species.

To view a map of survey locations, density and occupancy results and species counts within Region 4 National Forest Total across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

USFS-Region 4 National Forests

7.4.1.2 Ashley National Forest

We obtained results for Ashley National Forest by compiling and jointly analyzing data from three strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 103 point counts within the 10 surveyed grid cells between NA NA and NA NA. They detected 57 bird species, including 4 priority species.

Bird Conservancy estimated densities and population sizes for 118 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 24 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Ashley National Forest for 117 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 34 species.

To view a map of survey locations, density and occupancy results and species counts within Ashley National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Ashley National Forest

7.4.1.3 Boise National Forest

We obtained results for Boise National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed 10 of 12 planned surveys (83%) in 2022. Technicians conducted 124 point counts within the 12 surveyed grid cells between NA NA and NA NA. They detected 75 bird species, including 3 priority species.

Bird Conservancy estimated densities and population sizes for 111 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust density estimates (CV < 50%) for 43 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Boise National Forest for 107 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 51 species.

To view a map of survey locations, density and occupancy results and species counts within Boise National Forest across all years of the project, follow the web link below. Hit "Ok"

on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Boise National Forest

7.4.1.4 Bridger-Teton National Forest

We obtained results for Bridger-Teton National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 134 point counts within the 9 surveyed grid cells between NA NA and NA NA. They detected 77 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 129 species that were detected in any year during which surveys were conducted, 5 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 39 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Bridger-Teton National Forest for 125 species that were detected in any year during which surveys were conducted, 5 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 47 species.

To view a map of survey locations, density and occupancy results and species counts within Bridger-Teton National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Bridger-Teton National Forest

7.4.1.5 Caribou-Targhee National Forest

We obtained results for Caribou-Targhee National Forest by compiling and jointly analyzing data from six strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 147 point counts within the 13 surveyed grid cells between NA NA and NA NA. They detected 91 bird species, including 1 priority species.

Bird Conservancy estimated densities and population sizes for 151 species that were detected in any year during which surveys were conducted, 3 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 38 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Caribou-Targhee National Forest for 149 species that were detected in any year during which surveys were conducted, 3 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 67 species.

To view a map of survey locations, density and occupancy results and species counts within Caribou-Targhee National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Caribou-Targhee National Forest

7.4.1.6 Dixie National Forest

We obtained results for Dixie National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 105 point counts within the 10 surveyed grid cells between NA NA and NA NA. They detected 74 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 111 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 46 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Dixie National Forest for 108 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 58 species.

To view a map of survey locations, density and occupancy results and species counts within Dixie National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Dixie National Forest

7.4.1.7 Fishlake National Forest

We obtained results for Fishlake National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 115 point counts within the 10 surveyed grid cells between NA NA and NA NA. They detected 68 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 107 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 40 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Fishlake National Forest for 104 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The

data yielded robust occupancy estimates (CV < 50%) for 43 species.

To view a map of survey locations, density and occupancy results and species counts within Fishlake National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Fishlake National Forest

7.4.1.8 Humboldt-Toiyabe National Forest

We obtained results for Humboldt-Toiyabe National Forest by compiling and jointly analyzing data from five strata.

Field technicians completed 19 of 21 planned surveys (90%) in 2022. Technicians conducted 173 point counts within the 21 surveyed grid cells between NA NA and NA NA. They detected 99 bird species, including 3 priority species.

Bird Conservancy estimated densities and population sizes for 128 species that were detected in any year during which surveys were conducted, 5 of which are priority species. The data yielded robust density estimates (CV < 50%) for 44 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Humboldt-Toiyabe National Forest for 128 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 59 species.

To view a map of survey locations, density and occupancy results and species counts within Humboldt-Toiyabe National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area

of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Humboldt-Toiyabe National Forest

7.4.1.9 Manti-La Sal National Forest

We obtained results for Manti-La Sal National Forest by compiling and jointly analyzing data from three strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 148 point counts within the 14 surveyed grid cells between NA NA and NA NA. They detected 86 bird species, including 2 priority species.

Bird Conservancy estimated densities and population sizes for 144 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 47 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Manti-La Sal National Forest for 141 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 53 species.

To view a map of survey locations, density and occupancy results and species counts within Manti-La Sal National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Manti-La Sal National Forest

7.4.1.10 Payette National Forest

We obtained results for Payette National Forest by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 101 point counts within the 10 surveyed grid cells between NA NA and NA NA. They detected 77 bird species, including 7 priority species.

Bird Conservancy estimated densities and population sizes for 108 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 41 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Payette National Forest for 106 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 46 species.

To view a map of survey locations, density and occupancy results and species counts within Payette National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

ID-BCR10-PA

7.4.1.11 Salmon-Challis National Forest

We obtained results for Salmon-Challis National Forest by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 122 point counts within the 11 surveyed grid cells between NA NA and NA NA. They detected 76 bird species, including 6 priority species.

Bird Conservancy estimated densities and population sizes for 115 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 37 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Salmon-Challis National Forest for 113 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 48 species.

To view a map of survey locations, density and occupancy results and species counts within Salmon-Challis National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Salmon-Challis National Forest

7.4.1.12 Sawtooth National Forest

We obtained results for Sawtooth National Forest by compiling and jointly analyzing data from three strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 138 point counts within the 12 surveyed grid cells between NA NA and NA NA. They detected 94 bird species, including 2 priority species.

Bird Conservancy estimated densities and population sizes for 126 species that were detected in any year during which surveys were conducted, 3 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 46 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Sawtooth National Forest for 122 species that were detected in any year during which surveys were conducted, 3 of which are priority species. The

data yielded robust occupancy estimates (CV $<$ 50%) for 56 species.

To view a map of survey locations, density and occupancy results and species counts within Sawtooth National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Sawtooth National Forest

7.4.1.13 Uinta-Wasatch-Cache National Forest

We obtained results for Uinta-Wasatch-Cache National Forest by compiling and jointly analyzing data from five strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 146 point counts within the 15 surveyed grid cells between NA NA and NA NA. They detected 79 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 120 species that were detected in any year during which surveys were conducted, 1 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 28 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Uinta-Wasatch-Cache National Forest for 120 species that were detected in any year during which surveys were conducted, 1 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 39 species.

To view a map of survey locations, density and occupancy results and species counts within Uinta-Wasatch-Cache National Forest across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area

of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Uinta-Wasatch-Cache National Forest

7.4.2 Region 4 National Grasslands

7.4.2.1 Curlew National Grassland

We obtained results for Curlew National Grassland by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 64 point counts within the 5 surveyed grid cells between NA NA and NA NA. They detected 49 bird species, including 9 priority species.

Bird Conservancy estimated densities and population sizes for 76 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 12 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Curlew National Grassland for 75 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 20 species.

To view a map of survey locations, density and occupancy results and species counts within Curlew National Grassland across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

ID-BCR9-CU

8 Bureau of Land Management

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8.1 BLM California

8.1.1 BLM in California BCR 9

8.1.1.1 California BCR9 BLM

We obtained results for California BCR9 BLM by compiling and jointly analyzing data from four strata.

Field technicians completed 14 of 13 planned surveys (108%) in 2022. Technicians conducted 104 point counts within the 13 surveyed grid cells between NA NA and NA NA. They detected 47 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 82 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 18 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout California BCR9 BLM for 78 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 19 species.

