Integrated Monitoring in Bird Conservation Regions

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Contact Information

Matthew McLaren
matthew.mclaren@birdconservancy.org
970-482-1707

2025 Field Season Report

Welcome to the 2025 IMBCR Annual Report! We hope you find it to be user-friendly and informative. This report will help you access results from IMBCR avian point count surveys, including species observations and population estimates such as density, occupancy, and population trend. This website contains all the same information we've presented in past years' reports, but if you prefer a PDF version of the report, we can provide one.

Navigating this document

Use the sidebar on the left to navigate to different sections of the report and search within the document. Within many sections, an "On this page" menu of links will appear on the right. This menu may collapse when content extends across the page, but you can click on the collapsed label to access the navigation links.

Quick start guide - viewing the results

Survey locations, species observations, density, occupancy, and population trend

Visit the brand-new Rocky Mountain Avian Data Center 2.0 (RMADC)! Here you'll find interactive maps illustrating survey and detection locations, and tables displaying species counts and population estimates (i.e., density, occupancy, and population trend).

Use the "Explore the Data" tab on the RMADC to filter data by geographic region, year, and species.

To navigate the filters, it's helpful to use this report to determine the "Stratum" or "Superstratum" relevant to you. Click on the relevant agency or geographic region on the sidebar on the left side of this page, then use the "On this page" menu to choose a management unit. The relevant Stratum or Superstratum will be listed there.

Need some help?

Please contact Jennifer Timmer if you have any questions about accessing or interpreting IMBCR results.

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.

Instructions for using the RMADC are included in Appendix A of this report.

Special Feature - Conservation & Management
In Special Feature - Conservation & Management we highlight two examples of IMBCR trends for managers and decision-makers to monitor both priority species of concern and common species in decline by accessing data via our new Rocky Mountain Avian Data Center.

Bird Conservancy of the Rockies
14500 Lark Bunting Lane
Brighton, CO 80603
303-659-4348
www.birdconservancy.org

2 About Us

Bird Conservancy of the Rockies

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.

To learn more visit our website at www.birdconservancy.org.

3 Executive Summary

Bird Conservancy of the Rockies (Bird Conservancy), in conjunction with our partners, conducted the 18th 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.

In 2025, 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, South Dakota, and Texas). We surveyed across US Forest Service (USFS) Regions 1, 2, 3, and 4; 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 13,611 point counts within 1,194 sampling units between April 27 and July 21, 2025. They detected 164,939 individual birds representing 342 species. This report summarizes the results of the 2025 field season.

The IMBCR program has now collected avian occurrence and density data throughout the western US for up to 18 years in some regions. These data enable the program to provide critical trend information on bird populations at local and regional scales, aiding management decisions and conservation efforts. We highlight two examples of these trends for natural resource practitioners to monitor both priority species of concern and common species in decline by accessing data via the Rocky Mountain Avian Data Center.

4 Tables and Figures

> **Note**
>
> Table and figure numbers begin with their respective chapter numbers.

Tables

Figures

5 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 et al. 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 et al. 2006); provide an understanding of how management actions affect populations (Alexander et al. 2008, Lyons et al. 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 et al. 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 et al. 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 et al. 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" (US NABCI Monitoring Subcommittee 2007) provided goals for avian monitoring programs including:

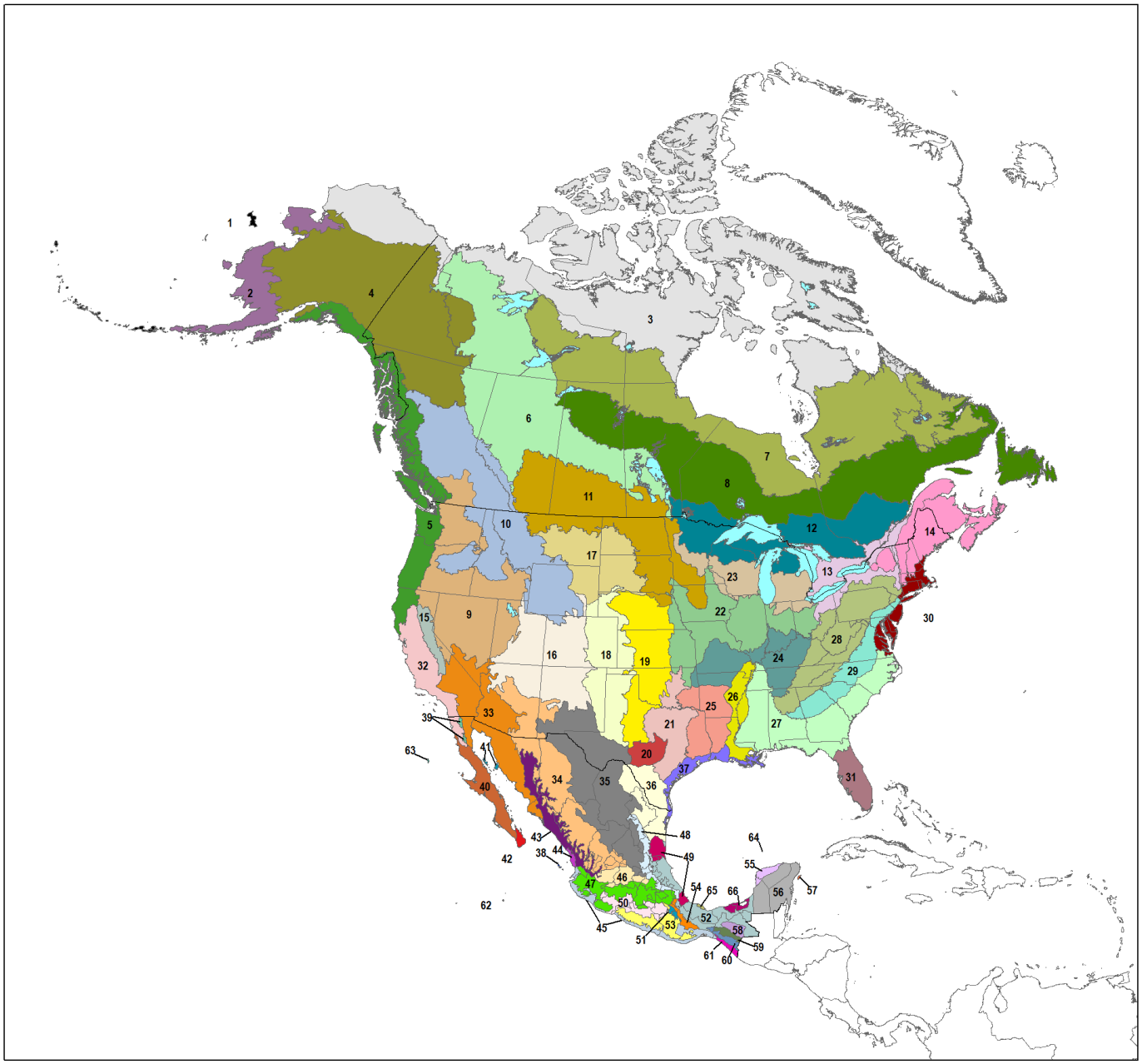
> **Goal 1**: Fully integrate monitoring into bird management and conservation practices and ensure that monitoring is aligned with management and conservation priorities.
>
> **Goal 2**: Coordinate monitoring programs among organizations and integrate them across spatial scales to solve conservation 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 (Figure 5.1), stratified by land ownership inside each BCR. 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 (US 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, Bernath-Plaisted et al. 2025).



Terrestrial Bird Conservation Regions

1. Aleutian/Bering Sea Islands
2. Western Alaska
3. Arctic Plains And Mountains
4. Northwestern Interior Forest
5. Northern Pacific Rainforest
6. Boreal Taiga Plains
7. Taiga Shield And Hudson Plains
8. Boreal Softwood Shield
9. Great Basin
10. Northern Rockies
11. Prairie Potholes
12. Boreal Hardwood Transition
13. Lower Great Lakes/ St. Lawrence Plain
14. Atlantic Northern Forest
15. Sierra Nevada
16. Southern Rockies/Colorado Plateau
17. Badlands And Prairies
18. Shortgrass Prairie
19. Central Mixed Grass Prairie
20. Edwards Plateau
21. Oaks And Prairies
22. Eastern Tallgrass Prairie
23. Prairie Hardwood Transition
24. Central Hardwoods
25. West Gulf Coastal Plain/Ouachitas
26. Mississippi Alluvial Valley
27. Southeastern Coastal Plain
28. Appalachian Mountains
29. Piedmont
30. New England/Mid-Atlantic Coast
31. Peninsular Florida
32. Coastal California
33. Sonoran And Mojave Deserts
34. Sierra Madre Occidental
35. Chihuahuan Desert
36. Tamaulipan Brushlands
37. Gulf Coastal Prairie
38. Islas Marias
39. Sierras De Baja California
40. Desierto De Baja California
41. Islas Del Golfo De California
42. Sierras Y Planicies Del Cabo
43. Planicie Costera, Lomerios Y Canones De Occidente
44. Marismas Nacionales
45. Planicie Costera Y Lomerios Del Pacifico Sur
46. Sur Del Altiplano Mexicano
47. Eje Neovolcanico Transversal
48. Sierra Madre Oriental
49. Planicie Costera Y Lomerios Secos Del Golfo De Mexico
50. Cuenca Del Rio Balsas
51. Valle Tehuacan-Cuicatlan
52. Planicie Costera Y Lomerios Humedos Del Golfo De Mexico
53. Sierra Madre Del Sur
54. Sierra Norte De Puebla-Oaxaca
55. Planicie Noroccidental De Yucatan
56. Planicie De La Peninsula De Yucatan
57. Isla Cozumel
58. Altos De Chiapas
59. Depresiones Intermontanas
60. Sierra Madre De Chiapas
61. Planicie Costera Del Soconusco
62. Archipielago De Revillagigedo
63. Isla Guadalupe
64. Arrecife Alacranes
65. Los Tuxtlas
66. Pantanos De Centla-Laguna De Terminos

BIRD STUDIES CANADA / ÉTUDES D'OISEAUX CANADA

nabci INTERNATIONAL

0 1,000 km

Figure 5.1: Bird Conservation Regions throughout North America, excluding Hawaii.

6 Methods

6.1 Study Area

In 2025, 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, South Dakota, and Texas). We surveyed across US Forest Service (USFS) Regions 1, 2, 3, and 4; 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).

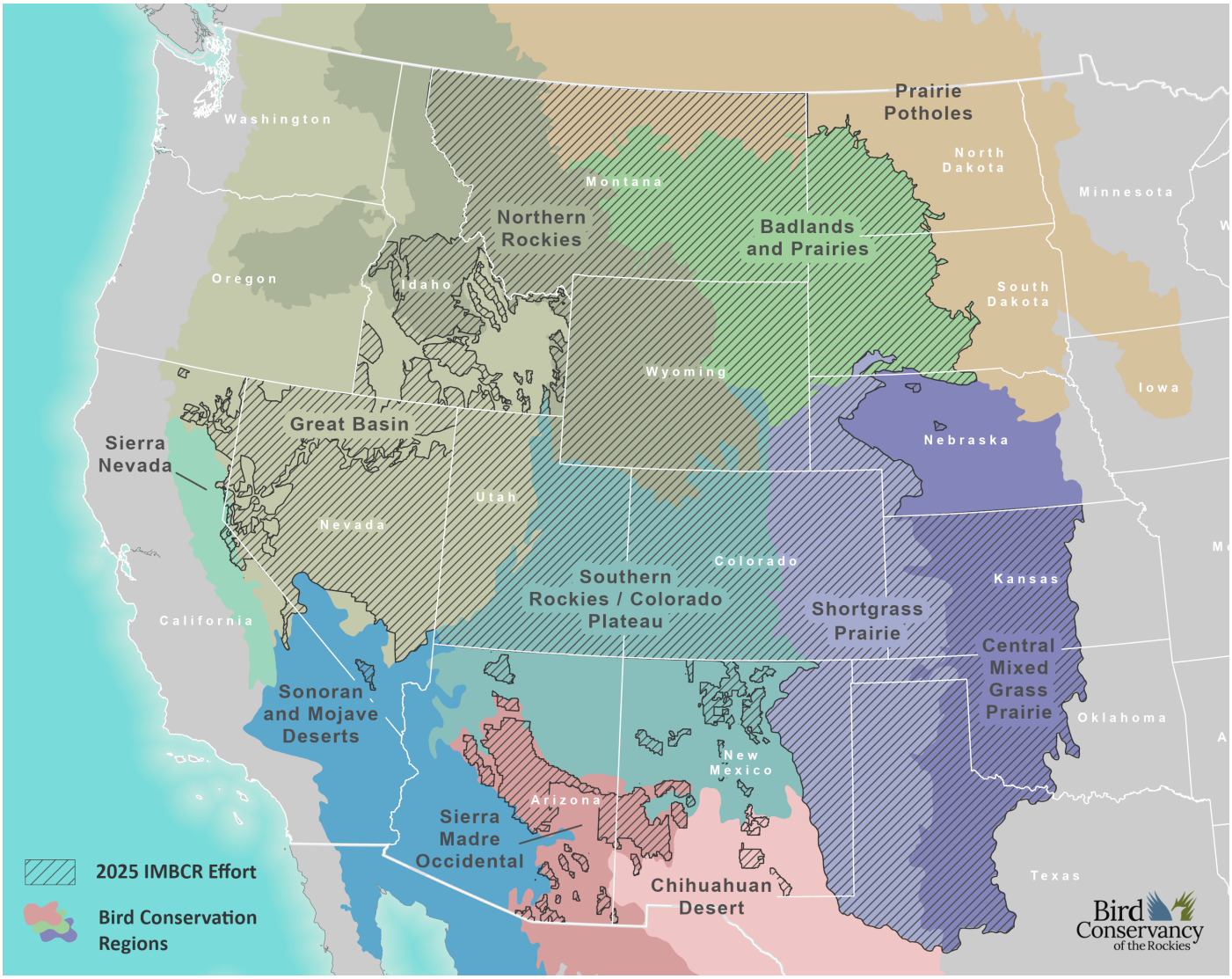


Figure 6.1: Spatial extent of sampled Bird Conservation Regions using the IMBCR design, 2025

6.2 Sampling Design

Sampling Frame and Stratification

A key feature of the IMBCR design is the ability to estimate bird population parameters at multiple spatial scales, from small management units, such as individual national forests or field offices, to entire states and BCRs. This is accomplished through hierarchical (nested) sampling of smaller within larger units. The fundamental units of the design (and therefore of population estimation) are strata, which are mutually exclusive and together form the programmatic footprint in any given year. Strata-level population estimates can be combined to derive estimates at larger scales for groups of strata (hereafter superstrata). For example, data from each individual national forest stratum in USFS Region 2 are combined to produce Region-wide population estimates; data from each individual stratum in Montana are combined to produce statewide estimates; and data from each individual stratum in BCR 17 are combined to produce BCR-wide estimates.

We define strata based on areas to which IMBCR partners wanted to make inferences. Strata contributing to the baseline monitoring effort (hereafter background strata) are nested within the intersection of state and BCR boundaries (e.g., Wyoming-BCR 10). Additionally, we base background strata within the state-BCR sampling frames on fixed attributes, such as land ownership boundaries, elevation zones, major river systems and wilderness/roadless designations. Additional strata defined for particular objectives, such as monitoring within areas subject to management action, are not subject to the same constraints as background strata (hereafter overlay strata).

Sampling Units

We define sampling units as 1 km^2 cells, each containing 16 evenly spaced sample points, 250 meters apart (Figure 6.2). We define potential sampling units by superimposing a uniform grid of cells over each state in the study area. We then assign each cell to a stratum using ArcGIS version 10.X and higher (Environmental Systems Research Institute, 2017). For all stratifications developed after 2012, we use the United States National Grid (USNG), a nonproprietary alphanumeric referencing system derived from the Military Grid Reference System that was created by the Federal Geographic Data Committee.

Figure 6.2: Example 1 km^2 sampling unit in the IMBCR design.

Sample Selection

Within each stratum, we use generalized random-tessellation stratification (GRTS), a spatially balanced sampling algorithm, to select sampling units (Stevens Jr. & Olsen 2004). The GRTS design has useful properties with respect to long-term monitoring of birds at large spatial scales including:

- Spatially balanced sampling is generally more efficient than simple random sampling of natural resources (Stevens Jr. & Olsen 2004). Incorporating information about spatial autocorrelation in the data can increase precision in density estimates.
- All sampling units in the sampling frame are ordered, such that any set of consecutively numbered units is a spatially well-balanced sample (Stevens Jr. & Olsen 2004). In the case of fluctuating budgets, IMBCR partners can adjust the sampling effort among years within each stratum while still preserving a random, spatially balanced sampling design.

We require two sampling units to be surveyed within each stratum, but reliable stratum-level occupancy estimates require larger sample sizes, with a minimum of approximately 8-10 samples per stratum. Additional samples may be required for strata comprising large geographic areas. Because we estimate regional density and occupancy using an area weighted mean, adding more samples to a particular stratum does not bias the overall estimate, it simply increases the precision. After the initial two sampling units were selected, the remaining allocation of sampling effort among strata was based on the priorities of the funding partners.

6.3 Sampling Methods

IMBCR observers with excellent aural and visual bird-identification skills conducted field work in 2022. Prior to conducting surveys, observers completed an intensive training program to ensure full understanding of the field protocol and review bird and plant identification. Observers were also shadowed by a crew leader at the start of the field season to ensure they understood the protocol and could identify all birds within a region.

Observers conducted point counts (Buckland et al. 2001) following protocols established by IMBCR partners (Hanni et al. 2012). Observers conducted surveys in the morning, beginning one-half hour before sunrise and concluding no later than five hours after sunrise. Observers recorded the start time for every point count conducted. For every bird detected during the six-minute period, observers recorded species, sex, horizontal distance from the observer, minute, type of detection (e.g., call, song, visual), whether the bird was thought to be a migrant, and whether the observer was able to visually identify each record.

Observers measured distances to each bird using laser rangefinders when possible. When it was not possible, observers estimated the distance by measuring to some object near the bird using a laser rangefinder. In addition to recording all bird species detected in the area during point counts, observers recorded birds flying over but not using the immediate surrounding landscape. Observers also recorded Abert's squirrel (Sciurus aberti), American red squirrel (Tamiasciurus hudsonicus), and American pika (Ochotona princeps). While observers traveled between points within a sampling unit, they recorded the presence of any species not recorded during a point count. The opportunistic detections of these species are used for distribution purposes only.

Observers considered all non-independent detections of birds (i.e., flocks or pairs of conspecific birds together in close proximity) as part of a "cluster" rather than as independent observations. Observers recorded the number of

birds detected within each cluster along with a letter code to distinguish between multiple clusters.

At the start and end of each survey, observers recorded time, ambient temperature, cloud cover, precipitation, and wind speed. Observers navigated to each point using hand-held Global Positioning System units. Before beginning each six-minute count, surveyors recorded vegetation data within a 50m radius of the point via ocular estimation. Vegetation data included the dominant habitat type and relative abundance, percent cover and mean height of trees and shrubs by species, grass height, and ground cover. Observers recorded vegetation data quietly to allow birds time to return to their normal habits prior to beginning each count.

For more detailed information about survey methods and vegetation data collection protocols, refer to Bird Conservancy's Field Protocol for Spatially Balanced Sampling of Landbird Populations (contact Jennifer Timmer to request a copy.

6.4 Data Analysis

Framework and terminology

We applied hierarchical models using Bayesian tools to estimate abundance, density, occupancy, and their respective trends. Hereafter, we refer to abundance, density, and occupancy as "primary population parameters", or simply "population parameters", and estimates of these parameters as "population estimates". Abundance is the number of species members present within a specified areal unit and year. Density is abundance per unit area (birds per km^2). Occupancy is the probability or proportion of sampling units within an areal unit and year where at least one species member is present. Because population estimates are derived from data collected over 6-min surveys conducted once per sampling period (i.e., the breeding season), the time frame of estimation is 6 minutes. Thus, IMBCR abundance and occupancy estimates quantify the number of individuals present and the proportion of sampling units (or area) with ≥ 1 individual present, respectively, within a 6 minute snapshot in time. In contrast, other monitoring programs that estimate population parameters over longer time frames that allow movement into the sampling unit during the sampling period will tend to quantify the distribution of breeding territories or home ranges (i.e., space use; for further details, see Section D.1.5 in Appendix D).

Given our sampling design (see above), the fundamental areal unit of estimation for all parameters is the stratum, and so our models estimate abundance, density, and occupancy for all strata making up the IMBCR programmatic footprint. Additionally, our design allows us to derive population estimates for larger areal units consisting of ≥ 2 strata (hereafter superstrata) by summarizing across component strata. For density and occupancy, superstrata estimates represent means of component strata weighted by their area. For abundance, we simply sum component strata estimates to derive superstrata estimates. Hereafter, we use the term "areal units" to refer to strata and superstrata in general. To allow flexible trend estimation for any areal unit and time period, trend estimation involves *post hoc* analysis of annual population estimates generated by a primary estimation model (Appendix D). Finally, analyzing data in a manner consistent with the IMBCR design, we leverage all available information across the IMBCR program to estimate parameters representing the observation process, which by extension improves precision of population estimates. For further details on the structure of our analysis models, see Appendix D.

Data filtering

We set minimum data thresholds applied to each species for estimating population parameters. We estimated abundance and occupancy for all species with ≥ 30 detections recorded across the IMBCR program. For species with 10-29 detections, we estimated only occupancy using occupancy models. For species with fewer detections, we did not attempt to estimate any population parameters. These criteria were applied after excluding the furthest 10% of detections following standard practice for distance sampling (see Section D.1.5 in Appendix D). Thus, in practice, the minimum number of detections required was 33 for estimating abundance.

For each species, we only analyzed data from strata where the species was detected at least once during at least one year. We thus conditioned strata-level estimation on the species having been detected at least once, thereby (conservatively) excluding strata outside the range of the species. When rolling up strata to superstrata estimates, we assumed surveyed strata that were thus excluded from primary strata-level estimation to have density and occupancy estimates of zero.

Model Assumptions

Distance sampling theory was developed to account for the decreasing probability of perceiving an object of interest (e.g., a bird) with increasing distance from the observer to the object (Buckland et al. 2001). Estimated perceptibility is used to adjust the count of birds to account for birds that were present and available for detection but not perceived within sampled area. Application of distance theory requires that five critical assumptions be met: 1) all birds at and near the sampling location (distance = 0) are perceived; 2) distances to birds are measured accurately; 3) detected birds do not move in systematically away from or towards the observer in response to the observer's presence prior to detection (Buckland et al. 2001; Thomas et al. 2010); 4) cluster sizes are recorded without error; and 5) the sampling units are representative of the entire survey region (Buckland et al. 2008).

Starting in 2023, we added time-removal sampling to account for imperfect availability for perception. Imperfect availability can arise, for example, from birds being hidden from view and quiet during some portion of their daily activities. The addition of removal sampling data (i.e., the time period of detection within the 6 min survey) can be seen as relaxing assumption 1 (Amundson et al. 2014). Regardless, we now account for two components of detection probability, a spatial component accounting for distance from the surveyor and a temporal component accounting for incomplete availability for detection, theoretically improving accuracy of our population estimates over estimates prior to 2023, which only accounted for the former.

7 Summary

2025 Field Work

In 2025, field observers completed 1,194 of 1,206 (99%) planned surveys throughout all or portions of BCRs 9, 16, 17, 10, 18, 19, 11, 33, and 34 using the IMBCR design (Table 7.1, Figure 6.1). Five surveys were completed above the funded sample effort in four strata. Reasons surveys were not completed are summarized in Table 2.

Observers conducted 13,611 point counts within the 1,194 surveyed sampling units between 27-Apr and 21-Jul, 2025. They detected 164,939 individual birds representing 342 species.

