

Final Technical Report:

Species Distribution Modeling of Priority Bird Species on Bureau of Land Management Lands to Determine Stewardship Responsibility for Conservation Planning

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EXECUTIVE SUMMARY: The Bureau of Land Management (BLM) manages more than 245 million acres primarily in the western U.S., more than any other federal agency. One of the compelling results of the 2011 State of the Birds Report on Public Lands and Waters was the large number of bird species with high percentages of their total distribution on BLM lands, especially birds of western aridlands, grasslands, and forests. As BLM develops a comprehensive strategy for the conservation of all migratory birds, this project quantifies and displays the distributions of bird species in relation to BLM lands, illustrating the stewardship responsibility for 47 Bird Species of Conservation Concern on BLM lands generally, and within individual BLM Field Offices. To depict the most accurate distributions of U.S. birds, we used data from *eBird*, consisting of 1,700,268 checklists made from 2004-2011 at 264,160 unique locations within the lower 48 U.S. Distributions (occupancy) were estimated using a newly developed multi-scale, semi-parametric mixture model, the SpatioTemporal Exploratory Model (STEM).

Overall, suites of species with the highest stewardship responsibility on BLM lands were Sagebrush species (30%-67% of breeding distribution on BLM lands), Desert Scrub species (28%-41%), and Pinyon-Juniper species (39%-52%), whereas Arctic-Alpine Tundra species (2%-6%) and Prairie Grassland species (1%-19%) had among the lowest stewardship responsibility on BLM lands. Golden Eagle exhibited very high stewardship responsibility on BLM lands during the breeding season (53%) and less so in winter (25%). In contrast, Bald Eagle occurred only 1% (breeding) to 4% (winter) on BLM land, but is still considered a Bird of Conservation Concern. The vast majority of BLM lands supporting these suites of species are managed for multiple use (GAP 3). A total of 92 BLM Field Offices were represented among the Top 10 or Top 5 Field Offices in terms of regional responsibility across the 47 species. Field Offices with consistently high responsibility across suites of species included Oklahoma (19 species; because of large proportion of many species' distributions in Texas); Hassayampa (12 species); Spokane-Wenatchee (10 species); and Rawlins (7 species). A separate analysis considering only BLM lands (Appendix) illustrates the importance of BLM Field Offices for species with only a small percentage of their total distribution on BLM land. Finally, a seasonal jurisdictional breakdown illustrates the time of year when BLM has the greatest responsibility for each species, including a set of species that use low-elevation and riparian habitats on BLM land during spring and fall migration.

After identifying the greatest opportunities for conservation and the places and times when conservation can be most effective (as presented in this report), the next task is to integrate these results with the myriad of continental, regional, and state-level bird conservation plans developed by Partners in Flight and other conservation groups. Some next steps in applying this modeling and analysis to BLM migratory bird management could include: (1) additional modeling for aquatic and range-restricted species on the BLM list of Birds of Conservation Concern; (2) focused modeling of birds during the migratory periods to help identify migration corridors and stopover sites; and (3) modeling focused on bird abundance of birds, especially flocking species, in addition to distributional (presence-absence) modeling.

INTRODUCTION: The Bureau of Land Management (BLM) manages more than 245 million acres primarily in the western U.S., more than any other federal agency. These lands are essential to a wide variety of birds in diverse habitats including aridlands, grasslands, riparian and other western forests, and in Alaska vast expanses of boreal forest and arctic tundra. BLM has played a major role in the recovery of endangered species such as Peregrine Falcon and California Condor, and is the lead agency in an initiative to recover populations of Greater Sage-Grouse. As BLM develops a comprehensive strategy for the conservation of all migratory birds, understanding and monitoring the status of species on BLM lands. An important step in this process is an assessment of which species are most prevalent on these lands, including the most important lands for Bird Species of Conservation Concern.