To view a map of survey locations, density and occupancy results and species counts within California BCR9 BLM across all years of the project, follow the web link below. Hit “Ok”

on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CA-BCR9 BLM

8.1.1.2 Carson City District

We obtained results for Carson City District by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 27 point counts within the 3 surveyed grid cells between NA NA and NA NA. They detected 33 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 42 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 13 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Carson City District for 41 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 13 species.

To view a map of survey locations, density and occupancy results and species counts within Carson City District across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CA-BCR9-CC

8.1.1.3 California Desert District

We obtained results for California Desert District by compiling and analyzing data from one stratum.

Field technicians completed 3 of 2 planned surveys (150%) in 2022. Technicians conducted 6 point counts within the 2 surveyed grid cells between NA NA and NA NA. They detected 5 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 34 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 1 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout California Desert District for 33 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 1 species.

To view a map of survey locations, density and occupancy results and species counts within California Desert District across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CA-BCR9-CD

8.1.1.4 Central California District

We obtained results for Central California District by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 34 point counts within the 4 surveyed grid cells between NA NA and NA NA. They detected 13 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 35 species that were detected in any year during which surveys were conducted, 1 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 5 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Central California District for 32 species that were detected in any year during which surveys were conducted, 1 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 5 species.

To view a map of survey locations, density and occupancy results and species counts within Central California District across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CA-BCR9-CN

8.1.1.5 Northern California District

We obtained results for Northern California District by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 37 point counts within the 4 surveyed grid cells between NA NA and NA NA. They detected 30 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 59 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 15 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Northern California District for 57 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The

data yielded robust occupancy estimates (CV < 50%) for 14 species.

To view a map of survey locations, density and occupancy results and species counts within Northern California District across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CA-BCR9-NC

8.2 BLM Colorado

8.2.1 BLM in Colorado

8.2.1.1 BLM in Colorado: Total

We obtained results for BLM in Colorado: Total by compiling and jointly analyzing data from two strata.

Field technicians completed 33 of 32 planned surveys (103%) in 2022. Technicians conducted 391 point counts within the 32 surveyed grid cells between NA NA and NA NA. They detected 104 bird species, including 4 priority species.

Bird Conservancy estimated densities and population sizes for 157 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust density estimates (CV < 50%) for 58 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout BLM in Colorado: Total for 164 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 75 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Colorado: Total across

all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CO-BLM

8.2.2 BLM in Colorado BCR 10

8.2.2.1 BLM in Colorado BCR 10

We obtained results for BLM in Colorado BCR 10 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 127 point counts within the 9 surveyed grid cells between NA NA and NA NA. They detected 50 bird species, including 12 priority species.

Bird Conservancy estimated densities and population sizes for 107 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 22 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout BLM in Colorado BCR 10 for 101 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 30 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Colorado BCR 10 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CO-BCR10-BL

8.2.3 BLM in Colorado BCR 9

8.2.3.1 BLM in Colorado BCR 16

We obtained results for BLM in Colorado BCR 16 by compiling and analyzing data from one stratum.

Field technicians completed 24 of 23 planned surveys (104%) in 2022. Technicians conducted 264 point counts within the 23 surveyed grid cells between NA NA and NA NA. They detected 97 bird species, including 9 priority species.

Bird Conservancy estimated densities and population sizes for 160 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 56 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout BLM in Colorado BCR 16 for 156 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 73 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Colorado BCR 16 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CO-BCR16-BL

8.3 BLM Idaho

8.3.0.1 Bruneau Field Office

We obtained results for Bruneau Field Office by compiling and analyzing data from one stratum.

Field technicians completed 0 of 3 planned surveys (0%) in 2022. Technicians conducted 48 point counts within the 3 surveyed grid cells between NA NA and NA NA. They detected 43 bird species, including 5 priority species.

Bird Conservancy estimated densities and population sizes for 96 species that were detected in any year during which surveys were conducted, 10 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 16 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Bruneau Field Office for 87 species that were detected in any year during which surveys were conducted, 9 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 16 species.

To view a map of survey locations, density and occupancy results and species counts within Bruneau Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

ID-BCR9-BR

8.3.0.2 Burley Field Office

We obtained results for Burley Field Office by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 35 point counts within the 3 surveyed grid cells between NA NA and NA NA. They detected 15 bird species, including 1 priority species.

Bird Conservancy estimated densities and population sizes for 72 species that were detected in any year during which surveys were conducted, 14 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 8 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Burley Field Office for 71 species that were detected in any year during which surveys were conducted, 14 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 13 species.

To view a map of survey locations, density and occupancy results and species counts within Burley Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

ID-BCR9-BU

8.3.0.3 Owyhee Field Office

We obtained results for Owyhee Field Office by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 47 point counts within the 3 surveyed grid cells between NA NA and NA NA. They detected 34 bird species, including 3 priority species.

Bird Conservancy estimated densities and population sizes for 88 species that were detected in any year during which surveys were conducted, 11 of which are priority species. The data yielded robust density estimates (CV < 50%) for 16 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Owyhee Field Office for 85 species that were detected in any year during which surveys were conducted, 11 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 20 species.

To view a map of survey locations, density and occupancy results and species counts within Owyhee Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of

the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

ID-BCR9-OW

8.4 BLM Montana

8.4.0.1 BLM in Montana: Total

We obtained results for BLM in Montana: Total by compiling and jointly analyzing data from five strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 473 point counts within the 35 surveyed grid cells between NA NA and NA NA. They detected 140 bird species, including 17 priority species.

Bird Conservancy estimated densities and population sizes for 178 species that were detected in any year during which surveys were conducted, 18 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 63 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout BLM in Montana: Total for 180 species that were detected in any year during which surveys were conducted, 19 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 93 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Montana: Total across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

MT-BLM

8.4.0.2 BLM in Montana BCR 10

We obtained results for BLM in Montana BCR 10 by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 75 point counts within the 7 surveyed grid cells between NA NA and NA NA. They detected 89 bird species, including 5 priority species.

Bird Conservancy estimated densities and population sizes for 135 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 41 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout BLM in Montana BCR 10 for 134 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 50 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Montana BCR 10 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

MT-BCR10-BLM

8.4.0.3 BLM in Montana BCR 11

We obtained results for BLM in Montana BCR 11 by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 252 point counts within the 18 surveyed grid cells between NA NA and NA NA. They detected 82 bird species, including 14 priority species.

Bird Conservancy estimated densities and population sizes for 108 species that were detected in any year during which surveys were conducted, 14 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 29 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout BLM in Montana BCR 11 for 107 species that were detected in any year during which surveys were conducted, 14 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 42 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Montana BCR 11 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

MT-BCR11-BLM

8.4.0.4 BLM in Montana BCR 17

We obtained results for BLM in Montana BCR 17 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 146 point counts within the 10 surveyed grid cells between NA NA and NA NA. They detected 59 bird species, including 14 priority species.

Bird Conservancy estimated densities and population sizes for 106 species that were detected in any year during which surveys were conducted, 12 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 23 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout BLM in Montana BCR 17 for 105 species that were detected in any year during which surveys were conducted, 12 of which are priority species. The

data yielded robust occupancy estimates (CV < 50%) for 28 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Montana BCR 17 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

MT-BCR17-BL

8.5 BLM Nevada

8.5.1 BLM in Nevada BCR 9

8.5.1.1 BLM in Nevada BCR 9

We obtained results for BLM in Nevada BCR 9 by compiling and jointly analyzing data from seven strata.