Notes about the results

Scope of what's included here

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 2.0 (RMADC). This online database contains species counts, density, occupancy, and population trend estimates per stratum, and also interactive maps showing approximate survey locations and detections. Instructions for using the RMADC are included in Appendix A of this report.

Species names

Unless otherwise specified, all bird species names listed in this report are from the 65th supplement to the American Ornithological Society's Checklist of North American Birds (Chesser et al., 2024).

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.

Survey effort

Planned and completed strata

Table 7.1: Planned and completed surveys by strata, 2025

Stratum	Planned	Completed	State	BCR
CA-BCR9-CC: Bureau of Land Management - Carson City District	3	3 (100%)	CA	9
CA-BCR9-CD: Bureau of Land Management - California Desert District	3	3 (100%)	CA	9
CA-BCR9-CN: Bureau of Land Management - Central California District	4	4 (100%)	CA	9
CA-BCR9-NC: Bureau of Land Management - Northern California District	4	4 (100%)	CA	9
CO-BCR16-CR: Bureau of Land Management - Colorado River Valley	6	6 (100%)	CO	16
CO-BCR16-GJ: Bureau of Land Management - Grand Junction	10	10 (100%)	CO	16
CO-BCR16-GU: Bureau of Land Management - Gunnison	7	7 (100%)	CO	16
CO-BCR16-RG: Bureau of Land Management - Royal Gorge	7	7 (100%)	CO	16
CO-BCR16-SL: Bureau of Land Management - San Luis Valley	7	7 (100%)	CO	16
CO-BCR16-TR: Bureau of Land Management - Tres Rios	7	7 (100%)	CO	16

1–10 of 108 rows Previous **1** 2 3 4 5 ... 11 Next

BCR = Bird Conservancy of the Rockies; DoD = Department of Defense; GBBO = Great Basin Bird Observatory; IBO = Intermountain Bird Observatory; MTM = MTM Environmental, LLC; UDWR = Utah Division of Wildlife Resources; WYNDD = Wyoming Natural Diversity Database.

Surveys not completed

Table 7.2: Reasons planned surveys were not completed, 2025.

Stratum	Number not completed	Reason
CA-BCR15-HT: Humboldt-Toiyabe National Forest	1	Miscommunication
CA-BCR9-HT: Humboldt-Toiyabe National Forest	1	miscommunication
CO-BCR16-SA: San Juan National Forest	1	Smoke and equipment failure
NV-BCR33-HT: Humboldt-Toiyabe National Forest	1	Miscommunication
UT-BCR10-AO: All Other Lands	3	Technician challenges
UT-BCR9-AO: All Other Lands	1	Technician challenges

Showing 1 to 6 of 6 entries

Previous 1 Next

8 U.S. Forest Service

8.1 Region 1

Region 1 National Forests

USFS-Region 1 National Forests in Montana

We obtained results for USFS-Region 1 National Forests in Montana by compiling and jointly analyzing data from 20 strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 402 point counts within the 40 surveyed grid cells between May 26 and July 14. They detected 122 bird species, including 2 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 186 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 61 species.

Bird Conservancy estimated the proportion of occupied plots throughout USFS-Region 1 National Forests in Montana for 186 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 82 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within USFS-Region 1 National Forests in Montana across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **USFS-Region 1 National Forests in Montana** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 51 point counts within the 4 surveyed grid cells between June 16 and July 11. They detected 57 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 122 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 16 species.

Bird Conservancy estimated the proportion of occupied plots throughout Beaverhead-Deerlodge National Forest for 122 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.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Beaverhead-Deerlodge National Forest across all years of the project, visit the RMADC.

On the Explore the Data tab, select **Beaverhead-Deerlodge National Forest** from the **Superstratum** drop-down filter.

Bitterroot National Forest in Montana

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 38 point counts within the 4 surveyed grid cells between May 26 and July 14. They detected 48 bird species, including 1 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 116 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 13 species.

Bird Conservancy estimated the proportion of occupied plots throughout Bitterroot National Forest in Montana for 116 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 15 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Bitterroot National Forest in Montana across all years of the project, visit the RMADC.

On the Explore the Data tab, select **Bitterroot National Forest in Montana** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 95 point counts within the 9 surveyed grid cells between June 11 and July 4. They detected 90 bird species, including 8 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 160 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 14 species.

Bird Conservancy estimated the proportion of occupied plots throughout Custer National Forest for 160 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 21 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Custer National Forest across all years of the project, visit the RMADC.

> On the Explore the Data tab, select **Custer National Forest** from the **Superstratum** drop-down filter.

Flathead National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 28 point counts within the 4 surveyed grid cells between June 28 and July 1. They detected 47 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 107 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 12 species.

Bird Conservancy estimated the proportion of occupied plots throughout Flathead National Forest for 107 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 13 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Flathead National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Flathead National Forest** from the **Superstratum** drop-down filter.

Gallatin National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 49 point counts within the 4 surveyed grid cells between June 28 and July 8. They detected 52 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 121 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 17 species.

Bird Conservancy estimated the proportion of occupied plots throughout Gallatin National Forest 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 22 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Gallatin National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Gallatin National Forest** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 38 point counts within the 4 surveyed grid cells between June 2 and July 9. They detected 58 bird species, including 3 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 130 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 13 species.

Bird Conservancy estimated the proportion of occupied plots throughout Helena National Forest for 130 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 15 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Helena National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Helena National Forest** from the **Superstratum** drop-down filter.

Kootenai National Forest in Montana

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 39 point counts within the 4 surveyed grid cells between June 6 and June 9. They detected 43 bird species, including 5 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 131 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 9 species.

Bird Conservancy estimated the proportion of occupied plots throughout Kootenai National Forest in Montana for 131 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 11 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Kootenai National Forest in Montana across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Kootenai National Forest in Montana** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 52 point counts within the 6 surveyed grid cells between June 3 and July 8. They detected 54 bird species, including 1 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 15 species.

Bird Conservancy estimated the proportion of occupied plots throughout Lewis and Clark National Forest for 128 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 17 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Lewis and Clark National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Lewis and Clark National Forest** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 43 point counts within the 4 surveyed grid cells between June 4 and June 26. They detected 41 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 130 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 11 species.

Bird Conservancy estimated the proportion of occupied plots throughout Lolo National Forest for 130 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 15 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Lolo National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Lolo National Forest** from the **Superstratum** drop-down filter.

Region 1 National Grasslands

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 2025. Technicians conducted 84 point counts within the 7 surveyed grid cells between May 22 and July 3. They detected 74 bird species, including 2 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 128 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 5 species.

Bird Conservancy estimated the proportion of occupied plots throughout Region 1 National Grasslands: Total for 128 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 8 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Region 1 National Grasslands: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **USFS-Region 1 National Grasslands 2013-Present** from the **Superstratum** drop-down filter.

Cedar River National Grassland

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

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 23 point counts within the 2 surveyed grid cells between June 8 and June 11. They detected 36 bird species, including 16 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 79 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 3 species.

Bird Conservancy estimated the proportion of occupied plots throughout Cedar River National Grassland for 81 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 10 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Cedar River National Grassland across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **ND-BCR17-RG: Cedar River National Grassland** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 47 point counts within the 3 surveyed grid cells between May 22 and June 18. They detected 40 bird species, including 6 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 5 species.

Bird Conservancy estimated the proportion of occupied plots throughout Grand River National Grassland for 77 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 9 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Grand River National Grassland across all years of the project, visit the RMADC.

On the Explore the Data tab, select **SD-BCR17-RG: Grand River National Grassland** from the **Stratum** drop-down filter.

Little Missouri National Grassland

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

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 14 point counts within the 2 surveyed grid cells between June 23 and July 3. They detected 40 bird species, including 8 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 101 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 2 species.

Bird Conservancy estimated the proportion of occupied plots throughout Little Missouri National Grassland for 101 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 5 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Little Missouri National Grassland across all years of the project, visit the RMADC.

On the Explore the Data tab, select **ND-BCR17-MG: Little Missouri National Grassland** from the **Stratum** drop-down filter.

8.2 Region 2

Region 2 National Forests

Region 2 National Forests: Total

We obtained results for Region 2 National Forests: Total by compiling and jointly analyzing data from 22 strata.

Field technicians completed 161 of 162 planned surveys (99%) in 2025. Technicians conducted 1815 point counts within the 161 surveyed grid cells between May 20 and July 21. They detected 180 bird species, including 11 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 220 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 96 species.

Bird Conservancy estimated the proportion of occupied plots throughout Region 2 National Forests: Total for 220 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 103 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Region 2 National Forests: Total across all years of the project, visit the RMADC.

On the Explore the Data tab, select **USFS-Region 2 National Forests** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 86 point counts within the 8 surveyed grid cells between May 20 and July 9. They detected 67 bird species, including 5 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 105 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 14 species.

Bird Conservancy estimated the proportion of occupied plots throughout Black Hills National Forest for 105 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 16 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Black Hills National Forest across all years of the project, visit the RMADC.

On the Explore the Data tab, select **Black Hills National Forest** from the **Superstratum** drop-down filter.

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 all planned surveys (100%) in 2025. Technicians conducted 372 point counts within the 34 surveyed grid cells between June 9 and July 17. They detected 94 bird species, including 23 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 41 species.

Bird Conservancy estimated the proportion of occupied plots throughout Arapaho and Roosevelt National Forests for 118 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 41 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Arapaho and Roosevelt National Forests across all years of the project, visit the RMADC.

> On the Explore the Data tab, select **CO-BCR16-AR: Arapaho and Roosevelt National Forests** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 120 point counts within the 10 surveyed grid cells between June 18 and July 20. They detected 56 bird species, including 11 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 101 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 18 species.

Bird Conservancy estimated the proportion of occupied plots throughout Bighorn National Forest 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 16 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Bighorn National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR10-BI: Bighorn National Forest** from the **Stratum** drop-down filter.

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 all planned surveys (100%) in 2025. Technicians conducted 122 point counts within the 10 surveyed grid cells between June 21 and July 16. They detected 70 bird species, including 18 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 22 species.

Bird Conservancy estimated the proportion of occupied plots throughout Grand Mesa, Uncompaghre and Gunnison National Forests 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 24 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Grand Mesa, Uncompaghre and Gunnison National Forests across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR16-GM: Grand Mesa; Uncompahgre and Gunnison National Forests** from the

> **Stratum** drop-down filter.

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 2025. Technicians conducted 226 point counts within the 17 surveyed grid cells between June 14 and July 9. They detected 80 bird species, including 5 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 140 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 31 species.

Bird Conservancy estimated the proportion of occupied plots throughout Medicine Bow National Forest for 140 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 31 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Medicine Bow National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Medicine Bow National Forest** from the **Superstratum** drop-down filter.

Nebraska National Forests (Nebraska and Samuel R. McKelvie)

We obtained results for Nebraska National Forests (Nebraska and Samuel R. McKelvie) by compiling and jointly analyzing data from three strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 132 point counts within the 11 surveyed grid cells between May 29 and June 25. They detected 89 bird species, including 2 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 132 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 15 species.

Bird Conservancy estimated the proportion of occupied plots throughout Nebraska National Forests (Nebraska and Samuel R. McKelvie) for 132 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 21 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Nebraska National Forests (Nebraska and Samuel R. McKelvie) across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Nebraska National Forests 2013-2023** from the **Superstratum** drop-down filter.

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 all planned surveys (100%) in 2025. Technicians conducted 106 point counts within the 10 surveyed grid cells between June 5 and July 18. They detected 72 bird species, including 13 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 98 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 occupied plots throughout Pike and San Isabel National Forests for 98 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Pike and San Isabel National Forests across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR16-PS: Pike and San Isabel National Forests** from the **Stratum** drop-down filter.

Rio Grande National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 139 point counts within the 12 surveyed grid cells between June 29 and July 17. They detected 81 bird species, including 3 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 128 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 24 species.

Bird Conservancy estimated the proportion of occupied plots throughout Rio Grande National Forest for 128 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 29 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Rio Grande National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Rio Grande National Forest** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 177 point counts within the 15 surveyed grid cells between June 19 and July 21. They detected 70 bird species, including 4 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 122 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 33 species.

Bird Conservancy estimated the proportion of occupied plots throughout Routt National Forest for 122 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 33 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Routt National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Routt National Forest** from the **Superstratum** drop-down filter.

San Juan National Forest

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

Field technicians completed 15 of 16 planned surveys (94%) in 2025. Technicians conducted 157 point counts within the 15 surveyed grid cells between June 8 and July 16. They detected 100 bird species, including 24 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 129 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 27 species.

Bird Conservancy estimated the proportion of occupied plots throughout San Juan 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 28 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within San Juan National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR16-SA: San Juan National Forest** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 74 point counts within the 7 surveyed grid cells between June 25 and July 18. They detected 72 bird species, including 4 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 147 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 16 species.

Bird Conservancy estimated the proportion of occupied plots throughout Shoshone National Forest for 147 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 15 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Shoshone National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Shoshone National Forest** from the **Superstratum** drop-down filter.

White River National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 104 point counts within the 12 surveyed grid cells between June 19 and July 18. They detected 70 bird species, including 7 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 123 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 29 species.

Bird Conservancy estimated the proportion of occupied plots throughout White River National Forest for 123 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 35 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within White River National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **White River National Forest** from the **Superstratum** drop-down filter.

Region 2 National Grasslands

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 2025. Technicians conducted 432 point counts within the 34 surveyed grid cells between May 13 and July 4. They detected 109 bird species, including 6 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 184 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 occupied plots throughout Region 2 National Grasslands: Total for 185 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 30 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Region 2 National Grasslands: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **USFS-Region 2 National Grasslands 2016-Present** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 42 point counts within the 4 surveyed grid cells between June 8 and June 9. They detected 40 bird species, including 12 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 97 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 7 species.

Bird Conservancy estimated the proportion of occupied plots throughout Comanche National Grassland for 97 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 7 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Comanche National Grassland across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR18-CO: Comanche National Grassland** from the **Stratum** drop-down filter.

Cimarron National Grassland

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 44 point counts within the 3 surveyed grid cells between June 4 and June 6. They detected 26 bird species, including 12 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 48 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 3 species.

Bird Conservancy estimated the proportion of occupied plots throughout Cimarron National Grassland for 49 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 11 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Cimarron National Grassland across all years of the project, visit the RMADC.

> On the Explore the Data tab, select **KS-BCR18-CM: Cimarron National Grassland** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 171 point counts within the 14 surveyed grid cells between May 21 and July 4. They detected 80 bird species, including 4 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 139 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 8 species.

Bird Conservancy estimated the proportion of occupied plots throughout Nebraska National Grasslands (Buffalo Gap, Fort Pierre and Oglala) for 140 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Nebraska National Grasslands (Buffalo Gap, Fort Pierre and Oglala) across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Nebraska National Grasslands** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 111 point counts within the 8 surveyed grid cells between May 13 and June 6. They detected 29 bird species, including 12 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 55 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 4 species.

Bird Conservancy estimated the proportion of occupied plots throughout Public Lands on Pawnee National Grassland for 55 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Public Lands on Pawnee National Grassland across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR18-PG: Pawnee National Grassland - Public Lands** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 64 point counts within the 5 surveyed grid cells between May 21 and June 4. They detected 42 bird species, including 15 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 107 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 4 species.

Bird Conservancy estimated the proportion of occupied plots throughout Thunder Basin National Grassland for 107 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 7 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Thunder Basin National Grassland across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR17-TB: Thunder Basin National Grassland** from the **Stratum** drop-down filter.

8.3 Region 3

Region 3 National Forests

Region 3 National Forests: Total

We obtained results for Region 3 National Forests: Total by compiling and jointly analyzing data from 18 strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 884 point counts within the 80 surveyed grid cells between April 27 and July 3. They detected 169 bird species, including 22 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 194 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 81 species.

Bird Conservancy estimated the proportion of occupied plots throughout Region 3 National Forests: Total for 194 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 100 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Region 3 National Forests: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **USFS-Region 3 National Forests** from the **Superstratum** drop-down filter.

Apache-Sitgreaves National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 102 point counts within the 9 surveyed grid cells between May 13 and June 24. They detected 80 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 94 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 occupied plots throughout Apache-Sitgreaves National Forest for 93 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Apache-Sitgreaves National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Apache-Sitgreaves National Forest** from the **Superstratum** drop-down filter.

Carson National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 75 point counts within the 6 surveyed grid cells between May 20 and June 10. They detected 68 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 81 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 3 species.

Bird Conservancy estimated the proportion of occupied plots throughout Carson National Forest 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 9 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Carson National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **NM-BCR16-CF: Carson National Forest** from the **Stratum** drop-down filter.

Cibola National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 90 point counts within the 6 surveyed grid cells between May 21 and June 23. They detected 77 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 88 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 occupied plots throughout Cibola National Forest for 88 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Cibola National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **NM-CIBOL-CB: Cibola National Forest** from the **Stratum** drop-down filter.

Coconino National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 85 point counts within the 7 surveyed grid cells between May 8 and June 17. They detected 83 bird species, including 3 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 159 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 9 species.

Bird Conservancy estimated the proportion of occupied plots throughout Coconino National Forest for 161 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 17 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Coconino National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **AZ-BCR34-CF: Coconino National Forest** from the **Stratum** drop-down filter.

Coronado National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 81 point counts within the 9 surveyed grid cells between April 30 and June 26. They detected 97 bird species, including 19 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 137 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 13 species.

Bird Conservancy estimated the proportion of occupied plots throughout Coronado National Forest for 137 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 19 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Coronado National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Coronado National Forest** from the **Superstratum** drop-down filter.

Gila National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 100 point counts within the 9 surveyed grid cells between May 9 and July 3. They detected 97 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 104 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 occupied plots throughout Gila 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 23 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Gila National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Gila National Forest** from the **Superstratum** drop-down filter.

Kaibab National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 72 point counts within the 6 surveyed grid cells between May 20 and June 17. They detected 68 bird species, including 3 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 134 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 12 species.

Bird Conservancy estimated the proportion of occupied plots throughout Kaibab National Forest for 134 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 15 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Kaibab National Forest across all years of the project, visit the RMADC.

> On the Explore the Data tab, select **Kaibab National Forest** from the **Superstratum** drop-down filter.

Lincoln National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 50 point counts within the 7 surveyed grid cells between May 12 and July 1. They detected 63 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 88 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 occupied plots throughout Lincoln National Forest for 88 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Lincoln National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Lincoln National Forest** from the **Superstratum** drop-down filter.

Prescott National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 83 point counts within the 7 surveyed grid cells between April 29 and June 6. They detected 69 bird species, including 10 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 77 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 9 species.

Bird Conservancy estimated the proportion of occupied plots throughout Prescott National Forest for 77 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 12 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Prescott National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Prescott National Forest** from the **Superstratum** drop-down filter.

Santa Fe National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 55 point counts within the 6 surveyed grid cells between May 25 and June 20. They detected 57 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 14 species.

Bird Conservancy estimated the proportion of occupied plots throughout Santa Fe National Forest 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 20 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Santa Fe National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **NM-BCR16-SF: Santa Fe National Forest** from the **Stratum** drop-down filter.

Tonto National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 91 point counts within the 8 surveyed grid cells between April 27 and May 24. They detected 106 bird species, including 15 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 133 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 10 species.

Bird Conservancy estimated the proportion of occupied plots throughout Tonto National Forest for 133 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 17 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Tonto National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Tonto National Forest** from the **Superstratum** drop-down filter.

8.4 Region 4

Region 4 National Forests

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 all planned surveys (100%) in 2025. Technicians conducted 1421 point counts within the 140 surveyed grid cells between April 29 and July 20. They detected 173 bird species, including 6 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 212 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 83 species.

Bird Conservancy estimated the proportion of occupied plots throughout Region 4 National Forest Total for 212 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 101 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Region 4 National Forest Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **USFS-Region 4 National Forests** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 110 point counts within the 9 surveyed grid cells between June 7 and July 7. They detected 63 bird species, including 3 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 121 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 occupied plots throughout Ashley National Forest for 121 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Ashley National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Ashley National Forest** from the **Superstratum** drop-down filter.

Boise National Forest

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 107 point counts within the 10 surveyed grid cells between June 15 and July 2. They detected 66 bird species, including 3 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 114 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 occupied plots throughout Boise National Forest for 114 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 24 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Boise National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Boise National Forest** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 126 point counts within the 10 surveyed grid cells between July 2 and July 20. They detected 85 bird species, including 2 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 12 species.

Bird Conservancy estimated the proportion of occupied plots throughout Bridger-Teton National Forest for 129 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Bridger-Teton National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Bridger-Teton National Forest** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 152 point counts within the 13 surveyed grid cells between June 4 and July 9. They detected 84 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 153 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 19 species.

Bird Conservancy estimated the proportion of occupied plots throughout Caribou-Targhee National Forest for 153 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 23 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Caribou-Targhee National Forest across all years of the project, visit the RMADC.

On the Explore the Data tab, select **Caribou-Targhee National Forest** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 88 point counts within the 10 surveyed grid cells between May 10 and June 21. They detected 70 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 19 species.

Bird Conservancy estimated the proportion of occupied plots throughout Dixie National Forest 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 25 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Dixie National Forest across all years of the project, visit the RMADC.

On the Explore the Data tab, select **Dixie National Forest** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 109 point counts within the 10 surveyed grid cells between May 16 and June 25. They detected 69 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 21 species.

Bird Conservancy estimated the proportion of occupied plots throughout Fishlake National Forest for 112 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.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Fishlake National Forest across all years of the project, visit the RMADC.

On the Explore the Data tab, select **Fishlake National Forest** from the **Superstratum** drop-down filter.

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 22 planned surveys (86%) in 2025. Technicians conducted 153 point counts within the 19 surveyed grid cells between April 29 and July 9. They detected 98 bird species, including 4 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 133 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 18 species.

Bird Conservancy estimated the proportion of occupied plots throughout Humboldt-Toiyabe National Forest for 133 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 16 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Humboldt-Toiyabe National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Humboldt-Toiyabe National Forest** from the **Superstratum** drop-down filter.

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 14 of 12 planned surveys (117%) in 2025. Technicians conducted 139 point counts within the 14 surveyed grid cells between June 4 and June 29. They detected 84 bird species, including 1 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 145 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 24 species.

Bird Conservancy estimated the proportion of occupied plots throughout Manti-La Sal National Forest for 144 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 28 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Manti-La Sal National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Manti-La Sal National Forest** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 90 point counts within the 10 surveyed grid cells between June 20 and July 8. They detected 78 bird species, including 1 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 114 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 21 species.

Bird Conservancy estimated the proportion of occupied plots throughout Payette National Forest for 117 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Payette National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **ID-BCR10-PA: Payette National Forest** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 126 point counts within the 11 surveyed grid cells between June 10 and June 28. They detected 72 bird species, including 6 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 19 species.

Bird Conservancy estimated the proportion of occupied plots throughout Salmon-Challis National Forest for 115 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 26 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Salmon-Challis National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Salmon-Challis National Forest** from the **Superstratum** drop-down filter.

Sawtooth National Forest

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

Field technicians completed 12 of 11 planned surveys (109%) in 2025. Technicians conducted 115 point counts within the 12 surveyed grid cells between May 30 and June 29. They detected 87 bird species, including 3 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 128 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 22 species.

Bird Conservancy estimated the proportion of occupied plots throughout Sawtooth National Forest for 128 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 26 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Sawtooth National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Sawtooth National Forest** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 106 point counts within the 12 surveyed grid cells between May 24 and July 16. They detected 87 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 125 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 14 species.

Bird Conservancy estimated the proportion of occupied plots throughout Uinta-Wasatch-Cache National Forest for 125 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 17 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Uinta-Wasatch-Cache National Forest across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Uinta-Wasatch-Cache National Forest** from the **Superstratum** drop-down filter.