The goal of the 2011 State Of The Birds (SOTB) report was to determine the conservation opportunities and stewardship responsibilities for birds on all United States public lands and waters. To do this we modeled bird species distributions and overlaid these distributions onto a map of public land ownership across the United States. The SOTB report, released in May, 2011, and available at stateofthebirds.org, summarized the stewardship responsibilities of public agencies for U.S. birds, across major bird habitats, and across major land-managing agencies. One of the compelling results of the 2011 SOTB report was the large number of bird species with high percentages of their total distribution on BLM lands, especially birds of western aridlands, grasslands, and forests.

As a follow-up to the basic analyses that went into the production of the 2011 Report, The Bureau of Land Management (BLM), represented by Geoffrey Walsh, expressed interest in obtaining more detailed information for birds on BLM lands, and entered into a contract with Cornell Lab of Ornithology to complete the analysis and modeling specific to BLM birds and lands. This project expands on modeling completed for the SOTB Report to quantify and display the distributions of bird species in relation to public lands, with particular emphasis on landbird species thought to be associated with habitats on BLM lands in the western U.S. These models reveal how individual bird species are distributed across lands administered by state and federal agencies and which agencies have stewardship responsibility for their conservation at different times of the year. To depict the most accurate distributions of U.S. birds, we used data from *eBird*, a rapidly growing citizen-science program administered by Cornell Lab of Ornithology. Our intent is to use this approach as a model for “stepping down” SOTB results to other suites of habitat-obligate birds with high responsibility on BLM and other agency lands.

PLEASE NOTE: All of the results presented in this report are based on the same analysis used for the upcoming 2013 SOTB report. This analysis differs significantly from the 2011 SOTB analysis in that it is based on a much larger eBird data set, uses refined modeling methods, and produces distribution estimates at much finer spatial resolution. Thus, the results reported in this report differ somewhat from those reported in the 2011 State of the Birds Report and at www.stateofthebirds.org. We believe that these latest results are the most accurate available.

Outline for Document

- 1. Data**
- 2. Methods**
- 3. Results and Deliverables**

SECTION 1: Data

In Section 1.1 we provide an introduction to the *eBird* observation data, in Section 1.2 we provide a brief discussion of our predictors, and in Section 1.3 we discuss the selection of species for the analysis.

SECTION 1.1 *eBird* Data

The bird observation data used to develop the model comes from the citizen science project, eBird (Sullivan et al. 2009), eBird Reference Dataset (ERD4.0, Munson et al. 2012). eBird is a broad-scale bird-monitoring project that collects observations made throughout the year. Participants follow a checklist protocol, in which time, location, and counts of birds are all reported in a standardized manner. By asking participants to indicate when they have contributed “complete checklists” of all the species they detect on a search, we assume that lack of detection conveys partial information about absence. A subset of eBird participants use standardized protocols to collect additional information on search effort. Together, the reports of absence and effort add valuable information that is used to capture and control for sources of variation associated with the detection process. A network of up to 500 expert editors vet unusual records for accuracy, using automated filters to identify unusual records and correspondence with eBird users to archive documentation that establishes the veracity of outlier records.

The analysis described in this report are based on presence-absence data from complete checklists collected under the “traveling count” and “stationary count” protocols from January 1, 2004 to December 31, 2011 within the conterminous U.S. Transect distances were limited to 8.1 km (5 miles), start times were restricted to daylight hours between 5AM and 8PM, and the total search time was limited to <3 hours. The resultant data set consists of 1,700,268 checklists made across 264,160 unique locations within this area. The species distribution models were trained one species at a time each based on 1,533,267 checklists made across 238,865 unique locations within this area (Fig. 1.1). Approximately ten percent of data, 167,001 checklists made at 25,295 unique locations, was held aside for model validation.