Field technicians completed 74 of 73 planned surveys (101%) in 2022. Technicians conducted 709 point counts within the 73 surveyed grid cells between NA NA and NA NA. They detected 73 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 102 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV < 50%) for 35 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout BLM in Nevada BCR 9 for 102 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 41 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Nevada BCR 9 across

all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

NV-BCR9 BLM

8.5.1.2 Battle Mountain District

We obtained results for Battle Mountain District by compiling and analyzing data from one stratum.

Field technicians completed 15 of 14 planned surveys (107%) in 2022. Technicians conducted 141 point counts within the 14 surveyed grid cells between NA NA and NA NA. They detected 36 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 55 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 16 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Battle Mountain District for 51 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 5 species.

To view a map of survey locations, density and occupancy results and species counts within Battle Mountain District across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

NV-BCR9-BM

8.5.1.3 Carson City District

We obtained results for Carson City District by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 91 point counts within the 8 surveyed grid cells between NA NA and NA NA. They detected 29 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 50 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 8 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Carson City District for 46 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 8 species.

To view a map of survey locations, density and occupancy results and species counts within Carson City District across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

NV-BCR9-CC

8.5.1.4 Elko, Twin Falls, and Boise Districts

We obtained results for Elko, Twin Falls, and Boise Districts by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 141 point counts within the 14 surveyed grid cells between NA NA and NA NA. They detected 34 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 41 species that were detected in any year during which surveys were conducted, 5 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 12 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Elko, Twin Falls, and Boise Districts for 39 species that were detected in any year during which surveys were conducted, 5 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 11 species.

To view a map of survey locations, density and occupancy results and species counts within Elko, Twin Falls, and Boise Districts across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

NV-BCR9-EK

8.5.1.5 Ely District

We obtained results for Ely District by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 140 point counts within the 15 surveyed grid cells between NA NA and NA NA. They detected 45 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 63 species that were detected in any year during which surveys were conducted, 5 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 19 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Ely District for 61 species that were detected in any year during which surveys were conducted,

4 of which are priority species. The data yielded robust occupancy estimates (CV $< 50\%$) for 16 species.

To view a map of survey locations, density and occupancy results and species counts within Ely District across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

NV-BCR9-EY

8.5.1.6 Northern California District

We obtained results for Northern California District by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 40 point counts within the 4 surveyed grid cells between NA NA and NA NA. They detected 20 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 43 species that were detected in any year during which surveys were conducted, 5 of which are priority species. The data yielded robust density estimates (CV $< 50\%$) for 7 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Northern California District for 42 species that were detected in any year during which surveys were conducted, 5 of which are priority species. The data yielded robust occupancy estimates (CV $< 50\%$) for 7 species.

To view a map of survey locations, density and occupancy results and species counts within Northern California District across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest).

To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

NV-BCR9-NC

8.5.1.7 Southern Nevada District

We obtained results for Southern Nevada District by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 14 point counts within the 3 surveyed grid cells between NA NA and NA NA. They detected 3 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 22 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 2 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Southern Nevada District for 20 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 5 species.

To view a map of survey locations, density and occupancy results and species counts within Southern Nevada District across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

NV-BCR9-SN

8.5.1.8 Winnemucca District

We obtained results for Winnemucca District by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 142 point counts within the 15 surveyed grid cells between NA NA and NA NA. They detected 33 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 52 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 12 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Winnemucca District for 54 species that were detected in any year during which surveys were conducted, 9 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 11 species.

To view a map of survey locations, density and occupancy results and species counts within Winnemucca District across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

NV-BCR9-WI

8.6 BLM Oregon

8.6.1 BLM in Oregon BCR 9

8.6.1.1 BLM in Oregon BCR 9

We obtained results for BLM in Oregon BCR 9 by compiling and jointly analyzing data from four strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 421 point counts within the 32 surveyed grid cells between NA NA and NA NA. They detected 70 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 116 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 27 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout BLM in Oregon BCR 9 for 113 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 33 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Oregon BCR 9 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

OR-BCR9 BLM

8.6.1.2 Burns District: BCR9

We obtained results for Burns District: BCR9 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 112 point counts within the 8 surveyed grid cells between NA NA and NA NA. They detected 38 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 78 species that were detected in any year during which surveys were conducted, 1 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 16 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Burns District: BCR9 for 74 species that were detected in any year during which surveys were conducted, 1 of which are priority species. The

data yielded robust occupancy estimates (CV $<$ 50%) for 12 species.

To view a map of survey locations, density and occupancy results and species counts within Burns District: BCR9 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

OR-BCR9-BU

8.6.1.3 Lakeview and Medford Districts: BCR9

We obtained results for Lakeview and Medford Districts: BCR9 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 105 point counts within the 8 surveyed grid cells between NA NA and NA NA. They detected 33 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 64 species that were detected in any year during which surveys were conducted, 3 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 11 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Lakeview and Medford Districts: BCR9 for 63 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 12 species.

To view a map of survey locations, density and occupancy results and species counts within Lakeview and Medford Districts: BCR9 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area

of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

OR-BCR9-LA

8.6.1.4 Prineville District: BCR9

We obtained results for Prineville District: BCR9 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 112 point counts within the 8 surveyed grid cells between NA NA and NA NA. They detected 46 bird species, including 1 priority species.

Bird Conservancy estimated densities and population sizes for 79 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 22 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Prineville District: BCR9 for 77 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 24 species.

To view a map of survey locations, density and occupancy results and species counts within Prineville District: BCR9 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

OR-BCR9-PR

8.6.1.5 Vale District: BCR9

We obtained results for Vale District: BCR9 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 92 point counts within the 8 surveyed grid cells between NA NA and NA NA. They detected 23 bird species, including 1 priority species.

Bird Conservancy estimated densities and population sizes for 38 species that were detected in any year during which surveys were conducted, 1 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 12 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Vale District: BCR9 for 37 species that were detected in any year during which surveys were conducted, 1 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 13 species.

To view a map of survey locations, density and occupancy results and species counts within Vale District: BCR9 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

OR-BCR9-VA

8.6.2 BLM in Oregon BCR 10

8.6.2.1 BLM in Oregon BCR 10

We obtained results for BLM in Oregon BCR 10 by compiling and jointly analyzing data from three strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 293 point counts within the 24 surveyed

grid cells between NA NA and NA NA. They detected 75 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 101 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 42 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout BLM in Oregon BCR 10 for 96 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 49 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Oregon BCR 10 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

OR-BCR10 BLM

8.6.2.2 Burns District: BCR10

We obtained results for Burns District: BCR10 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 97 point counts within the 8 surveyed grid cells between NA NA and NA NA. They detected 53 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 74 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 28 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Burns District: BCR10

for 70 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 30 species.

To view a map of survey locations, density and occupancy results and species counts within Burns District: BCR10 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

OR-BCR10-BU

8.6.2.3 Prineville District: BCR10

We obtained results for Prineville District: BCR10 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 100 point counts within the 8 surveyed grid cells between NA NA and NA NA. They detected 57 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 77 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 25 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Prineville District: BCR10 for 72 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 25 species.

To view a map of survey locations, density and occupancy results and species counts within Prineville District: BCR10 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near

the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

OR-BCR10-PR

8.6.2.4 Vale District: BCR10

We obtained results for Vale District: BCR10 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 96 point counts within the 8 surveyed grid cells between NA NA and NA NA. They detected 42 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 55 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 25 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Vale District: BCR10 for 50 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 22 species.