Region 4 National Grasslands

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 2025. Technicians conducted 54 point counts within the 4 surveyed grid cells between June 2 and June 5. They detected 25 bird species, including 5 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 78 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 occupied plots throughout Curlew National Grassland 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 9 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Curlew National Grassland across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **ID-BCR9-CU: Curlew National Grassland** from the **Stratum** drop-down filter.

9 Bureau of Land Management

9.1 BLM California

BLM in California BCR 9

BLM in California BCR 9

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 186 point counts within the 14 surveyed grid cells between May 15 and June 17. They detected 78 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 94 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 occupied plots throughout BLM in California BCR 9 for 94 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 14 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in California BCR 9 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CA-BCR9 BLM** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 29 point counts within the 3 surveyed grid cells between May 15 and May 17. They detected 41 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 50 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 3 species.

Bird Conservancy estimated the proportion of occupied plots throughout Carson City District 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 11 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Carson City District across all years of the project, visit the RMADC.

On the Explore the Data tab, select **CA-BCR9-CC: Bureau of Land Management - Carson City District** from the **Stratum** drop-down filter.

California Desert District

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 32 point counts within the 3 surveyed grid cells between May 19 and May 23. They detected 23 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 37 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 occupied plots throughout California Desert District for 37 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.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within California Desert District across all years of the project, visit the RMADC.

On the Explore the Data tab, select **CA-BCR9-CD: Bureau of Land Management - California Desert District** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 64 point counts within the 4 surveyed grid cells between May 21 and June 17. They detected 34 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 45 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 1 species.

Bird Conservancy estimated the proportion of occupied plots throughout Central California District for 46 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.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Central California District across all years of the project, visit the RMADC.

> On the Explore the Data tab, select **CA-BCR9-CN: Bureau of Land Management - Central California District** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 61 point counts within the 4 surveyed grid cells between May 18 and May 24. They detected 45 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 67 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 5 species.

Bird Conservancy estimated the proportion of occupied plots throughout Northern California District for 67 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 8 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Northern California District across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CA-BCR9-NC: Bureau of Land Management - Northern California District** from the **Stratum** drop-down filter.

9.2 BLM Colorado

BLM in Colorado: Total

We obtained results for BLM in Colorado: Total by compiling and jointly analyzing data from 13 strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 1041 point counts within the 86 surveyed grid cells between May 14 and July 17. They detected 140 bird species, including 35 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 152 species that were detected in any year during which surveys were conducted, 37 of which are priority species. The data yielded robust density estimates (CV < 50%) for 69 species.

Bird Conservancy estimated the proportion of occupied plots throughout BLM in Colorado: Total for 152 species that were detected in any year during which surveys were conducted, 37 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 78 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in Colorado: Total across all years of the project, visit the RMADC.

> On the Explore the Data tab, select **CO-BLM** from the **Superstratum** drop-down filter.

BLM in Colorado BCR 10

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 183 point counts within the 14 surveyed grid cells between May 25 and June 29. They detected 81 bird species, including 3 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 96 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 10 species.

Bird Conservancy estimated the proportion of occupied plots throughout BLM in Colorado BCR 10 for 96 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 14 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in Colorado BCR 10 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR10-BLM** from the **Superstratum** drop-down filter.

BLM in Colorado BCR 16

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 858 point counts within the 72 surveyed grid cells between May 14 and July 17. They detected 138 bird species, including 6 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 143 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 64 species.

Bird Conservancy estimated the proportion of occupied plots throughout BLM in Colorado BCR 16 for 143 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 75 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in Colorado BCR 16 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR16-BLM** from the **Superstratum** drop-down filter.

Colorado River Valley Field Office

We obtained results for Colorado River Valley Field Office by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 67 point counts within the 6 surveyed grid cells between May 23 and June 24. They detected 72 bird species, including 13 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 84 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 occupied plots throughout Colorado River Valley Field Office for 84 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 13 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Colorado River Valley Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR16-CR: Bureau of Land Management - Colorado River Valley** from the **Stratum** drop-down filter.

Grand Junction Field Office

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 104 point counts within the 10 surveyed grid cells between May 14 and June 20. They detected 74 bird species, including 15 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 16 species.

Bird Conservancy estimated the proportion of occupied plots throughout Grand Junction Field Office for 79 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 18 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Grand Junction Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR16-GJ: Bureau of Land Management - Grand Junction** from the **Stratum** drop-down filter.

Gunnison Field Office

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 80 point counts within the 7 surveyed grid cells between June 20 and July 17. They detected 70 bird species, including 16 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 86 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 9 species.

Bird Conservancy estimated the proportion of occupied plots throughout Gunnison Field Office for 86 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 14 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Gunnison Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR16-GU: Bureau of Land Management - Gunnison** from the **Stratum** drop-down filter.

Kremmling Field Office

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 94 point counts within the 8 surveyed grid cells between June 13 and June 29. They detected 55 bird species, including 3 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 79 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 8 species.

Bird Conservancy estimated the proportion of occupied plots throughout Kremmling Field Office for 79 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 8 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Kremmling Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BLM - Kremmling Field Office** from the **Superstratum** drop-down filter.

Little Snake Field Office

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 194 point counts within the 14 surveyed grid cells between May 23 and June 22. They detected 80 bird species, including 4 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 92 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 21 species.

Bird Conservancy estimated the proportion of occupied plots throughout Little Snake Field Office for 92 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 22 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Little Snake Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BLM - Little Snake Field Office** from the **Superstratum** drop-down filter.

Royal Gorge Field Office

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 85 point counts within the 7 surveyed grid cells between June 7 and July 4. They detected 67 bird species, including 15 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 72 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 22 species.

Bird Conservancy estimated the proportion of occupied plots throughout Royal Gorge Field Office for 72 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 19 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Royal Gorge Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR16-RG: Bureau of Land Management - Royal Gorge** from the **Stratum** drop-down filter.

San Luis Valley Field Office

We obtained results for San Luis Valley Field Office by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 97 point counts within the 7 surveyed grid cells between June 10 and June 28. They detected 46 bird species, including 11 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 55 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 occupied plots throughout San Luis Valley Field Office for 55 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 10 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within San Luis Valley Field Office across all years of the project, visit the RMADC.

On the Explore the Data tab, select **CO-BCR16-SL: Bureau of Land Management - San Luis Valley** from the **Stratum** drop-down filter.

Tres Rios Field Office

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 74 point counts within the 7 surveyed grid cells between June 3 and June 22. They detected 63 bird species, including 16 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 74 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 occupied plots throughout Tres Rios Field Office for 74 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 11 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Tres Rios Field Office across all years of the project, visit the RMADC.

On the Explore the Data tab, select **CO-BCR16-TR: Bureau of Land Management - Tres Rios** from the **Stratum** drop-down filter.

Uncompahgre Field Office

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 65 point counts within the 7 surveyed grid cells between May 14 and June 6. They detected 69 bird species, including 18 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 10 species.

Bird Conservancy estimated the proportion of occupied plots throughout Uncompahgre Field Office for 79 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 13 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Uncompahgre Field Office across all years of the project, visit the RMADC.

> On the Explore the Data tab, select **CO-BCR16-UN: Bureau of Land Management - Uncompahgre** from the **Stratum** drop-down filter.

White River Field Office

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 181 point counts within the 13 surveyed grid cells between May 22 and June 22. They detected 69 bird species, including 2 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 90 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 24 species.

Bird Conservancy estimated the proportion of occupied plots throughout White River Field Office for 90 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 28 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within White River Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BLM - White River Field Office** from the **Superstratum** drop-down filter.

9.3 BLM Idaho

BLM in Idaho BCR 9

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 2025. Technicians conducted 64 point counts within the 4 surveyed grid cells between May 27 and May 31. They detected 26 bird species, including 4 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 75 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 4 species.

Bird Conservancy estimated the proportion of occupied plots throughout Burley Field Office for 76 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 6 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Burley Field Office across all years of the project, visit the RMADC.

On the Explore the Data tab, select **ID-BCR9-BU: Bureau of Land Management - Burley Field Office** from the **Stratum** drop-down filter.

Jarbridge Field Office

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 62 point counts within the 4 surveyed grid cells between May 26 and May 31. They detected 16 bird species, including 4 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 41 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 4 species.

Bird Conservancy estimated the proportion of occupied plots throughout Jarbridge Field Office for 41 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 5 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Jarbridge Field Office across all years of the project, visit the RMADC.

On the Explore the Data tab, select **ID-BCR9-JA: Bureau of Land Management - Jarbidge Field Office** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 50 point counts within the 4 surveyed grid cells between May 26 and June 9. They detected 43 bird species, including 5 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 91 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 2 species.

Bird Conservancy estimated the proportion of occupied plots throughout Owyhee Field Office for 91 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 5 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Owyhee Field Office across all years of the project, visit the RMADC.

On the Explore the Data tab, select **ID-BCR9-OW: Bureau of Land Management - Owyhee Field Office** from the **Stratum** drop-down filter.

9.4 BLM Montana

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 2025. Technicians conducted 419 point counts within the 31 surveyed grid cells between May 24 and June 28. They detected 128 bird species, including 14 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 182 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 21 species.

Bird Conservancy estimated the proportion of occupied plots throughout BLM in Montana: Total for 182 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 30 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in Montana: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **MT-BLM** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 94 point counts within the 7 surveyed grid cells between May 24 and June 19. They detected 79 bird species, including 6 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 142 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 occupied plots throughout BLM in Montana BCR 10 for 142 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 21 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in Montana BCR 10 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **MT-BCR10-BLM** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 201 point counts within the 15 surveyed grid cells between June 5 and June 28. They detected 69 bird species, including 11 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 118 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 16 species.

Bird Conservancy estimated the proportion of occupied plots throughout BLM in Montana BCR 11 for 118 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 20 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in Montana BCR 11 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **MT-BCR11-BLM** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 124 point counts within the 9 surveyed grid cells between May 31 and June 24. They detected 43 bird species, including 16 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 114 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 9 species.

Bird Conservancy estimated the proportion of occupied plots throughout BLM in Montana BCR 17 for 114 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 10 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in Montana BCR 17 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **MT-BCR17-BL: Bureau of Land Management** from the **Stratum** drop-down filter.

9.5 BLM Nevada

BLM in Nevada BCR 9

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 all planned surveys (100%) in 2025. Technicians conducted 949 point counts within the 74 surveyed grid cells between May 14 and June 30. They detected 99 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 39 species.

Bird Conservancy estimated the proportion of occupied plots throughout BLM in Nevada BCR 9 for 112 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 38 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in Nevada BCR 9 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **NV-BCR9 BLM** from the **Superstratum** drop-down filter.

Battle Mountain District

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 209 point counts within the 15 surveyed grid cells between May 18 and June 17. They detected 39 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 63 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 6 species.

Bird Conservancy estimated the proportion of occupied plots throughout Battle Mountain District for 64 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 7 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Battle Mountain District across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **NV-BCR9-BM: Bureau of Land Management - Battle Mountain District** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 112 point counts within the 8 surveyed grid cells between May 23 and June 11. They detected 24 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 49 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 3 species.

Bird Conservancy estimated the proportion of occupied plots throughout Carson City District for 49 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 6 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Carson City District across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **NV-BCR9-CC: Bureau of Land Management - Carson City District** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 161 point counts within the 14 surveyed grid cells between June 10 and June 30. They detected 43 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 49 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 11 species.

Bird Conservancy estimated the proportion of occupied plots throughout Elko, Twin Falls, and Boise Districts for 49 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Elko, Twin Falls, and Boise Districts across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **NV-BCR9-EK: Bureau of Land Management - Elko, Twin Falls, and Boise Districts** from the **Stratum** drop-down filter.

Ely District

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 187 point counts within the 15 surveyed grid cells between June 2 and June 28. They detected 51 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 74 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 9 species.

Bird Conservancy estimated the proportion of occupied plots throughout Ely District for 74 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 14 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Ely District across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **NV-BCR9-EY: Bureau of Land Management - Ely District** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 59 point counts within the 4 surveyed grid cells between May 19 and May 26. They detected 42 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 53 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 occupied plots throughout Northern California District for 53 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 10 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Northern California District across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **NV-BCR9-NC: Bureau of Land Management - Northern California District** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 34 point counts within the 3 surveyed grid cells between May 14 and May 25. They detected 14 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 24 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 1 species.

Bird Conservancy estimated the proportion of occupied plots throughout Southern Nevada District for 24 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 2 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Southern Nevada District across all years of the project, visit the RMADC.

On the Explore the Data tab, select **NV-BCR9-SN: Bureau of Land Management - Southern Nevada District** from the **Stratum** drop-down filter.

Winnemucca District

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 187 point counts within the 15 surveyed grid cells between May 25 and June 9. They detected 49 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 56 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 8 species.

Bird Conservancy estimated the proportion of occupied plots throughout Winnemucca District for 57 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 12 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Winnemucca District across all years of the project, visit the RMADC.

On the Explore the Data tab, select **NV-BCR9-WI: Bureau of Land Management - Winnemucca District** from the **Stratum** drop-down filter.

9.6 BLM North Dakota

BLM in North Dakota BCR 17

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 2025. Technicians conducted 62 point counts within the 5 surveyed grid cells between June 9 and July 6. They detected 72 bird species, including 18 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 115 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 occupied plots throughout BLM in North Dakota BCR 17 for 115 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 14 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in North Dakota BCR 17 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **ND-BCR17-BM: Bureau of Land Management** from the **Stratum** drop-down filter.

9.7 BLM South Dakota

BLM in South Dakota BCR 17

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 2025. Technicians conducted 73 point counts within the 6 surveyed grid cells between May 25 and July 5. They detected 87 bird species, including 11 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 143 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 9 species.

Bird Conservancy estimated the proportion of occupied plots throughout BLM in South Dakota BCR 17 for 143 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 11 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in South Dakota BCR 17 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **SD-BCR17-BM: Bureau of Land Management** from the **Stratum** drop-down filter.

9.8 BLM Utah

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 2025. Technicians conducted 993 point counts within the 88 surveyed grid cells between May 9 and July 6. They detected 124 bird species, including 5 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 165 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 60 species.

Bird Conservancy estimated the proportion of occupied plots throughout BLM in Utah: Total for 165 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 64 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in Utah: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BLM** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 55 point counts within the 5 surveyed grid cells between June 19 and July 6. They detected 35 bird species, including 1 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 85 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 8 species.

Bird Conservancy estimated the proportion of occupied plots throughout BLM in Utah BCR 10 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 8 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in Utah BCR 10 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR10 BLM** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 546 point counts within the 49 surveyed grid cells between May 9 and June 27. They detected 107 bird species, including 1 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 146 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 43 species.

Bird Conservancy estimated the proportion of occupied plots throughout BLM in Utah BCR 16 for 146 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 54 species.

> **View results on the Rocky Mountain Avian Data Center**

To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in Utah BCR 16 across all years of the project, visit the RMADC.

On the Explore the Data tab, select **UT-BCR16 BLM** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 363 point counts within the 31 surveyed grid cells between May 11 and June 20. They detected 79 bird species, including 3 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 139 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 occupied plots throughout BLM in Utah BCR 9 for 139 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 28 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in Utah BCR 9 across all years of the project, visit the RMADC.

On the Explore the Data tab, select **UT-BCR9 BLM** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 95 point counts within the 9 surveyed grid cells between May 11 and May 26. They detected 55 bird species, including 2 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 105 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 4 species.

Bird Conservancy estimated the proportion of occupied plots throughout Cedar City Field Office 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 7 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Cedar City Field Office across all years of the project, visit the RMADC.

On the Explore the Data tab, select **UT-BLM - Cedar City Field Office** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 148 point counts within the 12 surveyed grid cells between May 19 and June 10. They detected 55 bird species, including 2 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 93 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 5 species.

Bird Conservancy estimated the proportion of occupied plots throughout Fillmore Field Office for 93 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 7 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Fillmore Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BLM - Fillmore Field Office** from the **Superstratum** drop-down filter.

Grand Staircase-Escalante National Monument

We obtained results for Grand Staircase-Escalante National Monument by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 56 point counts within the 6 surveyed grid cells between May 13 and June 20. They detected 42 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 88 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 9 species.

Bird Conservancy estimated the proportion of occupied plots throughout Grand Staircase-Escalante National Monument for 88 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Grand Staircase-Escalante National Monument across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR16-GS: Bureau of Land Management - Grand Staircase-Escalante National Monument** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 49 point counts within the 4 surveyed grid cells between May 12 and May 30. They detected 43 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 85 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 4 species.

Bird Conservancy estimated the proportion of occupied plots throughout Kanab Field Office for 84 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 8 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Kanab Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR16-KA: Bureau of Land Management - Kanab Field Office** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 52 point counts within the 5 surveyed grid cells between May 14 and June 5. They detected 41 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 81 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 9 species.

Bird Conservancy estimated the proportion of occupied plots throughout Moab Field Office 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 10 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Moab Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR16-MO: Bureau of Land Management - Moab Field Office** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 77 point counts within the 6 surveyed grid cells between May 19 and May 24. They detected 37 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 63 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 occupied plots throughout Monticello Field Office for 63 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Monticello Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR16-MN: Bureau of Land Management - Monticello Field Office** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 86 point counts within the 7 surveyed grid cells between May 20 and June 27. They detected 49 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 96 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 2 species.

Bird Conservancy estimated the proportion of occupied plots throughout Price Field Office 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 4 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Price Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR16-PR: Bureau of Land Management - Price Field Office** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 100 point counts within the 9 surveyed grid cells between May 19 and June 22. They detected 53 bird species, including 1 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 94 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 2 species.

Bird Conservancy estimated the proportion of occupied plots throughout Richfield Field Office for 94 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 4 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Richfield Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BLM - Richfield Field Office** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 94 point counts within the 9 surveyed grid cells between May 9 and May 17. They detected 65 bird species, including 1 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 105 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 9 species.

Bird Conservancy estimated the proportion of occupied plots throughout Saint George Field Office for 105 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Saint George Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BLM - Saint George Field Office** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 155 point counts within the 14 surveyed grid cells between May 25 and July 6. They detected 55 bird species, including 1 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 113 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 5 species.

Bird Conservancy estimated the proportion of occupied plots throughout Salt Lake Field Office 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 8 species.

> **View results on the Rocky Mountain Avian Data Center**

> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Salt Lake Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BLM - Salt Lake Field Office** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 81 point counts within the 7 surveyed grid cells between June 8 and July 4. They detected 44 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 90 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 5 species.

Bird Conservancy estimated the proportion of occupied plots throughout Vernal Field Office for 90 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 7 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Vernal Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BLM - Vernal Field Office** from the **Superstratum** drop-down filter.

9.9 BLM Wyoming

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 2025. Technicians conducted 390 point counts within the 30 surveyed grid cells between May 25 and July 10. They detected 110 bird species, including 6 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 179 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 32 species.

Bird Conservancy estimated the proportion of occupied plots throughout BLM in Wyoming: Total for 179 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 44 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in Wyoming: Total across all years of the project, visit the RMADC.

> On the Explore the Data tab, select **WY-BLM** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 21 point counts within the 2 surveyed grid cells between June 8 and June 9. They detected 51 bird species, including 8 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 95 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 1 species.

Bird Conservancy estimated the proportion of occupied plots throughout BLM in Wyoming BCR 16 for 95 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 3 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in Wyoming BCR 16 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR16-BL: Bureau of Land Management** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 27 point counts within the 2 surveyed grid cells between June 3 and June 9. They detected 23 bird species, including 11 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 55 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 1 species.

Bird Conservancy estimated the proportion of occupied plots throughout BLM in Wyoming BCR 18 for 55 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 4 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within BLM in Wyoming BCR 18 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR18-BL: Bureau of Land Management** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 60 point counts within the 4 surveyed grid cells between June 3 and July 10. They detected 49 bird species, including 2 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 4 species.

Bird Conservancy estimated the proportion of occupied plots throughout Buffalo Field Office for 111 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 11 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Buffalo Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BLM-Buffalo** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 56 point counts within the 4 surveyed grid cells between May 27 and June 21. They detected 51 bird species, including 3 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 106 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 4 species.

Bird Conservancy estimated the proportion of occupied plots throughout Casper Field Office for 106 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 10 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Casper Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BLM-Casper** from the **Superstratum** drop-down filter.

Cody Field Office

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

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 18 point counts within the 2 surveyed grid cells between May 27 and June 5. They detected 23 bird species, including 1 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 82 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 0 species.

Bird Conservancy estimated the proportion of occupied plots throughout Cody Field Office for 82 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 1 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Cody Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR10-CO: Bureau of Land Management - Cody Field Office** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 57 point counts within the 4 surveyed grid cells between May 25 and June 11. They detected 48 bird species, including 8 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 58 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 2 species.

Bird Conservancy estimated the proportion of occupied plots throughout Kemmerer Field Office for 58 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Kemmerer Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR10-KE: Bureau of Land Management - Kemmerer Field Office** from the **Stratum** drop-down filter.

Lander Field Office

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

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 21 point counts within the 2 surveyed grid cells between June 20 and June 21. They detected 45 bird species, including 8 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 101 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 1 species.

Bird Conservancy estimated the proportion of occupied plots throughout Lander Field Office for 101 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 7 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Lander Field Office across all years of the project, visit the RMADC.

On the Explore the Data tab, select **WY-BCR10-LA: Bureau of Land Management - Lander Field Office** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 28 point counts within the 2 surveyed grid cells between May 27 and May 30. They detected 28 bird species, including 12 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 97 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 2 species.

Bird Conservancy estimated the proportion of occupied plots throughout Newcastle Field Office for 96 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 5 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Newcastle Field Office across all years of the project, visit the RMADC.

On the Explore the Data tab, select **WY-BCR17-NE: Bureau of Land Management - Newcastle Field Office** from the **Stratum** drop-down filter.

Pinedale Field Office

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

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 28 point counts within the 2 surveyed grid cells between June 5 and July 6. They detected 17 bird species, including 4 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 102 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 0 species.

Bird Conservancy estimated the proportion of occupied plots throughout Pinedale Field Office for 103 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 4 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Pinedale Field Office across all years of the project, visit the RMADC.

> On the Explore the Data tab, select **WY-BCR10-PI: Bureau of Land Management - Pinedale Field Office** from the **Stratum** drop-down filter.

Rawlins Field Office

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

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 32 point counts within the 2 surveyed grid cells between June 11 and June 19. They detected 23 bird species, including 8 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 88 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 0 species.

Bird Conservancy estimated the proportion of occupied plots throughout Rawlins Field Office for 88 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 4 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Rawlins Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR10-RA: Bureau of Land Management - Rawlins Field Office** from the **Stratum** drop-down filter.

Rock Springs Field Office

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

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 22 point counts within the 2 surveyed grid cells between June 12 and June 22. They detected 32 bird species, including 5 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 99 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 0 species.

Bird Conservancy estimated the proportion of occupied plots throughout Rock Springs Field Office for 99 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 3 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Rock Springs Field Office across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR10-RO: Bureau of Land Management - Rock Springs Field Office** from the **Stratum** drop-down filter.

Worland Field Office

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

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 20 point counts within the 2 surveyed grid cells between June 5 and June 26. They detected 25 bird species, including 4 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 93 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 1 species.

Bird Conservancy estimated the proportion of occupied plots throughout Worland Field Office for 93 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 3 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Worland Field Office across all years of the project, visit the RMADC.

On the Explore the Data tab, select **WY-BCR10-WO: Bureau of Land Management - Worland Field Office** from the **Stratum** drop-down filter.

10 Department of Defense

10.1 DOD Lands in Colorado

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 2025. Technicians conducted 25 point counts within the 2 surveyed grid cells between May 28 and June 6. They detected 35 bird species, including 7 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 115 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 2 species.

Bird Conservancy estimated the proportion of occupied plots throughout DOD Lands in Colorado BCR 18 for 117 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 2 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within DOD Lands in Colorado BCR 18 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR18-DO: Department of Defense** from the **Stratum** drop-down filter.

10.2 DOD Lands in Utah

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 4 of 5 planned surveys (80%) in 2025. Technicians conducted 60 point counts within the 4 surveyed grid cells between May 14 and May 21. They detected 19 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 57 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 4 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other DOD Lands in Utah BCR 9 for 57 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 5 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other DOD Lands in Utah BCR 9 across all years of the project, visit the RMADC.

On the Explore the Data tab, select **UT-BCR9-DD: Department of Defense - Other Lands** from the **Stratum** drop-down filter.

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 25 of 26 planned surveys (96%) in 2025. Technicians conducted 326 point counts within the 25 surveyed grid cells between May 14 and June 4. They detected 27 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 70 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 4 species.

Bird Conservancy estimated the proportion of occupied plots throughout DOD Lands in Utah BCR 9 for 70 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 8 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within DOD Lands in Utah BCR 9 across all years of the project, visit the RMADC.

On the Explore the Data tab, select **UT-BCR9 Department of Defense lands** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 96 point counts within the 6 surveyed grid cells between May 27 and May 29. They detected 8 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 25 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 occupied plots throughout DOD Lands in Utah BCR 9 - APG Impact Areas for 25 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 4 species.

View results on the Rocky Mountain Avian Data Center

To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within DOD Lands in Utah BCR 9 - APG Impact Areas across all years of the project, visit the RMADC.

On the Explore the Data tab, select **UT-BCR9-AP: Department of Defense - APG Impact Area** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 25 point counts within the 2 surveyed grid cells between May 29 and June 2. They detected 2 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 0 species.

Bird Conservancy estimated the proportion of occupied plots throughout DOD Lands in Utah BCR 9 - Mudflats for 2 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 0 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within DOD Lands in Utah BCR 9 - Mudflats across all years of the project, visit the RMADC.

On the Explore the Data tab, select **UT-BCR9-MU: Department of Defense - Mudflats** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 75 point counts within the 6 surveyed grid cells between May 19 and May 20. They detected 14 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 5 species.

Bird Conservancy estimated the proportion of occupied plots throughout DOD Lands in Utah BCR 9 - Target S Impact Areas for 24 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 4 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within DOD Lands in Utah BCR 9 - Target S Impact Areas across all years of the project, visit the RMADC.

> On the Explore the Data tab, select **UT-BCR9-TS: Department of Defense - Target S Impact Area** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 42 point counts within the 5 surveyed grid cells between June 2 and June 4. They detected 1 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 0 species.

Bird Conservancy estimated the proportion of occupied plots throughout DOD Lands in Utah BCR 9 - UTG Impact Areas for 4 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 0 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within DOD Lands in Utah BCR 9 - UTG Impact Areas across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR9-UR: Department of Defense - UTG Impact Area** from the **Stratum** drop-down filter.

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 both planned surveys (100%) in 2025. Technicians conducted 28 point counts within the 2 surveyed grid cells between May 22 and May 22. They detected 15 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 27 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 0 species.

Bird Conservancy estimated the proportion of occupied plots throughout DOD Lands in Utah BCR 9 - UTTR Impact Areas for 27 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 2 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within DOD Lands in Utah BCR 9 - UTTR Impact Areas across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR9-UT: Department of Defense - UTTR Impact Areas** from the **Stratum** drop-

down filter.

10.3 DOD Lands in Wyoming

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 2025. Technicians conducted 22 point counts within the 2 surveyed grid cells between June 5 and June 6. They detected 40 bird species, including 14 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 65 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 1 species.

Bird Conservancy estimated the proportion of occupied plots throughout DOD Lands in Wyoming BCR 18 for 65 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 3 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within DOD Lands in Wyoming BCR 18 across all years of the project, visit the RMADC.

On the Explore the Data tab, select **WY-BCR18-DO: Department of Defense** from the **Stratum** drop-down filter.

11 National Park Service

11.1 Greater Yellowstone Network

Greater Yellowstone Network: Total

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 85 point counts within the 6 surveyed grid cells between May 23 and July 15. They detected 88 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 135 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 occupied plots throughout Greater Yellowstone Network: Total for 135 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 10 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Greater Yellowstone Network: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **NPS-Greater Yellowstone Network** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 24 point counts within the 2 surveyed grid cells between May 23 and May 25. They detected 41 bird species, including 6 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 1 species.

Bird Conservancy estimated the proportion of occupied plots throughout Bighorn Canyon National Recreation Area 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 4 species.

> **View results on the Rocky Mountain Avian Data Center**

To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Bighorn Canyon National Recreation Area across all years of the project, visit the RMADC.

On the Explore the Data tab, select **WY-BCR10-BH: Bighorn Canyon National Recreation Area** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 31 point counts within the 2 surveyed grid cells between May 29 and July 8. They detected 46 bird species, including 6 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 0 species.

Bird Conservancy estimated the proportion of occupied plots throughout Grand Teton National Park for 86 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 5 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Grand Teton National Park across all years of the project, visit the RMADC.

On the Explore the Data tab, select **WY-BCR10-GR: Grand Teton National Park** from the **Stratum** drop-down filter.

Yellowstone National Park

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

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 30 point counts within the 2 surveyed grid cells between July 10 and July 15. They detected 41 bird species, including 8 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 90 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 4 species.

Bird Conservancy estimated the proportion of occupied plots throughout Yellowstone National Park for 90 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 6 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Yellowstone National Park across all years of the project, visit the RMADC.

On the Explore the Data tab, select **WY-BCR10-YE: Yellowstone National Park** from the **Stratum** drop-down filter.

11.2 Northern Colorado Plateau Network

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 2025. Technicians conducted 23 point counts within the 2 surveyed grid cells between May 15 and June 5. They detected 38 bird species, including 11 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 78 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 2 species.

Bird Conservancy estimated the proportion of occupied plots throughout Northern Colorado Plateau Network in Colorado 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 5 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Northern Colorado Plateau Network in Colorado across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR16-NC: National Park Service - Northern Colorado Plateau Network** from the **Stratum** drop-down filter.

11.3 Northern Great Plains Network

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 2025. Technicians conducted 42 point counts within the 4 surveyed grid cells between June 18 and June 24. They detected 48 bird species, including 11 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 96 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 occupied plots throughout Agate Fossil Beds National Monument for 97 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 11 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Agate Fossil Beds National Monument across all years of the project, visit the RMADC.

On the Explore the Data tab, select **NE-BCR18-AF: Agate Fossil Beds National Monument** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 55 point counts within the 6 surveyed grid cells between May 21 and May 22. They detected 55 bird species, including 8 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 99 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 9 species.

Bird Conservancy estimated the proportion of occupied plots throughout Badlands National Park - North Unit for 99 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 9 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Badlands National Park - North Unit across all years of the project, visit the RMADC.

On the Explore the Data tab, select **SD-BCR17-BN: Badlands National Park - North Unit** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 52 point counts within the 4 surveyed grid cells between July 3 and July 8. They detected 52 bird species, including 3 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 13 species.

Bird Conservancy estimated the proportion of occupied plots throughout Jewel Cave National Monument for 91 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 17 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Jewel Cave National Monument across all years of the project, visit the RMADC.

On the Explore the Data tab, select **SD-BCR17-JC: Jewel Cave National Monument** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 51 point counts within the 5 surveyed grid cells between June 17 and June 25. They detected 79 bird species, including 11 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 117 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 occupied plots throughout Knife River Indian Villages National Historic Site for 119 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Knife River Indian Villages National Historic Site across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **ND-BCR17-KR: Knife River Indian Villages National Historic Site** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 52 point counts within the 6 surveyed grid cells between June 23 and July 6. They detected 57 bird species, including 1 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 85 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 occupied plots throughout Mount Rushmore National Monument 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 20 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Mount Rushmore National Monument across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **SD-BCR17-MR: Mount Rushmore National Monument** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 48 point counts within the 4 surveyed grid cells between June 7 and June 23. They detected 57 bird species, including 6 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 87 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 occupied plots throughout Scotts Bluff National Monument for 87 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.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Scotts Bluff National Monument across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **NE-BCR18-SB: Scotts Bluff National Monument** from the **Stratum** drop-down filter.

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 2025. Technicians conducted 131 point counts within the 12 surveyed grid cells between June 10 and July 4. They detected 82 bird species, including 0 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 124 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 occupied plots throughout Theodore Roosevelt National Park for 124 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 24 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Theodore Roosevelt National Park across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **Theodore Roosevelt National Park** from the **Superstratum** drop-down filter.

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 2025. Technicians conducted 57 point counts within the 6 surveyed grid cells between June 17 and July 8. They detected 60 bird species, including 7 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 126 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 occupied plots throughout Wind Cave National Park for 127 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 16 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Wind Cave National Park across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **SD-BCR17-WC: Wind Cave National Park** from the **Stratum** drop-down filter.

11.4 Rocky Mountain Network

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 2025. Technicians conducted 20 point counts within the 2 surveyed grid cells between June 22 and July 9. They detected 32 bird species, including 6 priority species.

Bird Conservancy estimated densities (birds per square kilometer) 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 3 species.

Bird Conservancy estimated the proportion of occupied plots 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 8 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Rocky Mountain Network in Colorado across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR16-RM: National Park Service - Rocky Mountain Network** from the **Stratum** drop-down filter.

11.5 Southern Colorado Plateau Network

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 2025. Technicians conducted 22 point counts within the 2 surveyed grid cells between June 10 and June 11. They detected 42 bird species, including 12 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 79 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 occupied plots throughout Southern Colorado Plateau Network in Colorado for 79 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 11 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Southern Colorado Plateau Network in Colorado across all years of the project, visit the RMADC.

On the Explore the Data tab, select **CO-BCR16-SC: National Park Service - Southern Colorado Plateau Network** from the **Stratum** drop-down filter.

12 Tribal Lands

12.1 Wind River Tribal Lands

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 both planned surveys (100%) in 2025. Technicians conducted 22 point counts within the 2 surveyed grid cells between June 19 and June 20. They detected 25 bird species, including 7 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 98 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 1 species.

Bird Conservancy estimated the proportion of occupied plots throughout Wind River Tribal Lands in Wyoming BCR 10 for 98 species that were detected in any year during which surveys were conducted, 18 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 3 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Wind River Tribal Lands in Wyoming BCR 10 across all years of the project, visit the RMADC.

On the Explore the Data tab, select **WY-BCR10-WR: Wind River Reservation** from the **Stratum** drop-down filter.

13 Bird Conservation Regions

In 2025, we had complete survey coverage across one Bird Conservation Region (Figure 13.1).

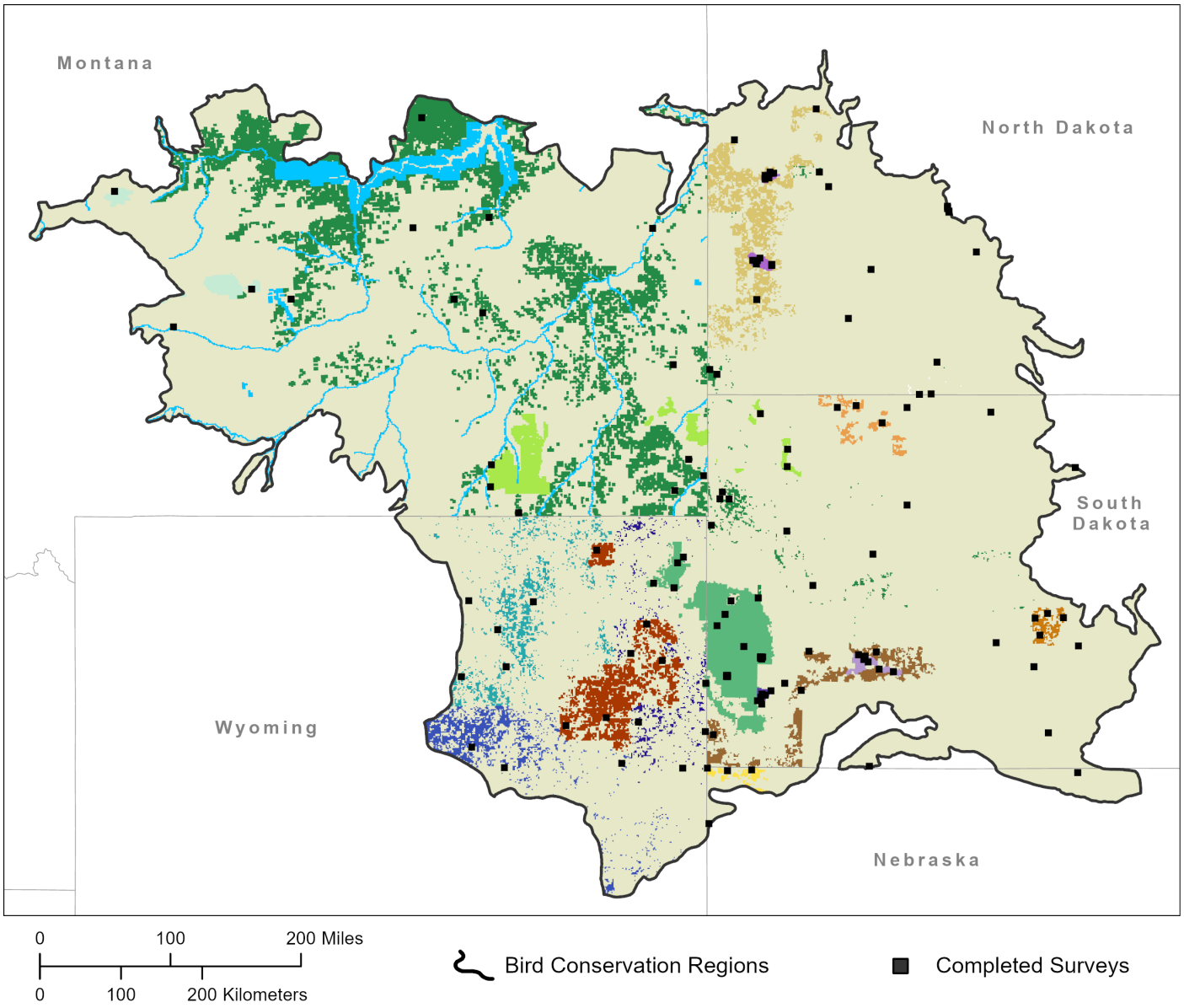


Figure 13.1: Survey locations and strata in the Badlands and Prairies Bird Conservation Region (BCR 17), 2025

Bird Conservation Region 17

We obtained results for Bird Conservation Region 17 by compiling and jointly analyzing data from 31 strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 1483 point counts within the 132 surveyed grid cells between May 20 and July 9. They detected 197 bird species, including 39 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 233 species that were detected in any year during which surveys were conducted, 54 of which are priority species. The data yielded robust density estimates (CV < 50%) for 42 species.

Bird Conservancy estimated the proportion of occupied plots throughout Bird Conservation Region 17 for 233 species that were detected in any year during which surveys were conducted, 54 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 60 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Bird Conservation Region 17 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **BCR17** from the **Superstratum** drop-down filter.

14 Colorado

In 2025, we had complete survey coverage across the state of Colorado (Figure 14.1).

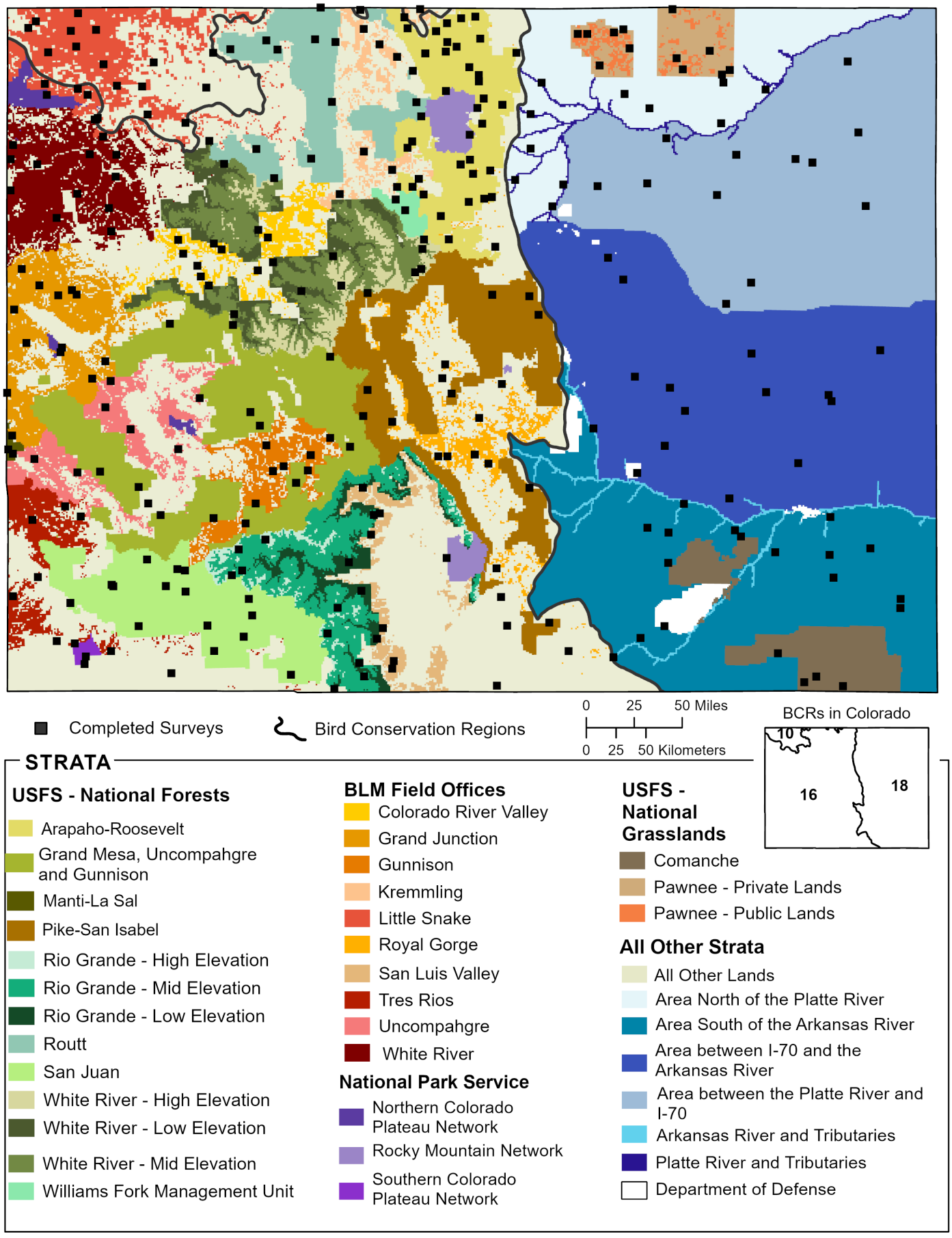


Figure 14.1: Survey locations and strata in Colorado, 2025.

14.1 Colorado Statewide: Total

Colorado Statewide: Total

We obtained results for Colorado Statewide: Total by compiling and jointly analyzing data from 41 strata.

Field technicians completed 296 of 297 planned surveys (100%) in 2025. Technicians conducted 3371 point counts within the 296 surveyed grid cells between May 13 and July 21. They detected 194 bird species, including 49 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 247 species that were detected in any year during which surveys were conducted, 57 of which are priority species. The data yielded robust density estimates (CV < 50%) for 116 species.

Bird Conservancy estimated the proportion of occupied plots throughout Colorado Statewide: Total for 247 species that were detected in any year during which surveys were conducted, 57 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 124 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Colorado Statewide: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO** from the **Superstratum** drop-down filter.

14.2 All Other Lands in Colorado

All Other Lands in Colorado

We obtained results for All Other Lands in Colorado by compiling and jointly analyzing data from seven strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 816 point counts within the 72 surveyed grid cells between May 13 and July 8. They detected 150 bird species, including 32 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 210 species that were detected in any year during which surveys were conducted, 53 of which are priority species. The data yielded robust density estimates (CV < 50%) for 67 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Colorado for 210 species that were detected in any year during which surveys were conducted, 53 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 74 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Colorado across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-All Other** from the **Superstratum** drop-down filter.

14.3 Colorado BCR 10

Colorado BCR 10: Total

We obtained results for Colorado BCR 10: Total by compiling and jointly analyzing data from four strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 255 point counts within the 19 surveyed grid cells between May 24 and June 29. They detected 91 bird species, including 22 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 130 species that were detected in any year during which surveys were conducted, 30 of which are priority species. The data yielded robust density estimates (CV < 50%) for 21 species.

Bird Conservancy estimated the proportion of occupied plots throughout Colorado BCR 10: Total for 130 species that were detected in any year during which surveys were conducted, 30 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 23 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Colorado BCR 10: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR10** from the **Superstratum** drop-down filter.

All Other Lands in Colorado BCR 10

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 72 point counts within the 5 surveyed grid cells between May 24 and June 18. They detected 62 bird species, including 15 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 114 species that were detected in any year during which surveys were conducted, 28 of which are priority species. The data yielded robust density estimates (CV < 50%) for 11 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Colorado BCR 10 for 114 species that were detected in any year during which surveys were conducted, 28 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 12 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Colorado BCR 10 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR10-AO: All Other Lands** from the **Stratum** drop-down filter.

14.4 Colorado BCR 16

Colorado BCR 16: Total

We obtained results for Colorado BCR 16: Total by compiling and jointly analyzing data from 27 strata.

Field technicians completed 207 of 208 planned surveys (100%) in 2025. Technicians conducted 2309 point counts within the 207 surveyed grid cells between May 14 and July 21. They detected 164 bird species, including 45 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 199 species that were detected in any year during which surveys were conducted, 54 of which are priority species. The data yielded robust density estimates (CV < 50%) for 89 species.

Bird Conservancy estimated the proportion of occupied plots throughout Colorado BCR 16: Total for 199 species that were detected in any year during which surveys were conducted, 54 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 97 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Colorado BCR 16: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR16** from the **Superstratum** drop-down filter.

All Other Lands in Colorado BCR 16

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 189 point counts within the 19 surveyed grid cells between May 15 and July 8. They detected 110 bird species, including 20 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 180 species that were detected in any year during which surveys were conducted, 44 of which are priority species. The data yielded robust density estimates (CV < 50%) for 34 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Colorado BCR 16 for 181 species that were detected in any year during which surveys were conducted, 45 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 39 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Colorado BCR 16 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR16-AO: All Other Lands** from the **Stratum** drop-down filter.

14.5 Colorado BCR 18

Colorado BCR 18: Total

We obtained results for Colorado BCR 18: Total by compiling and jointly analyzing data from ten strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 807 point counts within the 70 surveyed grid cells between May 13 and June 12. They detected 116 bird species, including 20 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 205 species that were detected in any year during which surveys were conducted, 40 of which are priority species. The data yielded robust density estimates (CV < 50%) for 37 species.

Bird Conservancy estimated the proportion of occupied plots throughout Colorado BCR 18: Total for 205 species that were detected in any year during which surveys were conducted, 40 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 44 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Colorado BCR 18: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR18** from the **Superstratum** drop-down filter.

Colorado BCR 18 Rivers

We obtained results for Colorado BCR 18 Rivers by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 74 point counts within the 8 surveyed grid cells between May 15 and June 8. They detected 79 bird species, including 9 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 178 species that were detected in any year during which surveys were conducted, 31 of which are priority species. The data yielded robust density estimates (CV < 50%) for 16 species.

Bird Conservancy estimated the proportion of occupied plots throughout Colorado BCR 18 Rivers for 178 species that were detected in any year during which surveys were conducted, 31 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 30 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Colorado BCR 18 Rivers across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-Rivers** from the **Superstratum** drop-down filter.

Colorado BCR 18: Total

We obtained results for Colorado BCR 18: Total by compiling and jointly analyzing data from five strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 555 point counts within the 48 surveyed grid cells between May 13 and June 12. They detected 89 bird species, including 16 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 135 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 30 species.

Bird Conservancy estimated the proportion of occupied plots throughout Colorado BCR 18: Total for 135 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 35 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Colorado BCR 18: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR18-All Other** from the **Superstratum** drop-down filter.