To view a map of survey locations, density and occupancy results and species counts within Vale District: BCR10 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

OR-BCR10-VA

8.7 BLM North Dakota

8.7.0.1 BLM in North Dakota BCR 17

We obtained results for BLM in North Dakota BCR 17 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 80 point counts within the 6 surveyed grid cells between NA NA and NA NA. They detected 69 bird species, including 19 priority species.

Bird Conservancy estimated densities and population sizes for 108 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 25 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout BLM in North Dakota BCR 17 for 105 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 35 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in North Dakota BCR 17 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

ND-BCR17-BM

8.8 BLM South Dakota

8.8.0.1 BLM in South Dakota BCR 17

We obtained results for BLM in South Dakota BCR 17 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 79 point counts within the 7 surveyed grid cells between NA NA and NA NA. They detected 79 bird species, including 14 priority species.

Bird Conservancy estimated densities and population sizes for 137 species that were detected in any year during which surveys were conducted, 16 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 34 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout BLM in South Dakota BCR 17 for 132 species that were detected in any year during which surveys were conducted, 16 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 30 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in South Dakota BCR 17 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

SD-BCR17-BM

8.9 BLM Utah

8.9.0.1 BLM in Utah: Total

We obtained results for BLM in Utah: Total by compiling and jointly analyzing data from 19 strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 661 point counts within the 56 surveyed grid cells between NA NA and NA NA. They detected 114 bird species, including 18 priority species.

Bird Conservancy estimated densities and population sizes for 152 species that were detected in any year during which surveys

were conducted, 26 of which are priority species. The data yielded robust density estimates (CV < 50%) for 48 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout BLM in Utah: Total for 154 species that were detected in any year during which surveys were conducted, 26 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 86 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Utah: Total across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BLM

8.9.0.2 BLM in Utah BCR 9

We obtained results for BLM in Utah BCR 9 by compiling and jointly analyzing data from five strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 224 point counts within the 18 surveyed grid cells between NA NA and NA NA. They detected 59 bird species, including 12 priority species.

Bird Conservancy estimated densities and population sizes for 130 species that were detected in any year during which surveys were conducted, 24 of which are priority species. The data yielded robust density estimates (CV < 50%) for 22 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout BLM in Utah BCR 9 for 125 species that were detected in any year during which surveys were conducted, 22 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 34 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Utah BCR 9 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BCR9 BLM

8.9.0.3 BLM in Utah BCR 10

We obtained results for BLM in Utah BCR 10 by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 54 point counts within the 5 surveyed grid cells between NA NA and NA NA. They detected 37 bird species, including 7 priority species.

Bird Conservancy estimated densities and population sizes for 60 species that were detected in any year during which surveys were conducted, 10 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 14 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout BLM in Utah BCR 10 for 74 species that were detected in any year during which surveys were conducted, 12 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 23 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Utah BCR 10 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BCR10 BLM

8.9.0.4 BLM in Utah BCR 16

We obtained results for BLM in Utah BCR 16 by compiling and jointly analyzing data from 11 strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 357 point counts within the 31 surveyed grid cells between NA NA and NA NA. They detected 92 bird species, including 11 priority species.

Bird Conservancy estimated densities and population sizes for 134 species that were detected in any year during which surveys were conducted, 19 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 42 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout BLM in Utah BCR 16 for 131 species that were detected in any year during which surveys were conducted, 19 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 68 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Utah BCR 16 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BCR16 BLM

8.9.0.5 Cedar City Field Office

We obtained results for Cedar City Field Office by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 73 point counts within the 6 surveyed grid cells between NA NA and NA NA. They detected 44 bird species, including 8 priority species.

Bird Conservancy estimated densities and population sizes for 97 species that were detected in any year during which surveys were conducted, 14 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 18 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Cedar City Field Office for 95 species that were detected in any year during which surveys were conducted, 13 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 22 species.

To view a map of survey locations, density and occupancy results and species counts within Cedar City Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BLM - Cedar City Field Office

8.9.0.6 Fillmore Field Office

We obtained results for Fillmore Field Office by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 93 point counts within the 7 surveyed grid cells between NA NA and NA NA. They detected 40 bird species, including 9 priority species.

Bird Conservancy estimated densities and population sizes for 79 species that were detected in any year during which surveys were conducted, 13 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 12 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Fillmore Field Office for 78 species that were detected in any year during which surveys were conducted, 12 of which are priority species. The

data yielded robust occupancy estimates (CV < 50%) for 13 species.

To view a map of survey locations, density and occupancy results and species counts within Fillmore Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BLM - Fillmore Field Office

8.9.0.7 Kanab Field Office

We obtained results for Kanab Field Office by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 47 point counts within the 4 surveyed grid cells between NA NA and NA NA. They detected 32 bird species, including 7 priority species.

Bird Conservancy estimated densities and population sizes for 76 species that were detected in any year during which surveys were conducted, 11 of which are priority species. The data yielded robust density estimates (CV < 50%) for 11 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Kanab Field Office for 74 species that were detected in any year during which surveys were conducted, 11 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 18 species.

To view a map of survey locations, density and occupancy results and species counts within Kanab Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BCR16-KA

8.9.0.8 Moab Field Office

We obtained results for Moab Field Office by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 40 point counts within the 3 surveyed grid cells between NA NA and NA NA. They detected 31 bird species, including 4 priority species.

Bird Conservancy estimated densities and population sizes for 67 species that were detected in any year during which surveys were conducted, 9 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 12 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Moab Field Office for 59 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 16 species.

To view a map of survey locations, density and occupancy results and species counts within Moab Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BCR16-MO

8.9.0.9 Monticello Field Office

We obtained results for Monticello Field Office by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 39 point counts within the 3 surveyed

grid cells between NA NA and NA NA. They detected 24 bird species, including 3 priority species.

Bird Conservancy estimated densities and population sizes for 55 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 10 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Monticello Field Office for 53 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 13 species.

To view a map of survey locations, density and occupancy results and species counts within Monticello Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BCR16-MN

8.9.0.10 Price Field Office

We obtained results for Price Field Office by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 28 point counts within the 3 surveyed grid cells between NA NA and NA NA. They detected 35 bird species, including 2 priority species.

Bird Conservancy estimated densities and population sizes for 90 species that were detected in any year during which surveys were conducted, 10 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 16 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Price Field Office for 84 species

that were detected in any year during which surveys were conducted, 10 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 9 species.

To view a map of survey locations, density and occupancy results and species counts within Price Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BCR16-PR

8.9.0.11 Richfield Field Office

We obtained results for Richfield Field Office by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 48 point counts within the 5 surveyed grid cells between NA NA and NA NA. They detected 31 bird species, including 4 priority species.

Bird Conservancy estimated densities and population sizes for 74 species that were detected in any year during which surveys were conducted, 14 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 6 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Richfield Field Office for 82 species that were detected in any year during which surveys were conducted, 14 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 10 species.

To view a map of survey locations, density and occupancy results and species counts within Richfield Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view

occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BLM - Richfield Field Office

8.9.0.12 Saint George Field Office

We obtained results for Saint George Field Office by compiling and jointly analyzing data from three strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 68 point counts within the 6 surveyed grid cells between NA NA and NA NA. They detected 72 bird species, including 11 priority species.

Bird Conservancy estimated densities and population sizes for 92 species that were detected in any year during which surveys were conducted, 15 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 24 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Saint George Field Office for 92 species that were detected in any year during which surveys were conducted, 15 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 28 species.