Non-river Lands in Colorado BCR 18

We obtained results for Non-river Lands in Colorado BCR 18 by compiling and jointly analyzing data from eight strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 733 point counts within the 62 surveyed grid cells between May 13 and June 12. They detected 103 bird species, including 18 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 175 species that were detected in any year during which surveys were conducted, 36 of which are priority species. The data yielded robust density estimates (CV < 50%) for 34 species.

Bird Conservancy estimated the proportion of occupied plots throughout Non-river Lands in Colorado BCR 18 for 175 species that were detected in any year during which surveys were conducted, 36 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 40 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Non-river Lands in Colorado BCR 18 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **CO-BCR18-Nonrivers** from the **Superstratum** drop-down filter.

15 Kansas

All Other Lands in Kansas BCR 18

We obtained results for All Other Lands in Kansas BCR 18 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 115 point counts within the 11 surveyed grid cells between May 22 and June 30. They detected 44 bird species, including 18 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 67 species that were detected in any year during which surveys were conducted, 20 of which are priority species. The data yielded robust density estimates (CV < 50%) for 11 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Kansas BCR 18 for 67 species that were detected in any year during which surveys were conducted, 20 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 13 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Kansas BCR 18 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **KS-BCR18-AO: All Other Lands** from the **Stratum** drop-down filter.

Playas in Kansas BCR 18

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 42 point counts within the 5 surveyed grid cells between May 30 and June 18. They detected 19 bird species, including 7 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 52 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 8 species.

Bird Conservancy estimated the proportion of occupied plots throughout Playas in Kansas BCR 18 for 52 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 9 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Playas in Kansas BCR 18 across all years of the project, visit the RMADC.

> On the Explore the Data tab, select **KS-BCR18-PL: Playas** from the **Stratum** drop-down filter.

All Other Lands in Kansas BCR 19

We obtained results for All Other Lands in Kansas BCR 19 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 96 point counts within the 11 surveyed grid cells between May 3 and June 11. They detected 67 bird species, including 20 priority species.

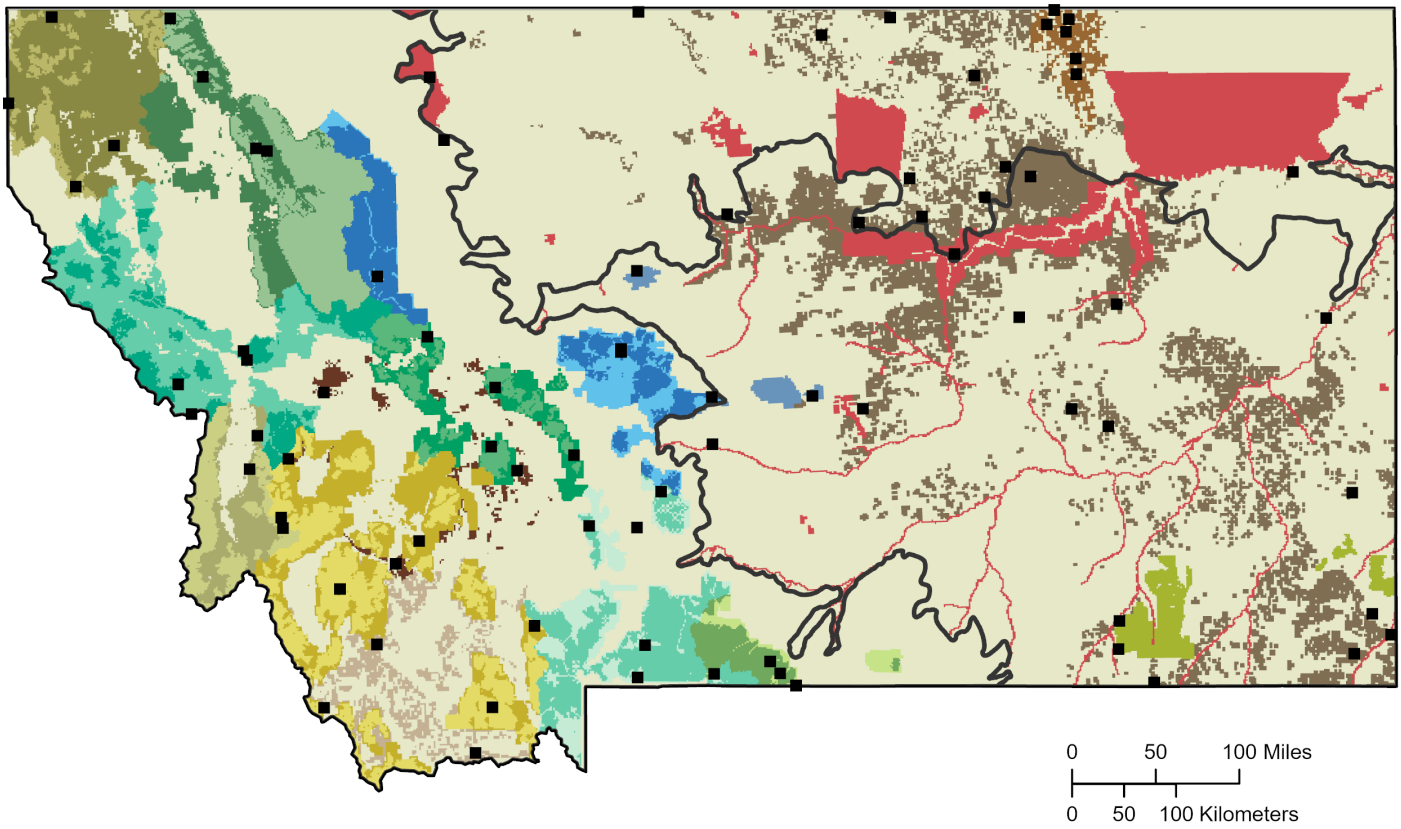
Bird Conservancy estimated densities (birds per square kilometer) for 103 species that were detected in any year during which surveys were conducted, 24 of which are priority species. The data yielded robust density estimates (CV < 50%) for 16 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Kansas BCR 19 for 103 species that were detected in any year during which surveys were conducted, 24 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 22 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Kansas BCR 19 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **KS-BCR19-AO: All Other Lands** from the **Stratum** drop-down filter.

16 Montana

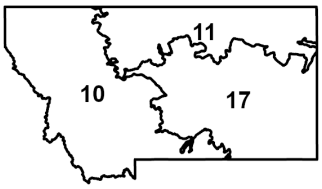
In 2025, we had complete survey coverage across the state of Montana (Figure 16.1).



Completed Surveys

Bird Conservation Regions

BCRs in Montana



STRATA

USFS - National Forests

- Beaverhead-Deerlodge - Roaded/Managed
- Beaverhead-Deerlodge - Roadless/Wilderness
- Bitterroot - Roaded/Managed
- Bitterroot - Roadless/Wilderness
- Custer (BCR17)
- Custer - Roaded/Managed
- Custer - Roadless/Wilderness
- Flathead - Roaded/Managed
- Flathead - Roadless/Wilderness
- Gallatin - Roaded/Managed
- Gallatin - Roadless/Wilderness
- Helena - Roaded/Managed
- Helena - Roadless/Wilderness

USFS - National Forests (cont.)

- Kootenai - Roaded/Managed
- Kootenai - Roadless/Wilderness
- Lewis and Clark - Roaded/Managed
- Lewis and Clark - Roadless/Wilderness
- Lewis and Clark (BCR 17)
- Lolo - Roaded/Managed
- Lolo - Roadless/Wilderness

Bureau of Land Management

- All Other BLM
- Missoula-Butte
- North Valley
- Southwestern Montana

All Other Strata

- All Other Lands
- US Fish & Wildlife Service Lands, Rivers, & Tribal Lands

Figure 16.1: Survey locations and strata in Montana, 2025.

16.1 Montana Statewide: Total

Montana Statewide: Total

We obtained results for Montana Statewide: Total by compiling and jointly analyzing data from 30 strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 953 point counts within the 81 surveyed grid cells between May 24 and July 14. They detected 180 bird species, including 31 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 222 species that were detected in any year during which surveys were conducted, 40 of which are priority species. The data yielded robust density estimates (CV < 50%) for 44 species.

Bird Conservancy estimated the proportion of occupied plots throughout Montana Statewide: Total for 223 species that were detected in any year during which surveys were conducted, 40 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 70 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Montana Statewide: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **MT** from the **Superstratum** drop-down filter.

16.2 All Other Lands in Montana

All Other Lands in Montana

We obtained results for All Other Lands in Montana by compiling and jointly analyzing data from three strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 86 point counts within the 6 surveyed grid cells between May 24 and July 7. They detected 56 bird species, including 10 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 179 species that were detected in any year during which surveys were conducted, 33 of which are priority species. The data yielded robust density estimates (CV < 50%) for 7 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Montana for 180 species that were detected in any year during which surveys were conducted, 33 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 16 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Montana across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **MT-All Other 2018-Present** from the **Superstratum** drop-down filter.

16.3 Montana BCR 10

Montana BCR 10: Total

We obtained results for Montana BCR 10: Total by compiling and jointly analyzing data from 21 strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 491 point counts within the 45 surveyed grid cells between May 24 and July 14. They detected 136 bird species, including 19 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 192 species that were detected in any year during which surveys were conducted, 29 of which are priority species. The data yielded robust density estimates (CV < 50%) for 30 species.

Bird Conservancy estimated the proportion of occupied plots throughout Montana BCR 10: Total for 192 species that were detected in any year during which surveys were conducted, 29 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 48 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Montana BCR 10: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **MT-BCR10** from the **Superstratum** drop-down filter.

All Other Lands in Montana BCR 10

We obtained results for All Other Lands in Montana BCR 10 by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 32 point counts within the 2 surveyed grid cells between June 23 and July 7. They detected 27 bird species, including 5 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 135 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 2 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Montana BCR 10 for 137 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 3 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Montana BCR 10 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **MT-BCR10-ON: All Other Lands** from the **Stratum** drop-down filter.

16.4 Montana BCR 11

Montana BCR 11: Total

We obtained results for Montana BCR 11: Total by compiling and jointly analyzing data from four strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 249 point counts within the 19 surveyed grid cells between June 5 and July 2. They detected 76 bird species, including 14 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 142 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 6 species.

Bird Conservancy estimated the proportion of occupied plots throughout Montana BCR 11: Total for 142 species that were detected in any year during which surveys were conducted, 21 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 9 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Montana BCR 11: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **MT-BCR11** from the **Superstratum** drop-down filter.

All Other Lands in Montana BCR 11

We obtained results for All Other Lands in Montana BCR 11 by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 22 point counts within the 2 surveyed grid cells between July 1 and July 2. They detected 30 bird species, including 5 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 123 species that were detected in any year during which surveys were conducted, 20 of which are priority species. The data yielded robust density estimates (CV < 50%) for 1 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Montana BCR 11 for 123 species that were detected in any year during which surveys were conducted, 20 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 5 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Montana BCR 11 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **MT-BCR11-AO: All Other Lands** from the **Stratum** drop-down filter.

16.5 Montana BCR 17

Montana BCR 17: Total

We obtained results for Montana BCR 17: Total by compiling and jointly analyzing data from five strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 213 point counts within the 17 surveyed grid cells between May 24 and July 8. They detected 99 bird species, including 15 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 182 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 2 species.

Bird Conservancy estimated the proportion of occupied plots throughout Montana BCR 17: Total for 182 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 8 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Montana BCR 17: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **MT-BCR17** from the **Superstratum** drop-down filter.

All Other Lands in Montana BCR 17

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

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 32 point counts within the 2 surveyed grid cells between May 24 and June 15. They detected 35 bird species, including 9 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 137 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 1 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Montana BCR 17 for 138 species that were detected in any year during which surveys were conducted, 18 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 5 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Montana BCR 17 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **MT-BCR17-AO: All Other Lands** from the **Stratum** drop-down filter.

17 Nebraska

17.1 All Other Lands in Nebraska BCR 17

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 both planned surveys (100%) in 2025. Technicians conducted 14 point counts within the 2 surveyed grid cells between May 28 and June 20. They detected 26 bird species, including 2 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 81 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 1 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Nebraska BCR 17 for 81 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 3 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Nebraska BCR 17 across all years of the project, visit the RMADC.

On the Explore the Data tab, select **NE-BCR17-ON: All Other Lands** from the **Stratum** drop-down filter.

17.2 All Other Lands in Nebraska BCR 18

All Other Lands in Nebraska BCR 18

We obtained results for All Other Lands in Nebraska BCR 18 by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 22 point counts within the 2 surveyed grid cells between June 22 and June 23. They detected 28 bird species, including 8 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 62 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 1 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Nebraska BCR 18 for 62 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 3 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Nebraska BCR 18 across all years of the project, visit the RMADC.

On the Explore the Data tab, select **NE-BCR18-ON: All Other Lands** from the **Stratum** drop-down filter.

18 New Mexico

18.1 All Other Lands in New Mexico BCR 18

All Other Lands in New Mexico BCR 18

We obtained results for All Other Lands in New Mexico BCR 18 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 58 point counts within the 5 surveyed grid cells between May 1 and May 28. They detected 50 bird species, including 11 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 103 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 2 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in New Mexico BCR 18 for 104 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 6 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in New Mexico BCR 18 across all years of the project, visit the RMADC.

On the Explore the Data tab, select **NM-BCR18-AO: All Other Lands** from the **Stratum** drop-down filter.

19 North Dakota

19.1 All Other Lands in North Dakota BCR 17

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 2025. Technicians conducted 41 point counts within the 4 surveyed grid cells between June 22 and July 5. They detected 58 bird species, including 15 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 97 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 9 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in North Dakota BCR 17 for 97 species that were detected in any year during which surveys were conducted, 21 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 12 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in North Dakota BCR 17 across all years of the project, visit the RMADC.

On the Explore the Data tab, select **ND-BCR17-AT: All Other Lands** from the **Stratum** drop-down filter.

20 Oklahoma

20.1 Oklahoma BCR 18

All Other Lands in Oklahoma BCR 18

We obtained results for All Other Lands in Oklahoma BCR 18 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 45 point counts within the 4 surveyed grid cells between May 14 and June 12. They detected 40 bird species, including 10 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 91 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 2 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Oklahoma BCR 18 for 91 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 7 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Oklahoma BCR 18 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **OK-BCR18-AO: All Other Lands** from the **Stratum** drop-down filter.

Playas in Oklahoma BCR 18

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

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 8 point counts within the 2 surveyed grid cells between May 15 and June 3. They detected 12 bird species, including 5 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 47 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 1 species.

Bird Conservancy estimated the proportion of occupied plots throughout Playas in Oklahoma BCR 18 for 47 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 1 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Playas in Oklahoma BCR 18 across all years of the project, visit the RMADC.

> On the Explore the Data tab, select **OK-BCR18-PL: Playas** from the **Stratum** drop-down filter.

Rivers in Oklahoma BCR 18

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

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 12 point counts within the 2 surveyed grid cells between May 26 and May 30. They detected 46 bird species, including 9 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 87 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 1 species.

Bird Conservancy estimated the proportion of occupied plots throughout Rivers in Oklahoma BCR 18 for 87 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 5 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Rivers in Oklahoma BCR 18 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **OK-BCR18-RV: Rivers** from the **Stratum** drop-down filter.

20.2 Oklahoma BCR 19

All Other Lands in Oklahoma BCR 19

We obtained results for All Other Lands in Oklahoma BCR 19 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 59 point counts within the 8 surveyed grid cells between May 9 and June 3. They detected 81 bird species, including 19 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 112 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 occupied plots throughout All Other Lands in Oklahoma BCR 19 for 115 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 15 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Oklahoma BCR 19 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **OK-BCR19-AO: All Other Lands** from the **Stratum** drop-down filter.

Playas in Oklahoma BCR 19

We obtained results for Playas in Oklahoma BCR 19 by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 16 point counts within the 2 surveyed grid cells between May 23 and May 25. They detected 22 bird species, including 8 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 44 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 2 species.

Bird Conservancy estimated the proportion of occupied plots throughout Playas in Oklahoma BCR 19 for 44 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 7 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Playas in Oklahoma BCR 19 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **OK-BCR19-PL: Playas** from the **Stratum** drop-down filter.

Rivers in Oklahoma BCR 19

We obtained results for Rivers in Oklahoma BCR 19 by compiling and analyzing data from one stratum.

Field technicians completed both planned surveys (100%) in 2025. Technicians conducted 12 point counts within the 2 surveyed grid cells between May 12 and May 15. They detected 32 bird species, including 13 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 95 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 0 species.

Bird Conservancy estimated the proportion of occupied plots throughout Rivers in Oklahoma BCR 19 for 97 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 3 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Rivers in Oklahoma BCR 19 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **OK-BCR19-RV: Rivers** from the **Stratum** drop-down filter.

21 South Dakota

21.1 All Other Lands in South Dakota BCR 17

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 all planned surveys (100%) in 2025. Technicians conducted 142 point counts within the 12 surveyed grid cells between May 22 and June 23. They detected 88 bird species, including 18 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 116 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 13 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in South Dakota BCR 17 for 116 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 21 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in South Dakota BCR 17 across all years of the project, visit the RMADC.

On the Explore the Data tab, select **SD-BCR17-AT: All Other Lands** from the **Stratum** drop-down filter.

22 Texas

22.1 Texas BCR 18

All Other Lands in Texas BCR 18

We obtained results for All Other Lands in Texas BCR 18 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 62 point counts within the 5 surveyed grid cells between May 8 and May 28. They detected 48 bird species, including 13 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 96 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 4 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Texas BCR 18 for 97 species that were detected in any year during which surveys were conducted, 18 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 12 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Texas BCR 18 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **TX-BCR18-AO: All Other Lands** from the **Stratum** drop-down filter.

22.2 Texas BCR 19

All Other Lands in Texas BCR 19

We obtained results for All Other Lands in Texas BCR 19 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 36 point counts within the 5 surveyed grid cells between April 27 and May 13. They detected 62 bird species, including 20 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 97 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 2 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Texas BCR 19 for 100 species that were detected in any year during which surveys were conducted, 24 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 13 species.

View results on the Rocky Mountain Avian Data Center
To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Texas BCR 19 across all years of the project, visit the RMADC.

On the Explore the Data tab, select **TX-BCR19-AO: All Other Lands** from the **Stratum** drop-down filter.

23 Utah

In 2025, we had complete survey coverage across the state of Utah (Figure 23.1).

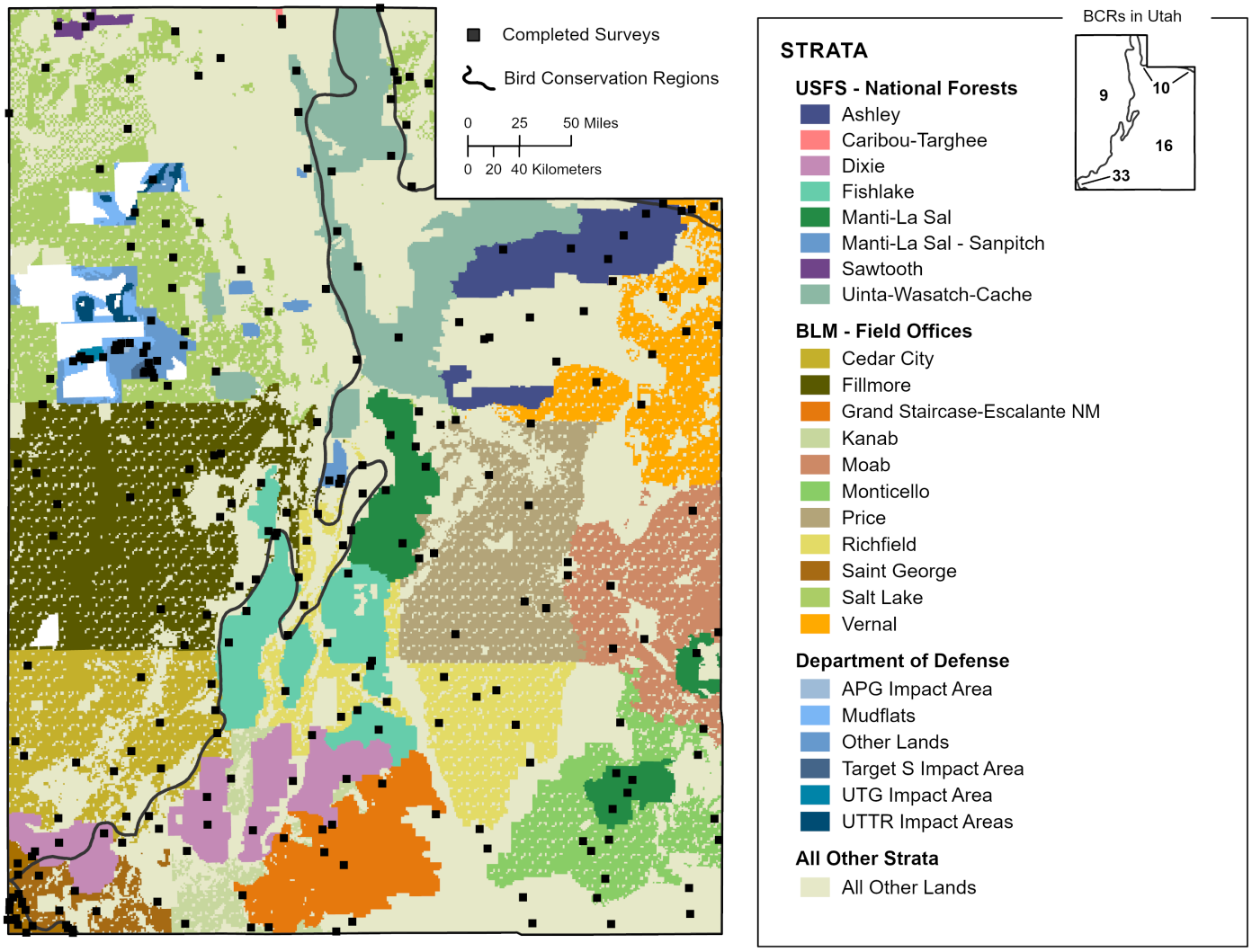


Figure 23.1: Survey locations and strata in Utah, 2025.

23.1 Utah Statewide: Total

Utah Statewide: Total

We obtained results for Utah Statewide: Total by compiling and jointly analyzing data from 42 strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 2904 point counts within the 256 surveyed grid cells between May 9 and July 10. They detected 180 bird species, including 9 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 224 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 101 species.

Bird Conservancy estimated the proportion of occupied plots throughout Utah Statewide: Total for 222 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 117 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Utah Statewide: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT** from the **Superstratum** drop-down filter.

23.2 All Other Lands in Utah

All Other Lands in Utah

We obtained results for All Other Lands in Utah by compiling and jointly analyzing data from four strata.

Field technicians completed 91 of 93 planned surveys (98%) in 2025. Technicians conducted 1081 point counts within the 91 surveyed grid cells between May 9 and July 10. They detected 162 bird species, including 8 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 203 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 62 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Utah for 202 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 70 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Utah across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-All Other Lands** from the **Superstratum** drop-down filter.

23.3 Utah BCR 10: Total

Utah BCR 10: Total

We obtained results for Utah BCR 10: Total by compiling and jointly analyzing data from five strata.

Field technicians completed 11 of 14 planned surveys (79%) in 2025. Technicians conducted 111 point counts within the 11 surveyed grid cells between June 19 and July 6. They detected 64 bird species, including 3 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 141 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 10 species.

Bird Conservancy estimated the proportion of occupied plots throughout Utah BCR 10: Total for 141 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 10 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Utah BCR 10: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR10** from the **Superstratum** drop-down filter.

All Other Lands in Utah BCR 10

We obtained results for All Other Lands in Utah BCR 10 by compiling and analyzing data from one stratum.