To view a map of survey locations, density and occupancy results and species counts within Saint George Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BLM - Saint George Field Office

8.9.0.13 Salt Lake Field Office

We obtained results for Salt Lake Field Office by compiling and jointly analyzing data from three strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 111 point counts within the 10 surveyed grid cells between NA NA and NA NA. They detected 45 bird species, including 8 priority species.

Bird Conservancy estimated densities and population sizes for 108 species that were detected in any year during which surveys were conducted, 21 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 14 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Salt Lake Field Office for 101 species that were detected in any year during which surveys were conducted, 19 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 13 species.

To view a map of survey locations, density and occupancy results and species counts within Salt Lake Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BLM - Salt Lake Field Office

8.9.0.14 Vernal Field Office

We obtained results for Vernal Field Office by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 68 point counts within the 6 surveyed grid cells between NA NA and NA NA. They detected 49 bird species, including 8 priority species.

Bird Conservancy estimated densities and population sizes for 81 species that were detected in any year during which surveys were conducted, 11 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 18 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Vernal Field Office for 82 species that were detected in any year during which surveys were conducted, 11 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 14 species.

To view a map of survey locations, density and occupancy results and species counts within Vernal Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BLM - Vernal Field Office

8.10 BLM Wyoming

8.10.0.1 BLM in Wyoming: Total

We obtained results for BLM in Wyoming: Total by compiling and jointly analyzing data from 14 strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 890 point counts within the 67 surveyed grid cells between NA NA and NA NA. They detected 130 bird species, including 12 priority species.

Bird Conservancy estimated densities and population sizes for 176 species that were detected in any year during which surveys were conducted, 13 of which are priority species. The data yielded robust density estimates (CV < 50%) for 58 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout BLM in Wyoming: Total for 174 species that were detected in any year during which surveys were conducted, 13 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 85 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Wyoming: Total across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BLM

8.10.0.2 BLM in Wyoming BCR 16

We obtained results for BLM in Wyoming BCR 16 by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2022. Technicians conducted 17 point counts within the 2 surveyed grid cells between NA NA and NA NA. They detected 37 bird species, including 6 priority species.

Bird Conservancy estimated densities and population sizes for 87 species that were detected in any year during which surveys were conducted, 3 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 14 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout BLM in Wyoming BCR 16 for 85 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 19 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Wyoming BCR 16 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR16-BL

8.10.0.3 BLM in Wyoming BCR 18

We obtained results for BLM in Wyoming BCR 18 by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2022. Technicians conducted 22 point counts within the 2 surveyed grid cells between NA NA and NA NA. They detected 14 bird species, including 5 priority species.

Bird Conservancy estimated densities and population sizes for 54 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 6 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout BLM in Wyoming BCR 18 for 46 species that were detected in any year during which surveys were conducted, 5 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 11 species.

To view a map of survey locations, density and occupancy results and species counts within BLM in Wyoming BCR 18 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR18-BL

8.10.0.4 Buffalo Field Office

We obtained results for Buffalo Field Office by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 70 point counts within the 5 surveyed grid cells between NA NA and NA NA. They detected 52 bird species, including 1 priority species.

Bird Conservancy estimated densities and population sizes for 110 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 22 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Buffalo Field Office for 105 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 32 species.

To view a map of survey locations, density and occupancy results and species counts within Buffalo Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BLM-Buffalo

8.10.0.5 Casper Field Office

We obtained results for Casper Field Office by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 88 point counts within the 6 surveyed grid cells between NA NA and NA NA. They detected 51 bird species, including 4 priority species.

Bird Conservancy estimated densities and population sizes for 99 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 17 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Casper Field Office for 92 species that were detected in any year during which surveys were conducted, 7 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 23 species.

To view a map of survey locations, density and occupancy results and species counts within Casper Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BLM-Casper

8.10.0.6 Cody Field Office

We obtained results for Cody Field Office by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 56 point counts within the 4 surveyed grid cells between NA NA and NA NA. They detected 52 bird species, including 5 priority species.

Bird Conservancy estimated densities and population sizes for 66 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 12 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Cody Field Office for 56 species that were detected in any year during which surveys were conducted, 4 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 12 species.

To view a map of survey locations, density and occupancy results and species counts within Cody Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR10-CO

8.10.0.7 Kemmerer Field Office

We obtained results for Kemmerer Field Office by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 73 point counts within the 5 surveyed grid cells between NA NA and NA NA. They detected 47 bird species, including 8 priority species.

Bird Conservancy estimated densities and population sizes for 52 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 10 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Kemmerer Field Office for 45 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 11 species.

To view a map of survey locations, density and occupancy results and species counts within Kemmerer Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR10-KE

8.10.0.8 Lander Field Office

We obtained results for Lander Field Office by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 97 point counts within the 7 surveyed grid cells between NA NA and NA NA. They detected 51 bird species, including 10 priority species.

Bird Conservancy estimated densities and population sizes for 86 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 26 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Lander Field Office for 82 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 23 species.

To view a map of survey locations, density and occupancy results and species counts within Lander Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR10-LA

8.10.0.9 Newcastle Field Office

We obtained results for Newcastle Field Office by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2022. Technicians conducted 27 point counts within the 2 surveyed grid cells between NA NA and NA NA. They detected 26 bird species, including 10 priority species.

Bird Conservancy estimated densities and population sizes for 93 species that were detected in any year during which surveys were conducted, 11 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 9 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Newcastle Field Office for 92 species that were detected in any year during which surveys were conducted, 11 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 16 species.

To view a map of survey locations, density and occupancy results and species counts within Newcastle Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR17-NE

8.10.0.10 Pinedale Field Office

We obtained results for Pinedale Field Office by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 105 point counts within the 8 surveyed grid cells between NA NA and NA NA. They detected 46 bird species, including 5 priority species.

Bird Conservancy estimated densities and population sizes for 95 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 20 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Pinedale Field Office for 97 species that were detected in any year during which surveys were conducted, 6 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 16 species.

To view a map of survey locations, density and occupancy results and species counts within Pinedale Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR10-PI

8.10.0.11 Rawlins Field Office

We obtained results for Rawlins Field Office by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 127 point counts within the 10 surveyed grid cells between NA NA and NA NA. They detected 41 bird species, including 15 priority species.

Bird Conservancy estimated densities and population sizes for 74 species that were detected in any year during which surveys were conducted, 9 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 18 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Rawlins Field Office for 70 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 14 species.

To view a map of survey locations, density and occupancy results and species counts within Rawlins Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR10-RA

8.10.0.12 Rock Springs Field Office

We obtained results for Rock Springs Field Office by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 113 point counts within the 9 surveyed grid cells between NA NA and NA NA. They detected 41 bird species, including 11 priority species.

Bird Conservancy estimated densities and population sizes for 88 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 15 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Rock Springs Field Office for 83 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 13 species.

To view a map of survey locations, density and occupancy results and species counts within Rock Springs Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR10-RO

8.10.0.13 Worland Field Office

We obtained results for Worland Field Office by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 95 point counts within the 7 surveyed grid cells between NA NA and NA NA. They detected 54 bird species, including 8 priority species.

Bird Conservancy estimated densities and population sizes for 84 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 21 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Worland Field Office for 80 species that were detected in any year during which surveys were conducted, 8 of which are priority species. The

data yielded robust occupancy estimates (CV $< 50\%$) for 20 species.

To view a map of survey locations, density and occupancy results and species counts within Worland Field Office across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR10-WO

9 Department of Defense

9.1 DOD Lands in Colorado

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9.1.0.1 DOD Lands in Colorado BCR 18

We obtained results for DOD Lands in Colorado BCR 18 by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2022. Technicians conducted 25 point counts within the 2 surveyed grid cells between NA NA and NA NA. They detected 41 bird species, including 6 priority species.

Bird Conservancy estimated densities and population sizes for 105 species that were detected in any year during which surveys were conducted, 11 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 15 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout DOD Lands in Colorado BCR 18 for 101 species that were detected in any year during which surveys were conducted, 11 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 29 species.

To view a map of survey locations, density and occupancy results and species counts within DOD Lands in Colorado BCR 18 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest).

To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CO-BCR18-DO

9.2 DOD Lands in Utah

9.2.0.1 DOD Lands in Utah BCR 9

We obtained results for DOD Lands in Utah BCR 9 by compiling and jointly analyzing data from six strata.

Field technicians completed 31 of 28 planned surveys (111%) in 2022. Technicians conducted 361 point counts within the 28 surveyed grid cells between NA NA and NA NA. They detected 37 bird species, including 1 priority species.

Bird Conservancy estimated densities and population sizes for 59 species that were detected in any year during which surveys were conducted, 2 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 13 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout DOD Lands in Utah BCR 9 for 54 species that were detected in any year during which surveys were conducted, 1 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 9 species.

To view a map of survey locations, density and occupancy results and species counts within DOD Lands in Utah BCR 9 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BCR9 Department of Defense lands

9.2.0.2 All Other DOD Lands in Utah BCR 9

We obtained results for All Other DOD Lands in Utah BCR 9 by compiling and analyzing data from one stratum.

Field technicians completed 6 of 5 planned surveys (120%) in 2022. Technicians conducted 73 point counts within the 5 surveyed grid cells between NA NA and NA NA. They detected 24 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 48 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 12 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout All Other DOD Lands in Utah BCR 9 for 46 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 7 species.

To view a map of survey locations, density and occupancy results and species counts within All Other DOD Lands in Utah BCR 9 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BCR9-DD

9.2.0.3 DOD Lands in Utah BCR 9 - Mudflats

We obtained results for DOD Lands in Utah BCR 9 - Mudflats by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2022. Technicians conducted 16 point counts within the 2 surveyed grid cells between NA NA and NA NA. They detected 1 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 2 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 1 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout DOD Lands in Utah BCR 9 - Mudflats for 1 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 1 species.

To view a map of survey locations, density and occupancy results and species counts within DOD Lands in Utah BCR 9 - Mudflats across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BCR9-MU

9.2.0.4 DOD Lands in Utah BCR 9 - APG Impact Areas

We obtained results for DOD Lands in Utah BCR 9 - APG Impact Areas by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 91 point counts within the 6 surveyed grid cells between NA NA and NA NA. They detected 11 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 18 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 5 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout DOD Lands in Utah BCR 9 - APG Impact Areas for 18 species that were detected in any year

during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 4 species.

To view a map of survey locations, density and occupancy results and species counts within DOD Lands in Utah BCR 9 - APG Impact Areas across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BCR9-AP

9.2.0.5 DOD Lands in Utah BCR 9 - Target S Impact Areas

We obtained results for DOD Lands in Utah BCR 9 - Target S Impact Areas by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 96 point counts within the 6 surveyed grid cells between NA NA and NA NA. They detected 12 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 19 species that were detected in any year during which surveys were conducted, 1 of which are priority species. The data yielded robust density estimates (CV < 50%) for 7 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout DOD Lands in Utah BCR 9 - Target S Impact Areas for 16 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 6 species.

To view a map of survey locations, density and occupancy results and species counts within DOD Lands in Utah BCR 9 - Target S Impact Areas across all years of the project, follow

the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BCR9-TS

9.2.0.6 DOD Lands in Utah BCR 9 - UTG Impact Areas

We obtained results for DOD Lands in Utah BCR 9 - UTG Impact Areas by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 39 point counts within the 6 surveyed grid cells between NA NA and NA NA. They detected 4 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 4 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 1 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout DOD Lands in Utah BCR 9 - UTG Impact Areas for 3 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 1 species.

To view a map of survey locations, density and occupancy results and species counts within DOD Lands in Utah BCR 9 - UTG Impact Areas across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BCR9-UR

9.2.0.7 DOD Lands in Utah BCR 9 - UTTR Impact Areas

We obtained results for DOD Lands in Utah BCR 9 - UTTR Impact Areas by compiling and analyzing data from one stratum.

Field technicians completed 5 of 3 planned surveys (167%) in 2022. Technicians conducted 46 point counts within the 3 surveyed grid cells between NA NA and NA NA. They detected 19 bird species, including 1 priority species.

Bird Conservancy estimated densities and population sizes for 24 species that were detected in any year during which surveys were conducted, 1 of which are priority species. The data yielded robust density estimates (CV $< 50\%$) for 7 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout DOD Lands in Utah BCR 9 - UTTR Impact Areas for 22 species that were detected in any year during which surveys were conducted, 1 of which are priority species. The data yielded robust occupancy estimates (CV $< 50\%$) for 7 species.

To view a map of survey locations, density and occupancy results and species counts within DOD Lands in Utah BCR 9 - UTTR Impact Areas across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

UT-BCR9-UT

9.2.0.8 DOD Lands in Wyoming BCR 18

We obtained results for DOD Lands in Wyoming BCR 18 by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2022. Technicians conducted 22 point counts within the 2 surveyed grid cells between NA NA and NA NA. They detected 24 bird species, including 8 priority species.

Bird Conservancy estimated densities and population sizes for 60 species that were detected in any year during which surveys were conducted, 15 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 7 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout DOD Lands in Wyoming BCR 18 for 62 species that were detected in any year during which surveys were conducted, 15 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 16 species.

To view a map of survey locations, density and occupancy results and species counts within DOD Lands in Wyoming BCR 18 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR18-DO

10 National Park Service

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10.1 Greater Yellowstone Network

10.1.0.1 Greater Yellowstone Network: Total

We obtained results for Greater Yellowstone Network: Total by compiling and jointly analyzing data from three strata.

Field technicians completed 8 of 7 planned surveys (114%) in 2022. Technicians conducted 101 point counts within the 7 surveyed grid cells between NA NA and NA NA. They detected 74 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 127 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 36 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Greater Yellowstone Network: Total for 125 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 37 species.

To view a map of survey locations, density and occupancy results and species counts within Greater Yellowstone Network: Total across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red

located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

NPS-Greater Yellowstone Network

10.1.0.2 Bighorn Canyon National Recreation Area

We obtained results for Bighorn Canyon National Recreation Area by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2022. Technicians conducted 25 point counts within the 2 surveyed grid cells between NA NA and NA NA. They detected 27 bird species, including 7 priority species.

Bird Conservancy estimated densities and population sizes for 66 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 7 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Bighorn Canyon National Recreation Area for 60 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 15 species.

To view a map of survey locations, density and occupancy results and species counts within Bighorn Canyon National Recreation Area across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR10-BH

10.1.0.3 Grand Teton National Park

We obtained results for Grand Teton National Park by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2022. Technicians conducted 28 point counts within the 2 surveyed grid cells between NA NA and NA NA. They detected 35 bird species, including 5 priority species.