Field technicians completed 2 of 5 planned surveys (40%) in 2025. Technicians conducted 13 point counts within the 2 surveyed grid cells between June 20 and June 30. They detected 18 bird species, including 2 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 92 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 0 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Utah BCR 10 for 92 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 3 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Utah BCR 10 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR10-AO: All Other Lands** from the **Stratum** drop-down filter.

23.4 Utah BCR 16: Total

Utah BCR 16: Total

We obtained results for Utah BCR 16: Total by compiling and jointly analyzing data from 18 strata.

Field technicians completed 126 of 122 planned surveys (103%) in 2025. Technicians conducted 1375 point counts within the 126 surveyed grid cells between May 9 and July 10. They detected 149 bird species, including 4 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 196 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 87 species.

Bird Conservancy estimated the proportion of occupied plots throughout Utah BCR 16: Total for 195 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 93 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Utah BCR 16: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR16** from the **Superstratum** drop-down filter.

All Other Lands in Utah BCR 16

We obtained results for All Other Lands in Utah BCR 16 by compiling and analyzing data from one stratum.

Field technicians completed 41 of 39 planned surveys (105%) in 2025. Technicians conducted 473 point counts within the 41 surveyed grid cells between May 9 and July 10. They detected 130 bird species, including 3 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 167 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 36 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Utah BCR 16 for 168 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 43 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Utah BCR 16 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR16-AO: All Other Lands** from the **Stratum** drop-down filter.

23.5 Utah BCR 33: Total

Utah BCR 33: Total

We obtained results for Utah BCR 33: Total by compiling and jointly analyzing data from two strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 196 point counts within the 16 surveyed grid cells between May 9 and May 22. They detected 77 bird species, including 2 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 122 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 5 species.

Bird Conservancy estimated the proportion of occupied plots throughout Utah BCR 33: Total for 121 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 3 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Utah BCR 33: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR33** from the **Superstratum** drop-down filter.

All Other Lands in Utah BCR 33

We obtained results for All Other Lands in Utah BCR 33 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 167 point counts within the 13 surveyed grid cells between May 13 and May 22. They detected 69 bird species, including 2 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 116 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 8 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Utah BCR 33 for 117 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 8 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Utah BCR 33 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR33-AO: All Other Lands** from the **Stratum** drop-down filter.

23.6 Utah BCR 9: Total

Utah BCR 9: Total

We obtained results for Utah BCR 9: Total by compiling and jointly analyzing data from 17 strata.

Field technicians completed 103 of 104 planned surveys (99%) in 2025. Technicians conducted 1222 point counts within the 103 surveyed grid cells between May 11 and July 9. They detected 133 bird species, including 6 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 176 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 56 species.

Bird Conservancy estimated the proportion of occupied plots throughout Utah BCR 9: Total for 176 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 60 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Utah BCR 9: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR9** from the **Superstratum** drop-down filter.

All Other Lands in Utah BCR 9

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

Field technicians completed 35 of 36 planned surveys (97%) in 2025. Technicians conducted 428 point counts within the 35 surveyed grid cells between May 12 and July 9. They detected 115 bird species, including 5 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 147 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 31 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Utah BCR 9 for 147 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 31 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Utah BCR 9 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **UT-BCR9-AO: All Other Lands** from the **Stratum** drop-down filter.

24 Wyoming

In 2025, we had complete survey coverage across the state of Wyoming (Figure 24.1).

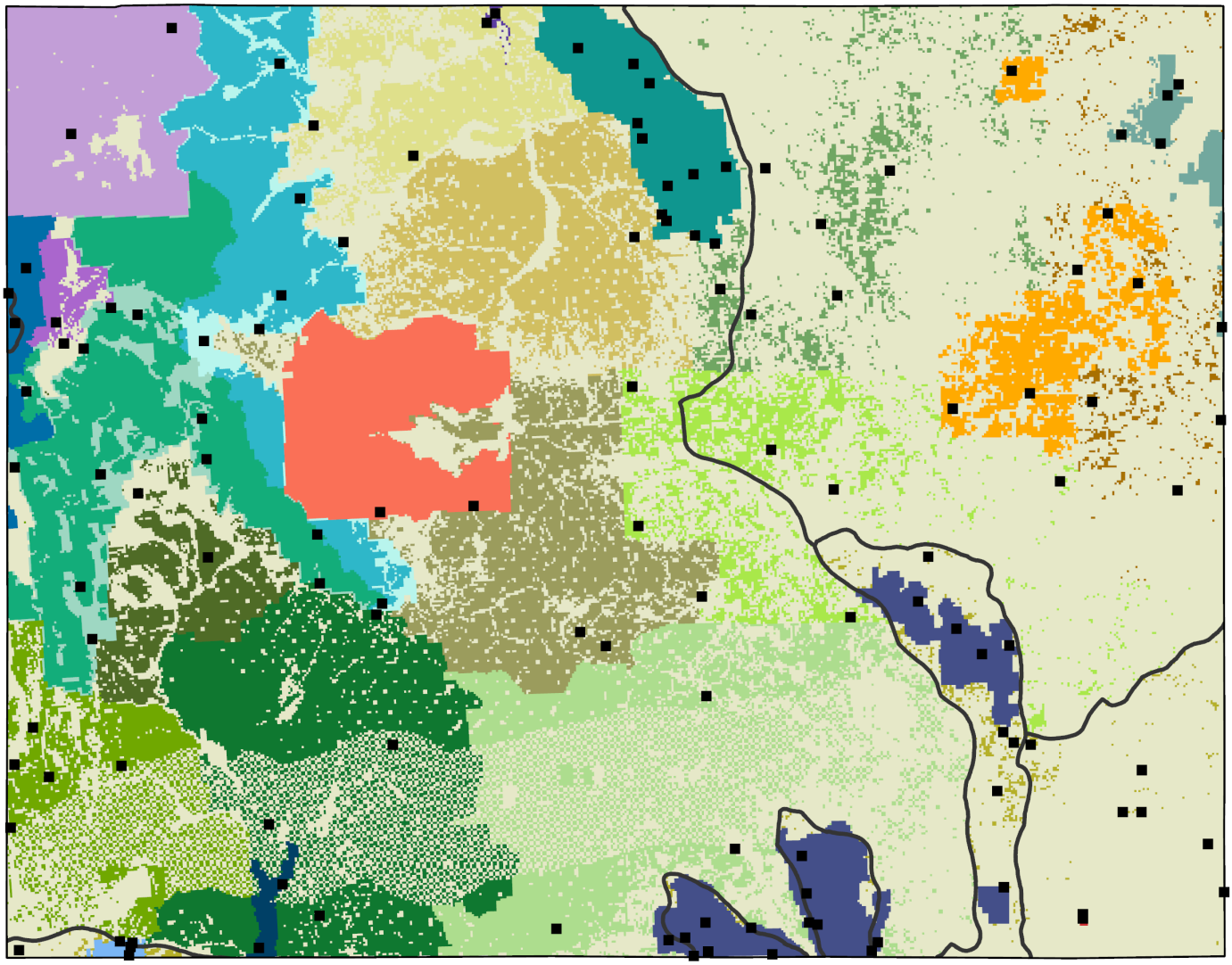


Figure 24.1: Survey locations and strata in Wyoming, 2025

24.1 Wyoming Statewide: Total

Wyoming Statewide: Total

We obtained results for Wyoming Statewide: Total by compiling and jointly analyzing data from 37 strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 1524 point counts within the 125 surveyed grid cells between May 20 and July 20. They detected 203 bird species, including 48 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 224 species that were detected in any year during which surveys were conducted, 62 of which are priority species. The data yielded robust density estimates (CV < 50%) for 76 species.

Bird Conservancy estimated the proportion of occupied plots throughout Wyoming Statewide: Total for 224 species that were detected in any year during which surveys were conducted, 62 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 95 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Wyoming Statewide: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY** from the **Superstratum** drop-down filter.

24.2 All Other Lands in Wyoming

All Other Lands in Wyoming

We obtained results for All Other Lands in Wyoming by compiling and jointly analyzing data from four strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 222 point counts within the 22 surveyed grid cells between May 21 and June 25. They detected 145 bird species, including 29 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 200 species that were detected in any year during which surveys were conducted, 51 of which are priority species. The data yielded robust density estimates (CV < 50%) for 33 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Wyoming for 200 species that were detected in any year during which surveys were conducted, 51 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 39 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Wyoming across all years of the project, visit the RMADC.

> On the Explore the Data tab, select **WY-All Other** from the **Superstratum** drop-down filter.

24.3 Wyoming BCR 10: Total

Wyoming BCR 10: Total

We obtained results for Wyoming BCR 10: Total by compiling and jointly analyzing data from 23 strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 919 point counts within the 73 surveyed grid cells between May 23 and July 20. They detected 174 bird species, including 35 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 208 species that were detected in any year during which surveys were conducted, 56 of which are priority species. The data yielded robust density estimates (CV < 50%) for 60 species.

Bird Conservancy estimated the proportion of occupied plots throughout Wyoming BCR 10: Total for 208 species that were detected in any year during which surveys were conducted, 56 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 77 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Wyoming BCR 10: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR10** from the **Superstratum** drop-down filter.

All Other Lands in Wyoming BCR 10

We obtained results for All Other Lands in Wyoming BCR 10 by compiling and analyzing data from one stratum.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 83 point counts within the 7 surveyed grid cells between May 23 and June 25. They detected 106 bird species, including 19 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 170 species that were detected in any year during which surveys were conducted, 36 of which are priority species. The data yielded robust density estimates (CV < 50%) for 8 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Wyoming BCR 10 for 173 species that were detected in any year during which surveys were conducted, 38 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 12 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Wyoming BCR 10 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR10-AO: All Other Lands** from the **Stratum** drop-down filter.

24.4 Wyoming BCR 16: Total

Wyoming BCR 16: Total

We obtained results for Wyoming BCR 16: Total by compiling and jointly analyzing data from four strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 235 point counts within the 20 surveyed grid cells between May 28 and July 15. They detected 98 bird species, including 14 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 169 species that were detected in any year during which surveys were conducted, 39 of which are priority species. The data yielded robust density estimates (CV < 50%) for 33 species.

Bird Conservancy estimated the proportion of occupied plots throughout Wyoming BCR 16: Total for 169 species that were detected in any year during which surveys were conducted, 39 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 35 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Wyoming BCR 16: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR16** from the **Superstratum** drop-down filter.

All Other Lands in Wyoming BCR 16

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 32 point counts within the 4 surveyed grid cells between May 28 and June 17. They detected 45 bird species, including 7 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 118 species that were detected in any year during which surveys were conducted, 23 of which are priority species. The data yielded robust density estimates (CV < 50%) for 4 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Wyoming BCR 16 for 118 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 4 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Wyoming BCR 16 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR16-AO: All Other Lands** from the **Stratum** drop-down filter.

24.5 Wyoming BCR 17: Total

Wyoming BCR 17: Total

We obtained results for Wyoming BCR 17: Total by compiling and jointly analyzing data from six strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 244 point counts within the 22 surveyed grid cells between May 20 and June 7. They detected 118 bird species, including 22 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 178 species that were detected in any year during which surveys were conducted, 43 of which are priority species. The data yielded robust density estimates (CV < 50%) for 14 species.

Bird Conservancy estimated the proportion of occupied plots throughout Wyoming BCR 17: Total for 178 species that were detected in any year during which surveys were conducted, 43 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 20 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Wyoming BCR 17: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR17** from the **Superstratum** drop-down filter.

All Other Lands in Wyoming BCR 17

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 53 point counts within the 7 surveyed grid cells between May 21 and June 7. They detected 80 bird species, including 15 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 150 species that were detected in any year during which surveys were conducted, 33 of which are priority species. The data yielded robust density estimates (CV < 50%) for 8 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Wyoming BCR 17 for 150 species that were detected in any year during which surveys were conducted, 33 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 11 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Wyoming BCR 17 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR17-AO: All Other Lands** from the **Stratum** drop-down filter.

24.6 Wyoming BCR 18: Total

Wyoming BCR 18: Total

We obtained results for Wyoming BCR 18: Total by compiling and jointly analyzing data from three strata.

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 103 point counts within the 8 surveyed grid cells between May 22 and June 11. They detected 83 bird species, including 19 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 114 species that were detected in any year during which surveys were conducted, 29 of which are priority species. The data yielded robust density estimates (CV < 50%) for 5 species.

Bird Conservancy estimated the proportion of occupied plots throughout Wyoming BCR 18: Total for 114 species that were detected in any year during which surveys were conducted, 29 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 8 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within Wyoming BCR 18: Total across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR18** from the **Superstratum** drop-down filter.

All Other Lands in Wyoming BCR 18

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

Field technicians completed all planned surveys (100%) in 2025. Technicians conducted 54 point counts within the 4 surveyed grid cells between May 22 and June 11. They detected 67 bird species, including 17 priority species.

Bird Conservancy estimated densities (birds per square kilometer) for 106 species that were detected in any year during which surveys were conducted, 25 of which are priority species. The data yielded robust density estimates (CV < 50%) for 5 species.

Bird Conservancy estimated the proportion of occupied plots throughout All Other Lands in Wyoming BCR 18 for 106 species that were detected in any year during which surveys were conducted, 25 of which are priority species. The data yielded robust occupancy estimates (CV < 50%) for 8 species.

> **View results on the Rocky Mountain Avian Data Center**
> To view a map of approximate survey locations, species counts, and density, occupancy, & trend estimates within All Other Lands in Wyoming BCR 18 across all years of the project, visit the RMADC.
>
> On the Explore the Data tab, select **WY-BCR18-AO: All Other Lands** from the **Stratum** drop-down filter.

25 Data Applications

Each year, we collect breeding bird information in the Great Plains, Rocky Mountains, and Intermountain West and estimate occupancy, density, and population trend at a variety of spatial scales or strata. This information is used in a variety of ways by IMBCR partners and their biologists to inform avian conservation and management decisions, such as:

State agency partners

> **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 or can even be removed from priority lists.

Federal agency partners

> The **Bureau of Land Management** (BLM) uses 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 determining 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 and desired conditions within a unit's Land Management Plan, and to support larger processes under Forest Plan revision, such as identifying and assessing species of conservation concern.
>
> The **Department of Defense** (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.

25.1 Overlay Projects

IMBCR partners also implement overlays, or targeted monitoring projects, to address specific management questions or evaluate conservation efforts. 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:

> We 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.
>
> Read the publication about the Atlantic Rim project.

> We examined community-level effects and bird species relationships with forest restoration treatments under the **USFS's Collaborative Forest Landscape Restoration Program** implemented across the Front Range in Colorado.
>
> Read the results in *Ecological Applications*

> Audubon 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.
>
> Read more in *Diversity and Distributions*

25.2 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.

Special Feature - Conservation & Management

Canyon Wren, a Species of Greatest Information Need in Colorado, by Gregory Smith.

On this page

Using IMBCR Trends to Assess the Status of Species across Scales

Bird populations in North America have declined precipitously over the last 50 years (Rosenberg et al. 2019). Monitoring the status of both species of concern and formerly common but declining species is thus an important objective for management agencies. However, while national trends can help inform broad priorities and sound the alarm on range-wide declines, management typically occurs at smaller scales, such as within a National Forest.

The IMBCR program has now collected avian occurrence and density data throughout the western United States for up to 18 years in some regions. These data enable the program to provide critical trend information on bird populations at multiple scales, from individual management units to state or region-wide. Below, we highlight two examples of these data for managers and decision-makers to monitor both existing priority species and common species in decline by accessing data via our recently updated Rocky Mountain Avian Data Center (RMADC). See also Bernath-Plaisted et al. 2025 for additional details about the value of multiscale trends for tracking common species in decline and species of concern, and informing management decisions at relevant scales. We also include an example of Colorado Parks and Wildlife using IMBCR trends to revise their 2025 State Wildlife Action Plan.

The Canyon Wren is not recognized as a species of concern in most western states, although Wyoming Game and Fish Department classified it as a Tier 3 Species of Greatest Conservation Need in 2017. In Colorado, Canyon Wren has declined statewide according to IMBCR trends (about 6% per year since 2008) and these declines are evident on private land and BLM land. However, the cause of these declines is not clear, particularly what could be changing in their preferred habitat of steep, rocky landscapes. Thus, Colorado Parks and Wildlife (CPW) added Canyon Wren to their recently updated State Wildlife Action Plan as a Species of Greatest Information Need. This

will allow CPW to further investigate these population losses and determine what management efforts could benefit the species.

On this page

The Bobolink is a grassland-obligate and Road to Recovery tipping point species that has experienced long term population declines (https://r2rbirds.org/tipping-point-species/). Along with other grassland birds, Bobolink populations have faced a loss in habitat from landscape changes, such as agricultural conversion, woody encroachment, and more recently energy development (Bernath-Plaisted et al. 2023). Throughout the Northern Great Plains, IMBCR data show variation in population trends at different scales. For example, populations in some USFS grassland units, like Cedar River National Grassland in North Dakota and Grand River National Grassland in South Dakota, have declined 8-9%/yr since 2013. In southeastern Montana, Bobolink populations have increased 12-16%/yr on privately owned and BLM-managed lands, and at the BCR17-scale, populations have increased about 3%/yr since 2009. Knowing this spatial variation in trend for Bobolink, or other species of concern, can help prioritize management efforts in places with decreasing populations, while targeting increasing populations for grassland conservation (Bernath-Plaisted et al. 2025).

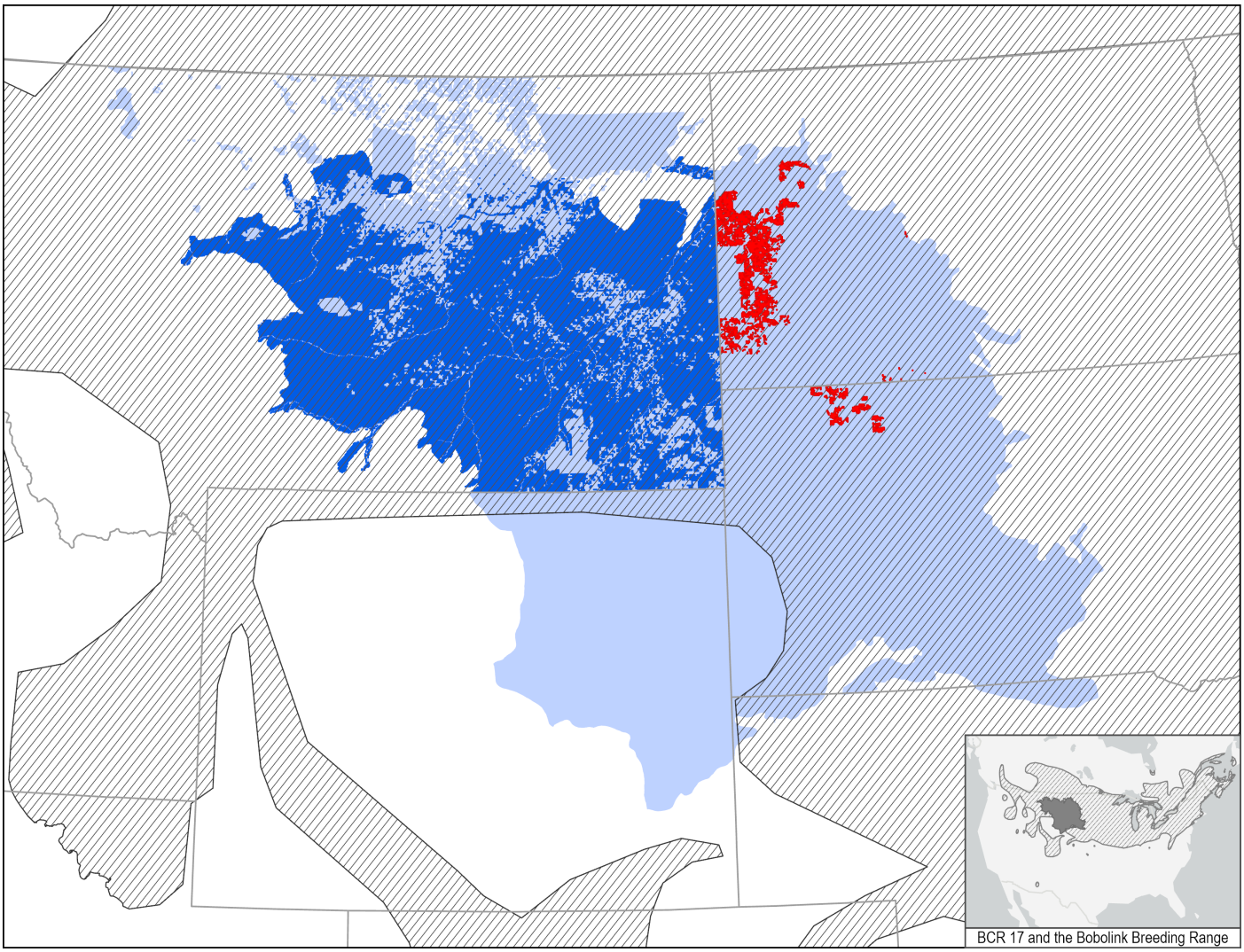


Figure 26.1: Increasing Bobolink trends shown in blue and decreasing trends shown in red with the Bobolink breeding range shown in cross-hatch (http://datazone.birdlife.org/species/requestdis). Dark blue or red areas indicate individual strata (e.g., Little Missouri National Grassland), while light-colored areas indicate superstrata (e.g, BCR17).

Visit the RMADC to view trends for species of interest in your management area (click on “Explore the Data” to select filters of interest). IMBCR estimates are available for numerous focal areas or “strata”, where partners have

invested in monitoring, such as the Bighorn National Forest in Wyoming. The “Superstratum” filter is helpful to find trends for broader regions or statewide (e.g., the BCR18-portion of Colorado) that provide context for individual strata. Filter trends by f-value >0.9 to view only robust estimates; these estimates are highlighted in yellow and estimates with a more stringent threshold of f >0.975 are shown in gold. Increasing trends are highlighted in blue, while decreasing trends are shown in red. Please note, we now provide two trend metrics: trend based on the annual density estimates and trend based on occupancy estimates. Although density and occupancy have different units, trend on either is interpreted the same way: as the percent population change per year during the monitoring period. Visit the “Tutorial” page for additional information on using the site and interpreting the estimates.

27 Conclusions

The availability of consistent monitoring data at multiple scales is an important challenge for avian conservation (Ruth et al. 2003). The IMBCR program meets this challenge through its probabilistic, nested design, which allows for inference to multiple scales of interest, from National Grasslands to states to BCRs (Pavlacky et al. 2017, Bernath-Plaisted et al. 2025). With this design, we can model habitat relationships to evaluate species' responses to local management actions and predict species' distributions for landscape prioritization. Stratification based on eco-regional boundaries and other fixed attributes is also a critical feature of the IMBCR program because it allows for the evaluation of long-term avian responses to landscape and climate change (Metzger et al. 2013, Pavlacky et al. 2017).

The importance of long-term population monitoring at larger spatial scales is well known (Jones, 2011, Thompson et al. 1998), but it is often cost-prohibitive. The IMBCR program reduces expenses through cooperation with multiple partners, one of the stated goals of effective collaboration and coordinated bird monitoring (NABCI Monitoring Subcommittee 2007), and also through efficiencies in data collection and analyses. Partners can investigate priority species and management questions with slight modifications to the IMBCR design, further reducing costs associated with developing new studies and monitoring programs. These cost savings allow for an increased sampling effort and/or for the development of decision support tools to aid land managers and conservation practitioners on the ground. Based on the spatially balanced design, the IMBCR program can also accommodate a shortage of monitoring funds in certain years or strata without reducing the overall rigor of the program (Stevens Jr. & Olsen 2004).

The IMBCR program is well-positioned to address the conservation and management needs of a wide range of stakeholders due to its rigorous, hierarchical design and the strength of the IMBCR partnership. This partnership is an ongoing collaboration between multiple entities from state and federal agencies to non-governmental organizations and Joint Ventures, and was created to address management and conservation objectives of larger avian programs like NABCI (US NABCI Monitoring Subcommittee, 2007). Through the IMBCR partnership, monitoring resources are pooled, creating efficiencies and allowing for inference to larger landscapes (Pavlacky et al. 2017). By providing essential knowledge of bird populations at multiple scales relevant to management and conservation, the IMBCR program informs prioritization of management actions and facilitates a collaborative approach to bird conservation (Ruth et al. 2003, Pavlacky et al. 2017).

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Appendix A — Rocky Mountain Avian Data Center Tips

Overview

All results, including parameter estimates, distribution maps, raw count data and effort, are available online. To view interactive maps showing survey and detection locations, as well as species counts, and density, population and occupancy results using the IMBCR study design please visit the Rocky Mountain Avian Data Center. Click on the "Explore the Data" tab to view IMBCR results.

Please note that the RMADC 2.0 is new and still in progress.

Selecting filters

The Rocky Mountain Avian Data Center has been designed to provide information for specific regions and species, and therefore, works best when users select multiple filters for a query.

For example, to view all IMBCR results for Brewer's sparrow in Colorado, you would select the following filters: Species = Brewer's Sparrow and State = Colorado. Below is an explanation of the different filter types you may choose from.

> **Tip**
>
> To navigate the filters, it's helpful to use this report to determine the **Stratum** or **Superstratum** relevant to you. Click on the relevant agency or geographic region on the sidebar on the left side of this page, then use the "On this page" menu to choose a management unit. The relevant Stratum or Superstratum will be listed in a callout block like this one.

Geographic filters

Bird Conservation Region: Selecting this filter will provide you with results for all strata and superstrata within a particular Bird Conservation Region - see Figure 5.1 for a map.

State: Selecting this filter will supply the user with data and results for all strata and superstrata within a particular state.

Land Management Agency: This filter will allow users to select data and results for several land management agencies, such as US Bureau of Land Management (BLM), US Department of Defense (DOD), US Fish and Wildlife Service (USFWS), US Forest Service (USFS), and National Park Service (NPS).

Stratum (eg, management unit): This filter allows users to select data and results for a geographic unit of analysis, often an individual management unit like Bighorn National Forest.

Superstratum (eg, region): This filter allows users to select data and results for multiple strata that were analyzed jointly. Superstrata often represent regions or entire states (e.g., the state of Colorado is split into 30 individual

strata), but sometimes management units are stratified by management features and analyzed as a superstratum (e.g., Bridger-Teton National Forest is split into two strata reflecting roadless and roaded areas).

Other filters

Species: This filter allows users to select data and results for a particular or group species.

Year: This filter will allow users to select all data and results for a particular year.

Viewing Maps and Counts (Map Tab)

What is displayed

The map displays approximate survey locations corresponding to a set of filters. If you filtered by species, black circles represent survey locations where that species was not detected and pink circles represent survey locations where that species was detected.

By default, the zoom capability of the maps page is restricted to protect the privacy of private landowners. Funding and/or implementation partners wishing for more precise location information should email Jennifer Timmer.

The table below the map displays a count of the number of individuals detected for each individual survey.

Adding map layers

Selecting a Bird Conservation Region or a Stratum filter will display the boundary for that geographic extent.

Viewing Density, Occupancy and Trend Results (Density, Occupancy, and Trend Estimates Tabs)

Viewing Tables

You may view density, occupancy or trend tables for all appropriate strata (based on the selected filters) for which we have results, by clicking on the tabs above the map labeled “Density”, “Occupancy” or “Trend”.

The density tables display stratum name, species, year, density (number of birds estimated per km^2 within the stratum), percent coefficient of variation (% CV, an indicator of reliability for the estimate), the number of independent detections used in analyses, and the total abundance of individuals estimated within the stratum (i.e., density x stratum area). The occupancy tables display stratum name, species, year, occupancy (probability that sampling plots are occupied by at least 1 individual of a species), % CV, and number of surveyed points the species was detected on. We classify density and occupancy estimates as “robust” if the CV is < 50% (these records will be highlighted in gold in the tables).

The trend tables display the stratum name, species, years (i.e., the monitoring period), and then two sets of trend estimates: trend based on the annual density estimates and trend based on the annual occupancy estimates. Trend for density and occupancy is interpreted as the percent change per year of the monitoring period. Increasing trends are shown in blue and decreasing trends are shown in red. The “f” value for both trends is the probability

that the trend is in the direction of the reported % change. For example, if a trend estimate is 5.5 and the f value is 0.95, this means the population has increased 5.5% each year of the monitoring period and we are 95% certain the population has increased. Robust trends have an f value > 0.9 and these records are highlighted in yellow in the trend tables. Some partners prefer to use a more stringent cut-off of f > 0.975, and these records are highlighted in gold. The 95% CI is the 95% credible interval, which contains the true population trend with 95% certainty. 95% CIs which do not overlap zero are equivalent to f > 0.975. Note that trend estimates with an f value between 0.9-0.975, although robust, will have 95% CIs that overlap 0. This is because f > 0.9 is equivalent to an 80% CI that does not overlap 0.

Stratum and Superstratum Results

Density, occupancy, and trend estimates will always be displayed by individual strata in the top table and by superstrata that the individual strata contribute to in the bottom table. If you use the “Stratum” filter to select an individual management unit, estimates for all relevant superstrata will be included in the table below for regional context. If you use the “Superstratum” filter to select a region or state, estimates for all individual strata contained within that superstratum will be included in the top table. This provides automatic context for local populations with regional populations. For example, use the Stratum filter to select WY-BCR10-BI: Bighorn National Forest, and the top table will show estimates for Bighorn National Forest. The bottom table will show estimates for 3 main superstrata that Bighorn NF is part of: statewide in Wyoming, the BCR10-portion of WY, and USFS-Region 2 National Forests.

Download results of your query

You may easily download the results of your query as a CSV file by clicking the “Download” button below each table. You can also click the “i” button above each table for an explanation of what’s shown in that table. If you wish to include a table of estimates in a report, you can copy and paste this information bubble to use as a table caption.

Viewing the Density Charts

When viewing the density charts, the point estimate of density for a given year is indicated with a circle, and the error bars represent the 95% credible interval. We will include occupancy charts in future RMADC updates.

Appendix B — IMBCR Program and Stratification History

In 1995, Bird Conservancy of the Rockies (Bird Conservancy; formerly Rocky Mountain Bird Observatory), in partnership with Colorado Parks and Wildlife (CPW; formerly Colorado Division of Wildlife), the United States Forest Service (USFS), the Bureau of Land Management (BLM) and the National Park Service (NPS), began efforts to create and conduct a Colorado-wide program to monitor breeding bird populations. This was the first attempt in the nation to develop and implement a statewide landbird monitoring program. After a successful pilot year in 1998, Bird Conservancy implemented the protocol in 13 habitats in Colorado in 1999. Bird Conservancy and its partners used this methodology for 10 years and expanded the effort to include parts of Arizona, New Mexico, North Dakota, South Dakota, Utah, and Wyoming.

In 2007, the NABCI Monitoring Subcommittee published “Opportunities for Improving Avian Monitoring” (NABCI Monitoring Subcommittee, 2007) which offered recommendations for improving the efficiency and effectiveness of avian monitoring in North America. After taking NABCI’s recommendations into consideration, IMBCR partners developed a new study design and protocol for statewide bird monitoring in Colorado. The new study design used BCRs as the sampling frame and further stratified by land ownership within each BCR.

2008

IMBCR partners stratified and surveyed the Southern Rockies/Colorado Plateau BCR (BCR 16) and the Shortgrass Prairie BCR (BCR 18) portions of Colorado, as well as the BCR 16 portion of Wyoming. Furthermore, in Colorado BCR 16, we used cell weighting to target high order rivers and streams (based on Strahler stream order) and higher elevation habitats (e.g. alpine tundra), which occur in a small proportion of the landscape (Blakesley & Hanni, 2009).

2009

After the 2008 season, IMBCR partners determined the cell weighting had caused middle-elevations in Colorado to be under-sampled. To correct this, all strata in the Colorado and Wyoming portions of BCR 16 were re-stratified without cell weighting. Additionally, the All Other Lands stratum in Wyoming BCR 16 was split into two strata: All Other Lands and BLM Lands.

Based on the overall success of the pilot implementation, IMBCR expanded to include the Colorado and Wyoming portions of the Northern Rockies (BCR 10); the Great Basin (BCR 9) and BCR 18 portions of Wyoming; all of the Badlands and Prairies (BCR 17); the USFS National Forests and Grasslands within BCR 18; and Coconino and Prescott National Forests in the Sierra Madre Occidental (BCR 34).

2010

The program expanded to include the BCR 10 and the Prairie Potholes BCR (BCR 11) portions of Montana, three national forests in the Idaho portion of BCR 10 and Kaibab National Forest in BCRs 16 and 34. Additionally, there were several re-stratifications done in Colorado BCRs 10 and 16 between 2009 and 2010. The Colorado BCR 10 stratum was re-stratified to include the small easternmost portion of BCR 10 that dips into Colorado so all Colorado BCR 10 lands are represented. The "NPS Rocky Mountain Inventory and Monitoring Network (RMNW)" and "Northern Colorado Plateau Inventory and Monitoring Network (NCPN)" were re-stratified because some NCPN park units were initially misclassified into the RMNW stratum. In Wyoming, the USFS Region 4 stratum was re-stratified into three separate strata: "Bridger-Teton National Forest front-country/managed areas", "Bridger-Teton National Forest designated roadless/wilderness areas" and "the remainder of USFS Region 4 lands in Wyoming BCR 10". This re-stratification was done to allow for density and occupancy estimation specifically for the Bridger-Teton National Forest.

2011

The geographic extent of the IMBCR program expanded to the Nebraska portion of the Central Mixed Grass Prairie (BCR 19) and included all of the national forests and grasslands in Nebraska. Additionally, there were several re-stratifications done in Colorado. The Colorado BCR 10 stratum was split into two strata: BLM Lands and All Other Lands. This was done to facilitate improved tracking of priority species on BLM lands throughout Colorado. Rio Grande National Forest and White River National Forest strata were each split into three strata: low, medium, and high elevations. This stratification by elevation allowed sampling intensity changes to target Management Indicator Species on the forests. The Routt National Forest and Arapaho and Roosevelt National Forests strata were reorganized and a third stratum, the Williams Fork Area, was created from the two because it had mixed administration between the Routt National Forest and the Arapahoe and Roosevelt National Forests.

The RMNW stratum was re-stratified to accurately reflect land ownership. There was a land acquisition within Great Sand Dunes National Monument and some samples were removed from Rio Grande National Forest and added to the RMNW stratum; 16 km^2 were added to the area of the RMNW strata. In South Dakota, the Black Hills National Forest stratum was split into two strata based on watersheds in the Forest: Hydrologic Code 7 Watersheds and all other watersheds. Stratification by watershed allows for adjusting sampling intensity to target Management Indicator Species on the Forest.

2012

In 2012, we added four strata in Idaho to account for all of BCR10 within the state. We took into account the boundary between USFS Regions 1 and 4, which runs through Idaho, when stratifying so estimates could be generated at the USFS Region level. The new strata include "All Other Lands in the Region 1 portion of Idaho BCR 10" (all lands outside of national forest boundaries), "All Other Lands in the Region 4 portion of Idaho BCR 10" (all lands outside of national forest boundaries), "other USFS lands in the Region 1 portion of Idaho BCR 10" and "USFS designated roadless/wilderness areas within the Region 4 portion of Idaho BCR 10". In Arizona, Tonto National Forest became a part of the IMBCR survey effort. The forest was stratified into two strata based on elevation to allow sampling intensity changes to target Management Indicator Species on the Forests. Kaibab National Forest was re-stratified into two strata based on elevation for the same reason. In Montana, several strata were re-stratified and combined within BCR 17. The three "All Other Lands" strata were combined with the "Tribal Lands"

stratum into one “All Other Lands” stratum. The four BLM strata within Montana BCR 17 were combined into one BLM stratum. These strata were collapsed into larger strata to maximize the number of samples conducted within two strata rather than spread them out amongst eight strata.

2013

2013 brought significant changes to the program’s overall stratification methods. The original IMBCR sampling grids were created at the state scale and as the program expanded, additional sampling grids were created at the BCR scale. In response to a rapidly growing monitoring program, the partnership acknowledged the need for a standard national grid system to promote the coordination and application of monitoring data in conservation. The group proposed the use of the United States National Grid (USNG), a national grid system created by the Federal Geographic Data Committee, as its standard. There are three advantages to using the USNG. First, the use of standard grids allows for the integration of datasets and subsequent identification of areas where sampling should or has not occurred. Second, it provides a means to identify sampled areas in a consistent manner so results of monitoring projects can be evaluated in a spatially comparable way. Lastly, it facilitates regional and national-level avian distribution modeling and the development of broad-scale avian distribution maps. This standard was approved by the NABCI committee. Bird Conservancy started using the USNG for new stratification and re-stratification schemes in 2013.

We added several USFS strata to the sampling frame for the 2013 field season – Coronado National Forest in southern Arizona, Carson National Forest in north-central New Mexico, and Caribou-Targhee National Forest in southeastern Idaho. Coronado and Carson National Forests were stratified into two strata based on elevation to allow for adjusting sampling intensity to target Management Indicator Species on the Forests. Because Caribou-Targhee National Forest spans three states and three BCRs, it was necessary to divide the forest into four strata. The state and BCR-level stratification distinctions allowed the summation of the data for individual states or BCRs. The four new strata in Idaho and Utah join a preexisting Caribou-Targhee stratum in west-central Wyoming as a part of Wyoming’s statewide effort. In addition, Pawnee National Grassland was split into two strata – public lands and private lands – since Pawnee National Grassland contains a large amount of private land within its administrative boundary. This allowed the USFS to concentrate more survey effort specifically on public lands. In Wyoming, the preexisting stratum in BCR 10 containing all USFS Region 4 lands (other than Bridger-Teton National Forest) was re-stratified into three separate strata, one for each Forest (Caribou-Targhee, Ashley, and Wasatch). This allows for forest-wide estimates within Caribou-Targhee National Forest. If, in the future, Ashley and Wasatch National Forests are completely sampled, this will also allow for forest-wide estimates in each of those forests.

The North Dakota, South Dakota, and Nebraska portions of BCR 17 underwent a complete re-stratification to incorporate several NPS Northern Great Plains Inventory and Monitoring Network (NGPN) strata. All of the non-NPS strata in these states were retained, but renamed to avoid confusion. The NPS strata were stratified by NPS unit to allow the NGPN to monitor birds on each of its units separately. New strata included Knife River Indian Villages National Historic Site, Theodore Roosevelt National Park, Badlands National Park, Jewel Cave National Monument, Mount Rushmore National Monument, and Wind Cave National Park.

Nebraska BCR 18 also underwent a complete re-stratification to allow for the individual stratification of Agate Fossil Beds and Scotts Bluff National Monuments. We also added an additional stratum for Cherry Ranch, a property owned by The Nature Conservancy (TNC).

2014

In Colorado, the Arapaho and Roosevelt and the Pike and San Isabel National Forests were re-stratified to allow these forests to monitor treatments intended to mitigate fire hazard and improve forest health. We divided each forest into two strata: a control stratum and the remainder of the forest. The control portion of the Arapaho and Roosevelt National Forests consists of lands ranging in elevation from 6,000 ft. (1,829 m) to 9,000 ft. (2,743 m) and excludes treatment areas and areas burned between 1998 and 2013. The Pike and San Isabel control stratum ranges from 6,000 ft. (1,829 m) to 9,500 ft. (2,896 m) and excludes treatment areas and areas burned between 1998 and 2013. We created a single experiment overlay stratum for all of Arapaho and Roosevelt and Pike and San Isabel National Forests consisting of actual treatment areas (areas with >30% treatment). Since this stratum spans multiple forests, it is not considered to be a part of the IMBCR design; however, detections from this stratum do contribute to the number of detections used in analyses.

Significant stratification changes were made to the BCR 10 portion of Idaho. The four strata defined in the 2012 field season were further subdivided into nine strata. The boundary between USFS Regions 1 and 4 runs through Idaho and was taken into account when re-stratifying so that estimates could be generated at the USFS Region level. The new strata created in Idaho BCR 10 include the “Idaho portion of Bitterroot National Forest”, “BLM Lands within Idaho BCR10”, “Boise National Forest”, “the Idaho portion of Kootenai National Forest”, “Payette National Forest”, “Salmon-Challis National Forest”, “Sawtooth National Forest”, “All other Lands within Idaho BCR 10 and USFS Region 1” (all lands outside of national forest and BLM boundaries) and “All Other Lands within Idaho BCR 10 and USFS Region 4” (all lands outside of national forest and BLM boundaries). Since Bitterroot and Kootenai National Forests span Idaho and Montana, 2014 density and occupancy estimates for those forests included strata from both states. In the past, “forest-wide” estimates have only represented the Montana portion of these forests.

We subdivided the US Fish and Wildlife Service (USFWS) strata in Montana BCRs 11 and 17 to allow density and occupancy estimation specifically within the Charles M. Russell National Wildlife Refuge. Previously, we grouped all USFWS lands together in these BCRs, limiting estimates for individual refuges. In each BCR, we created two new strata – a Charles M. Russel NWR stratum and an “All Other USFWS Lands” stratum.

In addition to re-stratification, we added a few new strata to the IMBCR program in 2014. In Nebraska, NGPN began monitoring on the Niobrara National Scenic River spanning BCRs 17 and 19. In Utah, we created a new stratum for Manti-La Sal National Forest. Previously, only the Colorado portion of Manti-La Sal was stratified and surveyed. The additional Utah portion allows for the generation of forest-wide estimates for Manti-La Sal.

2015

In 2015, the Department of Defense (DoD) stratum in Colorado BCR 18 was completely re-stratified as part of a DoD Legacy Resource Management Program Grant to represent six individual military installations: US Air Force Academy, Fort Carson, Pueblo Chemical Depot, Piñon Canyon, and All Other DoD Lands. This DoD installation-level stratification allows for the generation of density and occupancy estimates for each installation. Fort Carson and Piñon Canyon were further stratified by areas within range fans (training zones) and areas outside of range fans to allow the DoD to assess the effects of military training on bird species.

The Rocky Mountain Arsenal National Wildlife Refuge stratum also came out of the 2015 re-stratification. During WWII, the Rocky Mountain Arsenal, as it was originally known, was a chemical weapons manufacturing facility. At

the time of the 2008 IMBCR stratification in the state Colorado, it was still partially owned by the US Army and was included in the DoD stratum. The refuge is now in its own individual stratum.

The IMBCR program expanded to include the Missouri National Recreational River (MNRR), part of the NPS NGPN in Nebraska and South Dakota. There are two strata for MNRR representing the 39 Mile District and the 59 Mile District. In Utah, an additional stratum was added for Sanpitch Recreation Area. This area is part of Uinta National Forest but administered by Manti-La Sal National Forest and will be incorporated into forest-wide estimates for Manti-La Sal National.

2016

In 2016, the Playa Lakes Joint Venture (PLJV) coordinated a partnership between several state wildlife agencies and Bird Conservancy to expand sampling in five of the joint venture's six states: Nebraska, Kansas, New Mexico, Oklahoma, and Texas. PLJV's sixth state, Colorado, was already included in the IMBCR program starting in 2008. This expansion now provides the program with nearly complete coverage of two BCRs that were only sparsely covered in past years: Shortgrass Prairie (BCR 18) and Central Mixed Grass Prairie (BCR 19). The BCR 18 and 19 portions of these 5 states were divided into several strata, including, playas, rivers, biologically unique landscapes in Nebraska, and all other lands.

The IMBCR program also underwent a major expansion into the state of Utah in 2016. The entire state was stratified into BLM, USFS, DoD, and All Other Lands strata. This year was somewhat of a pilot year, with select BLM, USFS, DoD, and all other lands strata sampled across the state. In future years, sampling will be increased to a statewide level.

In addition to new strata, some existing strata were re-stratified for a variety of reasons. In North and South Dakota, we re-stratified the Tribal and All Other Lands strata to ensure all tribal lands were only included in the tribal lands strata. In the past, some tribal lands could still be found within the All Other Lands strata. We also re-stratified Cimarron, Kiowa, and Rita Blanca National Grasslands in Kansas, Oklahoma, New Mexico, and Texas. With the expansion of IMBCR throughout the PLJV region, these strata needed to be fit to the US National Grid to make them consistent with the rest of the IMBCR program in the region. In addition, we determined that the portion of Rita Blanca National Grassland that fell in New Mexico was actually managed by Kiowa National Grassland, so that portion was moved to the Kiowa National Grasslands stratum. All DoD lands in Colorado BCR18 were combined into one stratum. This was the same stratification used prior to 2015.

2017

In 2017, the IMBCR program expanded to include Humboldt-Toiyabe National Forest in two new states, Nevada and California. This, coupled with an expansion into national forests in Idaho BCR 9 and Utah yielded complete coverage of USFS lands at the regional level for USFS Region 4. Idaho also experienced a significant expansion with statewide coverage of BLM lands. In a concerted effort from several implementation partners, Utah sampling included statewide coverage, including several new BLM Field Offices, All Other Lands in BCR 10, and remaining Region 4 National Forests We also obtained complete coverage of BCR 18 for the first time by expanding into the BCR 18 portion of South Dakota.

USFWS strata in Montana BCR 11 and BCR 17 were re-combined in 2017 and reverted back to their pre-2014 areas. In Idaho, BLM Four Rivers Field Office in BCR 9 was split into two strata, incorporating the boundaries of Morley Nelson Snake River Birds of Prey National Conservation Area into the design. Additionally, we resampled All Other Lands in Nebraska BCR 17 to include eastern areas not included in the sampling frame from 2013-2016.

2018

In 2018, several Montana strata were combined to help produce statewide estimates. In BCR 10, the All Other Lands, Fish and Wildlife Service, National Park Service, Rivers, Blackfeet and Crow Reservations, and Flathead Reservation strata were combined into a single All Other Lands Stratum. In Montana BCR 11, we collapsed the Fish and Wildlife Service and Tribal Lands strata into a single Fish and Wildlife Service and Tribal Lands stratum. Two strata in Montana BCR 17, Fish and Wildlife Service and Rivers, were combined into a single Fish and Wildlife Service and Rivers stratum.

Additionally, Agate Fossil Beds National Monument and Scotts Bluff National Monument in Nebraska BCR 18 were combined into a single National Park Service Lands Stratum. In South Dakota BCR 17, the Badlands National Park - South Unit and Tribal Lands strata were combined into a single, new Tribal stratum, and Jewel Cave National Monument and Mount Rushmore were also collapsed into one National Park Service lands stratum.

Finally, Department of Defense strata in Utah were completely re-stratified to better assess the effects of military training on bird species.

2019

In 2019, the IMBCR program expanded to include all BLM lands in BCR 9 in California, Nevada, and Oregon. Great Basin Bird Observatory, Klamath Bird Observatory, and Point Blue conducted the field work in these new areas. This expansion improved coverage of sagebrush-steppe habitat.

The National parks strata in Nebraska and South Dakota that were collapsed in 2018 were separated into individual park units again in 2019 as they were in years previous to 2018. The individual park strata are Agate Fossil Beds National Monument and Scotts Bluff National Monument in Nebraska and Jewel Cave National Monument and Mount Rushmore in South Dakota.

2022

In 2020, several strata were combined in North Dakota and South Dakota to maintain BCR 17-wide estimates. In North Dakota, the Tribal Lands stratum and the All Other Lands stratum were collapsed into a single All Other Lands stratum. Similarly, in South Dakota, the Tribal Lands stratum and the All Other Lands stratum were collapsed into a single All Other Lands stratum.