Bird Conservancy estimated densities and population sizes for 82 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 21 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Grand Teton National Park for 80 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 26 species.

To view a map of survey locations, density and occupancy results and species counts within Grand Teton National Park across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR10-GR

10.1.0.4 Yellowstone National Park

We obtained results for Yellowstone National Park by compiling and analyzing data from one stratum.

Field technicians completed 4 of 3 planned surveys (133%) in 2022. Technicians conducted 48 point counts within the 3 surveyed grid cells between NA NA and NA NA. They detected 47 bird species, including 5 priority species.

Bird Conservancy estimated densities and population sizes for 86 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 25 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Yellowstone National Park for 84 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 25 species.

To view a map of survey locations, density and occupancy results and species counts within Yellowstone National Park across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR10-YE

10.2 Northern Colorado Plateau Network

10.2.0.1 Northern Colorado Plateau Network in Colorado

We obtained results for Northern Colorado Plateau Network in Colorado by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2022. Technicians conducted 13 point counts within the 2 surveyed grid cells between NA NA and NA NA. They detected 25 bird species, including 3 priority species.

Bird Conservancy estimated densities and population sizes for 74 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 8 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Northern Colorado Plateau Network in Colorado for 73 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 23 species.

To view a map of survey locations, density and occupancy results and species counts within Northern Colorado Plateau Network in Colorado across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CO-BCR16-NC

10.3 Northern Great Plains Network

10.3.0.1 Agate Fossil Beds National Monument

We obtained results for Agate Fossil Beds National Monument by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 43 point counts within the 4 surveyed grid cells between NA NA and NA NA. They detected 57 bird species, including 14 priority species.

Bird Conservancy estimated densities and population sizes for 91 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV < 50%) for 22 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Agate Fossil Beds National Monument for 81 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 30 species.

To view a map of survey locations, density and occupancy results and species counts within Agate Fossil Beds National Monument across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

NE-BCR18-AF

10.3.0.2 Badlands National Park - North Unit

We obtained results for Badlands National Park - North Unit by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 70 point counts within the 6 surveyed grid cells between NA NA and NA NA. They detected 35 bird species, including 5 priority species.

Bird Conservancy estimated densities and population sizes for 97 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 10 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Badlands National Park - North Unit for 96 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 22 species.

To view a map of survey locations, density and occupancy results and species counts within Badlands National Park - North Unit across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

SD-BCR17-BN

10.3.0.3 Jewel Cave National Monument

We obtained results for Jewel Cave National Monument by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 38 point counts within the 4 surveyed grid cells between NA NA and NA NA. They detected 44 bird species, including 3 priority species.

Bird Conservancy estimated densities and population sizes for 86 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 17 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Jewel Cave National Monument for 80 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 29 species.

To view a map of survey locations, density and occupancy results and species counts within Jewel Cave National Monument across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

SD-BCR17-JC

10.3.0.4 Knife River Indian Villages National Historic Site

We obtained results for Knife River Indian Villages National Historic Site by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 41 point counts within the 5 surveyed grid cells between NA NA and NA NA. They detected 70 bird species, including 12 priority species.

Bird Conservancy estimated densities and population sizes for 112 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 28 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Knife River Indian Villages National Historic Site for 110 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 55 species.

To view a map of survey locations, density and occupancy results and species counts within Knife River Indian Villages National Historic Site across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

ND-BCR17-KR

10.3.0.5 Missouri National Recreational River

We obtained results for Missouri National Recreational River by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 92 point counts within the 12 surveyed grid cells between NA NA and NA NA. They detected 97 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 121 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 46 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Missouri National Recreational River for 116 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 75 species.

To view a map of survey locations, density and occupancy results and species counts within Missouri National Recreational River across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Missouri National Recreational River

10.3.0.6 Mount Rushmore National Monument

We obtained results for Mount Rushmore National Monument by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 60 point counts within the 6 surveyed grid cells between NA NA and NA NA. They detected 43 bird species, including 2 priority species.

Bird Conservancy estimated densities and population sizes for 77 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV < 50%) for 23 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Mount Rushmore National Monument for 72 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 33 species.

To view a map of survey locations, density and occupancy results and species counts within Mount Rushmore National

Monument across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

SD-BCR17-MR

10.3.0.7 Scotts Bluff National Monument

We obtained results for Scotts Bluff National Monument by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 42 point counts within the 4 surveyed grid cells between NA NA and NA NA. They detected 40 bird species, including 6 priority species.

Bird Conservancy estimated densities and population sizes for 74 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 15 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Scotts Bluff National Monument for 72 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 27 species.

To view a map of survey locations, density and occupancy results and species counts within Scotts Bluff National Monument across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

NE-BCR18-SB

10.3.0.8 Theodore Roosevelt National Park

We obtained results for Theodore Roosevelt National Park by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 107 point counts within the 12 surveyed grid cells between NA NA and NA NA. They detected 82 bird species, including 0 priority species.

Bird Conservancy estimated densities and population sizes for 118 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 30 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Theodore Roosevelt National Park for 110 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 45 species.

To view a map of survey locations, density and occupancy results and species counts within Theodore Roosevelt National Park across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

Theodore Roosevelt National Park

10.3.0.9 Wind Cave National Park

We obtained results for Wind Cave National Park by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 78 point counts within the 6 surveyed grid cells between NA NA and NA NA. They detected 54 bird species, including 7 priority species.

Bird Conservancy estimated densities and population sizes for 125 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 23 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Wind Cave National Park for 118 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 32 species.

To view a map of survey locations, density and occupancy results and species counts within Wind Cave National Park across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

SD-BCR17-WC

10.4 Rocky Mountain Network

10.4.0.1 Rocky Mountain Network in Colorado

We obtained results for Rocky Mountain Network in Colorado by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2022. Technicians conducted 25 point counts within the 2 surveyed grid cells between NA NA and NA NA. They detected 33 bird species, including 1 priority species.

Bird Conservancy estimated densities and population sizes for 86 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 19 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Rocky Mountain Network in Colorado for 85 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 29 species.

To view a map of survey locations, density and occupancy results and species counts within Rocky Mountain Network in Colorado across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CO-BCR16-RM

10.5 Southern Colorado Plateau Network

10.5.0.1 Southern Colorado Plateau Network in Colorado

We obtained results for Southern Colorado Plateau Network in Colorado by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2022. Technicians conducted 15 point counts within the 2 surveyed grid cells between NA NA and NA NA. They detected 34 bird species, including 3 priority species.

Bird Conservancy estimated densities and population sizes for 77 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust density estimates (CV < 50%) for 14 species.

Bird Conservancy estimated the proportion of 1 km² grid cells occupied (Ψ, Psi) throughout Southern Colorado Plateau Network in Colorado for 74 species that were detected in any year during which surveys were conducted, 0 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 31 species.

To view a map of survey locations, density and occupancy results and species counts within Southern Colorado Plateau Network in Colorado across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

CO-BCR16-SC

11 Tribal Lands

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11.1 Wind River Tribal Lands

11.1.0.1 Wind River Tribal Lands in Wyoming BCR 10

We obtained results for Wind River Tribal Lands in Wyoming BCR 10 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 47 point counts within the 4 surveyed grid cells between NA NA and NA NA. They detected 52 bird species, including 9 priority species.

Bird Conservancy estimated densities and population sizes for 89 species that were detected in any year during which surveys were conducted, 17 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 17 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Wind River Tribal Lands in Wyoming BCR 10 for 84 species that were detected in any year during which surveys were conducted, 17 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 24 species.

To view a map of survey locations, density and occupancy results and species counts within Wind River Tribal Lands in Wyoming BCR 10 across all years of the project, follow the web link below. Hit “Ok” on the Rocky Mountain Avian Data Center Disclaimer and hit the “Run Query” button highlighted

in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

WY-BCR10-WR

12 All Other Lands

12.1 Nebraska

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12.1.0.1 All Other Lands in Nebraska BCR 17

We obtained results for All Other Lands in Nebraska BCR 17 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 23 point counts within the 3 surveyed grid cells between NA NA and NA NA. They detected 20 bird species, including 3 priority species.

Bird Conservancy estimated densities and population sizes for 67 species that were detected in any year during which surveys were conducted, 5 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 5 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout All Other Lands in Nebraska BCR 17 for 62 species that were detected in any year during which surveys were conducted, 5 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 9 species.

To view a map of survey locations, density and occupancy results and species counts within All Other Lands in Nebraska BCR 17 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area

of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

NE-BCR17-ON

12.2 North Dakota

12.2.0.1 All Other Lands in North Dakota BCR 17

We obtained results for All Other Lands in North Dakota BCR 17 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2022. Technicians conducted 56 point counts within the 8 surveyed grid cells between NA NA and NA NA. They detected 77 bird species, including 21 priority species.

Bird Conservancy estimated densities and population sizes for 82 species that were detected in any year during which surveys were conducted, 16 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 28 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout All Other Lands in North Dakota BCR 17 for 82 species that were detected in any year during which surveys were conducted, 17 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 37 species.

To view a map of survey locations, density and occupancy results and species counts within All Other Lands in North Dakota BCR 17 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

ND-BCR17-AT

12.3 South Dakota

12.3.0.1 All Other Lands in South Dakota BCR 17

We obtained results for All Other Lands in South Dakota BCR 17 by compiling and analyzing data from one stratum.

Field technicians completed 12 of 13 planned surveys (92%) in 2022. Technicians conducted 134 point counts within the 13 surveyed grid cells between NA NA and NA NA. They detected 66 bird species, including 16 priority species.

Bird Conservancy estimated densities and population sizes for 86 species that were detected in any year during which surveys were conducted, 11 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 21 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout All Other Lands in South Dakota BCR 17 for 79 species that were detected in any year during which surveys were conducted, 10 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 26 species.

To view a map of survey locations, density and occupancy results and species counts within All Other Lands in South Dakota BCR 17 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

SD-BCR17-AT

13 Bird Conservation Regions

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13.0.0.1 Bird Conservation Region 17

We obtained results for Bird Conservation Region 17 by compiling and jointly analyzing data from 30 strata.

Field technicians completed 157 of 158 planned surveys (99%) in 2022. Technicians conducted 1778 point counts within the 158 surveyed grid cells between NA NA and NA NA. They detected 187 bird species, including 45 priority species.

Bird Conservancy estimated densities and population sizes for 229 species that were detected in any year during which surveys were conducted, 61 of which are priority species. The data yielded robust density estimates (CV $<$ 50%) for 69 species.

Bird Conservancy estimated the proportion of 1 km^2 grid cells occupied (Ψ, Psi) throughout Bird Conservation Region 17 for 229 species that were detected in any year during which surveys were conducted, 61 of which are priority species. The data yielded robust occupancy estimates (CV $<$ 50%) for 120 species.

To view a map of survey locations, density and occupancy results and species counts within Bird Conservation Region 17 across all years of the project, follow the web link below. Hit "Ok" on the Rocky Mountain Avian Data Center Disclaimer and hit the "Run Query" button highlighted in red located near the top of the page (the map will zoom to the area of interest). To view occupancy, density, or species counts results, click on the respective tab in the upper left above the map.

BCR17

14 Colorado

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Part II

Discussion

18 Data Applications

Each year, we collected breeding bird information in the Great Plains, Rocky Mountains, and Intermountain West and estimated occupancy, density, abundance, and population trend at a variety of spatial scales. This information is used in a variety of ways by IMBCR partners to inform avian conservation and management decisions, such as:

State wildlife agencies use the trend estimates to monitor Species of Greatest Conservation Need and revise their State Wildlife Action Plans. Trend estimates allow them to identify species that may need additional conservation efforts (e.g., declining populations) or species-specific monitoring efforts. Conversely, species with increasing populations across a state may warrant a lower priority status.

18.0.0.1 Federal agency partners

The **Bureau of Land Management** (BLM) use the density estimates for project-level planning in specific strata, such as a field office. The density estimates inform potential population impacts on species of concern for NEPA projects and environmental assessments by multiplying the densities by the project area to determine the potential number of individuals that could be impacted by the project.

The **U.S. Forest Service** (USFS) uses the trend estimates to monitor focal species within a unit's Land Management Plan, and to support larger processes under forest plan revision, such as assessing

species of conservation concern and identifying focal species.

The **Department of Defens**e (DoD) uses the density and trend estimates for priority species to examine impacts of installation activities on birds. They also compare estimates for specific DoD strata to surrounding regional estimates for context.

18.1 Recent Overlay Projects

IMBCR partners also implement overlays, or targeted projects, to address specific management questions. Overlay projects use the same sampling design and field methods but are not integrated into the nested stratification of the IMBCR program. These projects benefit from pooling detection data across the IMBCR program, and have regional context for project-specific estimates. Some overlay projects include:

Monitored birds in the Atlantic Rim Natural Gas area (south-central Wyoming) to **determine energy development impacts on birds**, and set management triggers to determine when a threshold is met for sagebrush songbird occupancy in the project area compared to surrounding BLM lands.

Examined community-level effects and bird species relationships with restoration treatments under the **USFS's Collaborative Forest Landscape Restoration Program** implemented across the Front Range in Colorado.

Compared population estimates on private ranches in the Great Plains to estimates in the surrounding region to see if ranches participating in the **Audubon Conservation Ranching** program provide breeding habitat for grassland birds.

18.2 Adaptive Management

Monitoring is a key part of adaptive management, providing the means for assessing the impacts of management changes and improving system understanding (Lyons et al., 2008; Nichols & Williams, 2006). The IMBCR program accommodates the principles of adaptive monitoring (Lindenmayer & Likens, 2009) because it:

1. addresses well-defined and tractable questions
2. is underpinned by rigorous science
3. is based on a conceptual model of how bird populations function and
4. is relevant to the management of natural resources (Pavlacky et al., 2017).

Under the adaptive monitoring framework, the objectives, sampling design, data collection, analysis, and interpretation are iterative, allowing the program to evolve and develop in response to new information or new management questions. The IMBCR program allows for different stratification schemes across states and regions and the re-stratification of local management units to better address partner management objectives or new questions. The flexible hierarchical design also accommodates annual fluctuation of sampling intensity without compromising regional population estimates. In addition, overlay projects can address specific management questions or hypotheses without affecting the integrity of the overall IMBCR framework.

19 Special Feature - Population Trends

20 Conclusions

References

A Rocky Mountain Avian Data Center Tips

B IMBCR Program and Stratification History

C Protocol Changes Over Time

D Data Analysis

E Priority Species Designations

E.1 State Agencies

E.2 Bureau of Land Management

E.3 U.S.F.S. Region 1

E.4 U.S.F.S. Region 2

E.5 U.S.F.S. Region 3

E.6 U.S.F.S. Region 4