In Nebraska, the BCR 18 All Other Lands stratum, Pineridge Biologically Unique Landscape stratum, Sandsage Prairie Biologically Unique Landscape stratum, and Wildcat Hills Biologically Unique Landscape stratum were combined into a single Nebraska BCR 18 All Other Lands stratum. We changed this stratification because those specific Biologically Unique Landscape strata were no longer of interest to the Nebraska partners.

2021

In 2021, IMBCR expanded to include BCR 10 BLM lands in the Burns, Prineville, and Vale Districts.

2022

In 2022, we combined several strata within two National Forests in Colorado that had previously been created to serve as control strata for an overlay project. In Arapaho Roosevelt National Forest we combined the Arapaho Roosevelt National Forests All Other stratum (CO-BCR16-VO) and the Arapaho Roosevelt National Forests Control (CO-BCR16-RC) stratum into a single stratum for the forest (CO-BCR16-AR). In Pike-San Isabel National Forest we combined the Pike San Isabel National Forests All Other (CO-BCR16-PO) stratum and the Pike and San Isabel National Forests Control (CO-BCR16-PC) stratum into a single stratum for the forest (CO-BCR16-PS). In South Dakota, the Black Hills National Forest - Hydrologic Code 7 Watersheds (SD-BCR17-HU) stratum and the Black Hills National Forest - All other Watersheds (SD-BCR17-BF) stratum were combined into a single Black Hills National Forest stratum (SD-BCR17-BI). This change was made to help maintain survey coverage of the forest.

2023

In 2023, we split BLM lands within Colorado into separate strata for each BLM field office. To do this we retired CO-BCR16-BL (Bureau of Land Management lands in BCR16) and CO-BCR10-BL (Bureau of Land Management lands in BCR10). We then created new strata for each BLM field office and BCR combination. These new strata are CO-BCR10-KR (BCR10 Kremmling Field Office), CO-BCR16-KR (BCR16 Kremmling Field Office), CO-BCR10-LS (BCR10 Little Snake Field Office), CO-BCR16-LS (BCR16 Little Snake Field Office), CO-BCR10-WR (BCR10 White River Field Office), CO-BCR16-CR (Colorado River Valley Field Office), CO-BCR16-GJ (Grand Junction Field Office), CO-BCR16-GU (Gunnison Field Office), CO-BCR16-RG (Royal Gorge Field Office), CO-BCR16-SL (San Luis Valley Field Office), CO-BCR16-TR (Tres Rios Field Office), CO-BCR16-UN (Uncompahgre Field Office), CO-BCR16-WR (White River Field Office).

2024

In 2024, we expanded sampling to cover all National Forests within USFS Region 3. We created new strata in forests that had not previously been stratified. These new strata are AZ-APSIT-AH (Apache-Sitgreaves National Forest - High Elevation), AZ-APSIT-AL (Apache-Sitgreaves National Forest - Low Elevation), AZ-PRESC-PH (Prescott National Forest - High Elevation), AZ-PRESC-PL (Prescott National Forest - Low Elevation), NM-BCR16-CF (Carson National Forest), NM-BCR16-SF (Santa Fe National Forest), NM-CIBOL-CB (Cibola National Forest), NM-GILA-GH (Gila National Forest - High Elevation), NM-GILA-GL (Gila National Forest - Low Elevation), NM-LINCN-LH (Lincoln National Forest - High Elevation), NM-LINCN-LL (Lincoln National Forest - Low Elevation).

Appendix C — Protocol Changes Over Time

The original protocol implemented in 2008 has changed and evolved over time to better facilitate analysis and meet partner needs. In 2009, observers began recording the primary habitat type at each sample point from a list of habitat options. We added categorical habitat options to facilitate data proofing, to incorporate habitat in analysis and to link the IMBCR data and results with the older habitat-based monitoring program. Observers also began recording the presence of water and snow within 50 m of each point as a type of ground cover.

2010

Beginning in 2010, the point count duration was increased from five minutes to six minutes to facilitate occupancy estimation, which is easier to analyze using equal time intervals (in this case, two minutes each). Observers began recording juvenile birds detected during point counts. Observers placed a “J” in the sex column for these detections. Previously, juvenile birds were not recorded because this study focuses on recording breeding birds. Juvenile bird detections are used for distribution mapping purposes only and are not factored into data analysis. A minute column was added to the bird datasheet so observers could record the actual minute of each bird detection during a point count. Previously, observers used tick marks to separate minute intervals. We added a “visual” checkbox to the bird datasheet for observers to check if they visually observed and identified any of the species recorded. This reminds observers that they need to look for birds in addition to listening for them and helps crew leaders make decisions regarding unusual or rare bird detections while proofing data. We provided observers with an additional datasheet to record the reasons points were not surveyed (e.g., weather issues, unsafe terrain, denied permission by landowner, etc.). This sheet also provided space to record additional landowner information as needed. Lastly, observers began recording horizontal distance to each flyover detection. In the past, we did not record distances because we do not use flyover detections in analysis. However, observers sometimes incorrectly distinguish flyovers from birds using the surrounding habitat while foraging on the wing (e.g., swallows, swifts, and raptors). Therefore, if we find an incorrectly recorded flyover, we can still use the detection data in analysis.

2012

In 2012, observers began recording the start time for every point count conducted so we could use temporal information as a variable in analyses. Start times for the entire transect and for individual points were all recorded in Mountain Daylight Time for consistency across the region. Prior to 2012, observers were allowed to conduct point counts until 11:00 AM local time each day. In order to account for variability across study areas from Arizona to Montana, crew leaders instructed observers to survey no later than five hours after sunrise in 2012. Observers also began noting migrant detections on surveys. After the field season, we thoroughly review the migrant records; if those records are verified, they are not included in analysis. Previously, crew leaders instructed observers to record a bird as a male if 1) it was a singing warbler or sparrow, or 2) it was singing repeatedly and emphatically. In 2012, we instructed observers to only identify the sex of a visually observed bird of a sexually dimorphic species. We instructed observers to record subspecies only if they visually identified a bird as such. In the past, we used

geographic range to assume a bird was of a particular subspecies. Up until the 2012 field season, we provided observers with a list of rare or difficult to detect species to record while traveling between points within a sampling unit. In 2012, in order to simplify the protocol and collect more useful information, we eliminated the list and observers recorded any species they came across while traveling between points they had not documented during a point count. That way all species encountered within the sampling unit would be documented for distribution mapping purposes.

Also in 2012, several changes were made to the vegetation datasheet. First, we removed distance to the nearest road, forest structural stage and human structures from the data sheet. We no longer collect these types of data in the field because they can be obtained through remote sensing. Second, we modified the datasheet to simply record whether a mid-story was present. In the past, if mid-story vegetation was present, observers would record the species found in that layer. Data analysis found mid-story vegetation data to be extremely variable from year to year. Third, we added a ground cover category for residual grass. Finally, we limited acceptable overstory, understory, and ground cover relative abundance values to 1%, 5%, or increments of 10%. In the past, observers estimated cover to the nearest percent for all categories where percent cover or relative abundance was recorded. We made the change to improve the consistency of cover and relative abundance estimates and to decrease the amount of time observers spend estimating these values.

In 2012, crew leaders provided observers with two additional data sheets to facilitate working on private lands. The first contained specific information about the land ownership of each point located within a given sampling unit. In cases where a point fell on private property, the data sheet contained the name, contact information and any pertinent notes about the landowner. The second data sheet was a contact log where observers recorded all contacts or attempted contacts they had with landowners. This information was later entered into the landowner database when the observer had internet access.

2015

In 2015, we began recording American pika, similarly to the way we record Abert's and American red squirrels. In 2017, we added a checkbox onto the vegetation data sheet to mark the presence/absence of invasive cheatgrass.

2018

In 2018, we made one change to the ground cover section of the vegetation protocol to collect more specific data on ground cover types. We split the bare/litter ground cover category into bare ground and litter cover so that future analyses could treat these categories separately.

Appendix D — Data Analysis

D.1 Statistical Models

Indices

The following indices are used in all model descriptions:

i - strata with max I

j - grid cells with max J

k - points within a grid cell with max $K = 16$, and $K_{[s]}$ is the number of points surveyed in grid cell j

l - Bird Conservation Regions with max L; note that strata are nested with Bird Conservation Regions, so an index i implies indexing by l.

d - distance bins with max $d_{[max]} = 10$

$d_{[mid]}$, $d_{[low]}$, and $d_{[high]}$ are the distance mid-point, lower bound, and upper bound for distance bin d. $d_{[max,high]}$ is the upper bound for the furthest distance bin (i.e., the radius of the entire point-level plot).

r – 2-min time removal bins within the 6-min survey with max $R = 3$

t – years with max T

m – posterior samples

Abundance model

We modeled abundance and occupancy using separate models. We describe the abundance model here and subsequently describe the occupancy model.

State process

The abundance model includes a sub-model quantifying occupancy of grid cells, upon which abundance is conditioned (i.e., we estimate abundance within occupied grid cells).

$$z_{ijt} \sim Bernoulli(\psi_{it}) \tag{D.1}$$

and

$$logit(\psi_{it}) \sim Normal(\mu_{[\psi],t}, SD^2_{[\psi],t}), \tag{D.2}$$

where ψ_{it} is the probability of species occupancy of a grid cell in stratum i in year t, z_{ijt} is the latent occupancy state of grid cell j in stratum i during year t, and $\mu_{[\psi],t}$ and $SD^2_{[\psi],t}$ are year-specific mean and variance hyper-parameters. We exclude data for all strata in which the species was never detected (approximately conditioning

occupancy on being within the species range). We model abundance of independent clusters of individuals within $d_{[max,high]}$ of points within an occupied grid cell as

$$N_{ijt} \sim Poisson(\lambda_{ijt} \times z_{ijt}) \tag{D.3}$$

and

$$log(\lambda_{ijt}) = \alpha_{it} + \varepsilon_{jt}. \tag{D.4}$$

where α_{it} and ε_{jt} are stratum- and grid-cell-specific random effects, respectively, and α_{it} is also subject to a fixed effect of year:

$$\alpha_{it} \sim Normal(\mu_{[\alpha],t}, SD^2_{[\alpha],t}) \tag{D.5}$$

and

$$\varepsilon_{it} \sim Normal(0, SD^2_{[\varepsilon]}). \tag{D.6}$$

We estimated $SD_{[\alpha],t}$ and $SD_{[\varepsilon]}$ with gamma priors. For $SD_{[\alpha],t}$, we used a completely uninformed $gamma(1, 1)$ prior. For $SD_{[\varepsilon]}$, we used a somewhat informed $gamma(1.015117, 3.807330)$ prior based on the distribution of posterior estimates of this parameter across species from earlier analysis. We derive density, D, as

$$D_{ijt} = \frac{N_{ijt} \times \hat{\bar{s}}}{K \times \sum_{d=1}^{d_{[max]}} A_d}, \tag{D.7}$$

where $K \times \sum_{d=1}^{d_{[max]}} A_d$ is the effective area (km^2) of estimation for a grid cell and $\hat{\bar{s}}$ is the estimated mean size for independent clusters, which is sampled from the distribution

$$\hat{\bar{s}} \sim Normal(\hat{\mu}_s, \hat{SE}_s), \tag{D.8}$$

where $\hat{\mu}_s = Mean(s)$ and $\hat{SE}_s = SD(s)/\sqrt{n}$, in which s represents observed cluster sizes and n is the number of independent clusters detected. We derive stratum-level density estimates by averaging all D_{ijt} within each stratum, and we take the area-weighted average of strata estimates to obtain superstrata density and occupancy estimates.

Observation process

We model the sum of observed counts (of independent clusters of individuals) across all points surveyed within a grid cell (n_{ijt}) as

$$n_{ijt} \sim Binomial\left(N_{ijt}, p_{[a],tl} \times p_{[p]} \times \left(\frac{K_{[s],ijt}}{K}\right)\right), \tag{D.9}$$

where $p_{[a],tl}$ is a year- and BCR-specific availability component of detection probability, $p_{[p]}$ is the perceptibility component of detection probability, and $K_{[s],ijt} \ / \ K$ is survey effort. Detection components can be expressed as the sum of probability vectors:

$$p_{[a],tl} = \sum_{r=1}^{R} \pi_{[a],tlr} \tag{D.10}$$

and

$$p_{[p]} = \sum_{d=1}^{d_{max}} \pi_{[p],d}, \tag{D.11}$$

where $\pi_{[a],tlr}$ and $\pi_{[p],d}$ are detection probabilities within time removal and distance bins (hereafter bin probabilities), respectively. We model the distribution of counted individuals among time removal and distance bins, respectively, as

$$\mathbf{y}_{\mathbf{[a],ijt}} \sim Multinomial\left(n_{ijt}, \boldsymbol{\pi}^{\mathbf{[c]}}_{\mathbf{[a],tl}}\right) \tag{D.12}$$

and

$$\mathbf{y}_{\mathbf{[p],ijt}} \sim Multinomial\left(n_{ijt}, \boldsymbol{\pi}^{\mathbf{[c]}}_{\mathbf{[p]}}\right), \tag{D.13}$$

where $\mathbf{y}_{\mathbf{[a],ijt}}$ and $\mathbf{y}_{\mathbf{[p],ijt}}$ are vectors of counts within time removal and distance bins. Bin probabilities for availability assume constant availability across the survey period,

$$\pi_{[a],trl} = p_{[ar],tl}(1 - p_{[ar],tl})^{r-1}, \tag{D.14}$$

where $p_{[ar],tl}$ is the availability for a single 2-min time removal bin. Bin probabilities for perceptibility account for area of bins with increasing distance,

$$\pi_{[p],d} = \frac{p_{[pd],d} A_d}{\sum_{d=1}^{d_{[max]}} A_d}, \text{ and} \tag{D.15}$$

where $p_{[pd],d}$ is the perceptibility within distance bin d, and A_d is the area of distance bin d. Multinomial cell probabilites for modeling $\mathbf{y}_{\mathbf{[a],ijt}}$ and $\mathbf{y}_{\mathbf{[p],ijt}}$ represent bin probabilites scaled to sum to 1:

$$\pi^{[c]}_{[a],trl} = \pi_{[a],trl} \,/\, p_{[a],tl}, \tag{D.16}$$

and

$$\pi^{[c]}_{[p],d} = \pi_{[p],d} \,/\, p_{[p]}. \tag{D.17}$$

Surveys in 2008-2009 were 5 min instead of 6 min in length, so for these years, we calculate the availability for a 1-min interval, $p_{[a1],tl} = 1 - \left((1 - p_{[ar],tl})^3\right)^{1/6}$, and then calculate the unscaled cell probability for the third (1 min) period as $\pi_{[a],(t\leq 2)(r=3)l} = p_{[a1],tl} \times (1 - p_{[ar],tl})^{r-1}$. We model $p_{[pd],d}$ using one of two possible perceptibility models: 1) a half-normal model or 2) a hazard rate model. Prior to 2024, we also considered models that allowed variability in perceptibility among years, but we subsequently dropped year-effect models on perceptibility for simplicity and because perceptibility (i.e., the distance-sampling component of detectability) benefits from pooling robustness, whereby the overall population estimate remains unbiased even if

heterogeneity in perceptibility is unmodeled. For half-normal functions, we calculated $p_{[pd],d}$ for each distance class as:

$$p_{[pd],d} = \frac{2\pi \int_{c=d_{[low]}}^{c=d_{[high]}} exp\left(-\left(\frac{c^2}{2\sigma^2}\right)\right) c \, dc}{A_d}, \tag{D.18}$$

where $d_{[low]}$ and $d_{[high]}$ are the bounds for distance bin d and σ is the half-normal shape parameter. Because of the lack of an analytical solution to the integral of the hazard rate function, we calculated $p_{[pd],d}$ at the midpoint, $d_{[mid]}$, of each distance class:

$$p_{[pd],d} = 1 - exp\left(-\left(\frac{d_{[mid]}}{h}\right)^b\right), \tag{D.19}$$

where h and b are estimated parameters for the hazard function.

We allowed availability to vary by year and BCR:

$$logit(p_{[ar],tl}) \sim Normal(\mu_{[p_{ar}]}, SD^2_{[p_{ar}]}). \tag{D.20}$$

The priors for annual variation in availability are

$$\mu_{[p_{ar}]} \sim Normal(0, 1), \tag{D.21}$$

and

$$SD_{[\sigma]} \sim gamma(1, 1). \tag{D.22}$$

Occupancy model

We describe here the occupancy model, which estimates occupancy of points conditioned on occupancy of grid cells.

State process

We model species occupancy of grid cells in the same manner as for the abundance model (Equation D.1, Equation D.2). We model species occupancy of points within an occupied grid cell as

$$u_{ijt}|z_{ijt} \sim Binomial(K, \theta_{it} \times z_{ijt}) \tag{D.23}$$

and

$$logit(\theta_{it}) \sim Normal(\mu_{[\theta],t}, SD^2_{[\theta],t}), \tag{D.24}$$

where θ_{it} is the probability of species occupancy of a point within an occupied grid cell in stratum i and year t, u_{ijt} is the latent occupancy state describing the number of points occupied within grid cell j, stratum i, and year t, and $\mu_{[\theta],t}$ and $SD^2_{[\theta],t}$ are year-specific mean and variance hyper-parameters.

Observation process

We model species detections at points using

$$y_{ijt} \sim Binomial\left(u_{ijt}, p_{tl} \times \left(\frac{K_{[s],ijt}}{K}\right)\right), \tag{D.25}$$

with p_{tl} is a year- and BCR-specific detection probability and $K_{[s],ijt} \ / \ K$ is survey effort. Overall species detectability for a point survey, p_{tl}, summarizes the probability vector

$$p_{tl} = \sum_{r=1}^{R} \boldsymbol{\pi}_{\mathbf{[R],tl}}^{\mathbf{[c]}} \tag{D.26}$$

consisting of multinomial cell probabilities for

$$\mathbf{y}_{\mathbf{[R],ijt}} \sim Multinomial\left(y_{ijtl}, \boldsymbol{\pi}_{\mathbf{[R],tl}}^{\mathbf{[c]}}\right), \tag{D.27}$$

where $\mathbf{y}_{\mathbf{[R],ijt}}$ is a vector of representing the frequency of points where the species was detected across time removal bins when first detected. Cell probabilities for the time removal model assume constant detectability across the survey period,

$$\pi_{[R],trl} = p_{[R],tl}(1 - p_{[R],tl})^{r-1}, \tag{D.28}$$

and are scaled to sum to 1,

$$\pi_{[R],trl}^{[c]} = \pi_{[R],trl} \ / \ p_{tl}, \tag{D.29}$$

where $p_{[R],tl}$ is species detectability for a single 2-min time removal bin. We model variability in species detectability here ($p_{[R],tl}$) in the same manner as the availability component of the abundance model ($p_{[ar]}$ in Equation D.20, Equation D.21, and Equation D.22), including the shorter 5-min survey period in 2008-2009 (see explanation following Equation D.16).

Trend estimation

We derived posterior estimates of occupancy and abundance trends for any strata or superstrata for desired time periods from strata or (rolled-up) superstrata estimates of occupancy or density, respectively. For stratum or superstratum i we fitted a generalized linear model (GLM) to each posterior sample, m, of density or occupancy estimates:

$$log(\hat{D}_{itm}) \sim \alpha_{[D],im} + r_{[D],im} \times (t-1) \text{ or} \tag{D.30}$$

$$logit(\hat{\psi}_{itm} \times \hat{\theta}_{it}) \sim \alpha_{[\psi\theta],im} + r_{[\psi\theta],im} \times (t-1). \tag{D.31}$$

For occupancy, we multiplied $\psi \times \theta$ to derive the unconditional probability of a point being occupied by the species, and then derived trends. We retained the maximum likelihood estimate (MLE) of the slope, $\tilde{r}_{im}$, which is equivalent to the least squares trend. We also retained the MLE of the intercept $\tilde{\alpha}_{im}$. We then summarized across m to derive the posterior estimates for r and predicted D and $\psi \times \theta$.

Plot size

Following established practice for distance sampling data (Buckland et al. 2001:15, 151), we truncated detections for each species beyond the 90% quantile of recorded distances from the surveyor. The purpose of this practice is to improve the fit of the perceptibility curve by minimizing the influence of outliers on estimation (e.g., $p_{[p],tl}$ in Equation D.11). The plot size for abundance estimation technically corresponds with truncation distance, but because density is abundance scaled by area, interpretation of density does not depend on plot size.

For occupancy, we truncated detections for most species at 125 m from survey points (i.e., half the distance between neighboring points). Ninety-five of the 358 species analyzed are typically detected at distances beyond 125 m such that truncating at this distance would entail excluding most detections. For these species, we truncated at 998 m. Occupancy describes the proportion of plots where at least one member of the species occurs (i.e., presence-absence of the species). As such, occupancy can be multipled by stratum area to estimate the area occupied, and plot size is the resolution for this quantity. For species with 125m radius plots, neighboring plots within a grid cell do not overlap, so estimation of area occupied is readily interpretable as the species range within the stratum. For species with 998m radius plots, neighboring plots can overlap, so a single individual can potentially occupy > 1 plot. For these species, occupancy less readily interpretable as the species range and instead more clearly quantifies space use (Latif et al. 2016). Occupancy estimates are not entirely comparable across species with different plot sizes. Nevertheless, large differences in occupancy should be ecologically meaningful. Trends in occupancy will also be comparable across species regardless of plot size. Additionally, trends in occupancy can be more clearly interpretable as changes in species range regardless of plot size, whereas trends in abundance may primarily reflect changes in population size.

Model selection

For each species, we considered alternative structures for the observation component of abundance and occupancy models in order to balance model fit, complexity, and computational efficiency. For abundance models, we considered two potential functions for describing the decline in perceptibility of birds with distance from the surveyor: a half-normal model and a hazard model. We preliminarily fitted detection-only versions of these models to the raw distance data (i.e., distances not indexed by sampling unit or year). We used the Watanabe-Akaike Information Criterion (WAIC; Watanabe 2010, Hooten and Hobbs 2015) to select the most parsimonious perceptibility functional form and then retained that function for each species for modeling distance-based perceptibility in the primary analysis. Previously, we modeled annual variation in perceptibility. We have since simplified the analysis and now only model variability in availability among years and Bird Conservation Regions (BCRs) on the grounds that perceptiblity (i.e., the distance sampling component of detectability) benefits from pooling robustness (Buckland et al. 2001:41-42) reducing the need to account for heterogeneity in perceptibility for accurately estimate abundance. Additionally, previous success fitting models allowing variation in availability for all species, led us to drop consideration of a constant availability model. For occupancy models, detectability is analogous to the availability component in abundance models, and similar to abundance models, we were able to fit occupancy models that allowed detectability to vary among years and BCRs for all species.

Model fitting

We performed all data processing, analysis, and derivation of estimates in R (R Core Team, 2023) and model fitting in Nimble (de Valpine et al. 2017, 2023). All scripts for the annual analysis are maintained in a git repository and available upon request.

The R code automated combining strata-level population and trend estimates to derive superstrata estimates at multiple spatial scales, including quantification of estimation uncertainty. Additionally, we automated periodic checking of convergence and switching to alternative models in cases where more complex models failed to converge within a specified number of attempts.

Model fitting with Nimble entailed sampling model parameter space with 2 independent Markov Chain Monte Carlo (MCMC) chains. For each species, the automated process began sampling with chains of length = 2200 iterations, discarding the first half as burn-in and retaining every 10th sample. We then checked convergence of chains using the $\hat{R}$ metric and effective sample size using $n_{effective}$ (Gelman et al. 2004). We required $\hat{R} < 1.1$ and $n_{effective} \geq 30$, and resumed sampling for an additional 2200 iterations (discarding the first half of each chain as burn-in) until we either achieved these criteria or reached the maximum number of attempts, with an attempt being 2200 iterations and checks of $\hat{R}$ and $n_{effective}$ occurring after each attempt. We specified 1000 max attempts for global abundance and occupancy models and no max for simpler alternatives.