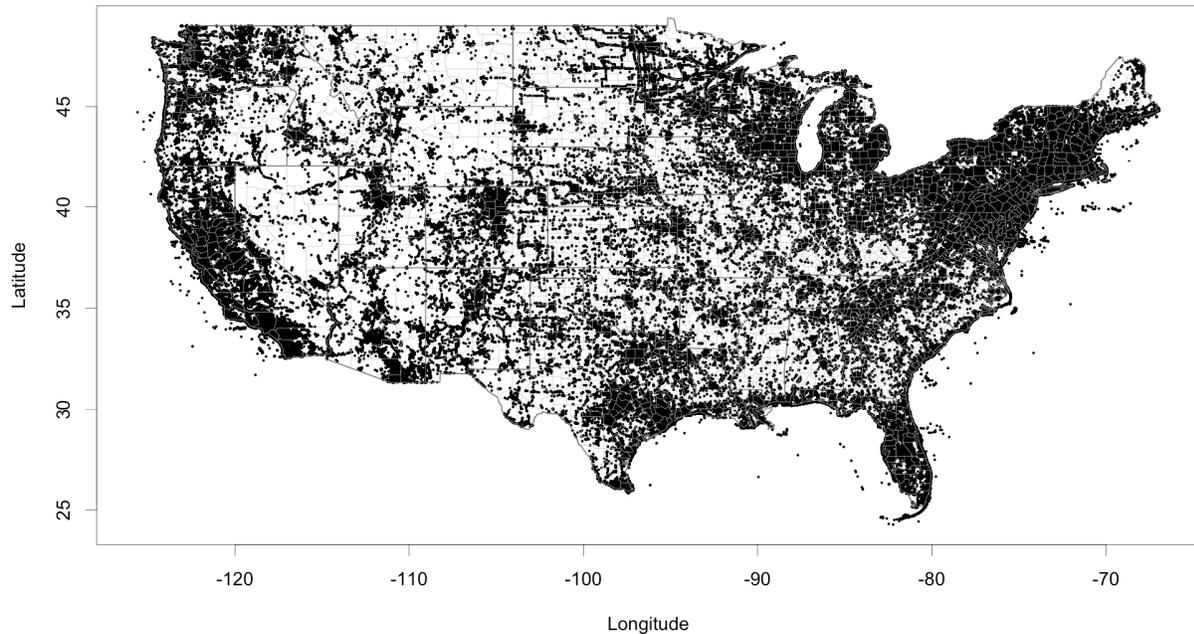


Fig. 1.1. eBird training data locations for the Continental US. Each species' distribution model was trained using 1,533,267 checklists made across 238,865 unique locations

SECTION 1.2: Predictor Data

For this analysis we included three general classes of predictors in the model:

- 1) Effort and observation/detection process predictors: These are included in order to account for variation in detection rates, a nuisance when making inference about species occupancy.
- 2) Temporal predictors to account for inter- and intra-seasonal trends, and
- 3) Spatial predictors to account for spatial and spatiotemporal patterning.

There are three effort variables included in the model to account for variation in detection rates: the hours spent searching for species, the length of transects traveled during the search, and the number of people in the search party. The observation time of the day is used to model variation in availability for detection; e.g., diurnal variation in behavior, such as participation in the “dawn chorus” (Diefenbach et al. 2007), may make species more or less conspicuous. An indicator of observations made under the “traveling count” protocol was included to allow the model to capture systematic differences in species detection between the two protocols.

Temporal information comes from the day of the year (1-366) on which the search was conducted. This predictor is used to capture day-to-day changes in occurrence, and, similarly, the year of the observation

is included to account for year-to-year differences.

Spatial information is captured by landcover and elevation data. To account for habitat-selectivity each eBird location was linked with a set of remotely-sensed landcover variables. The U.S. 2006 National Land Cover Database (NLCD) (Homer et al. 2007) classifies vegetation into one of 16 classes at a 30 m cell resolution. From this information we calculated the percentage of coverage, habitat composition, for each of the land-cover classes in a 1.5 km pixel (225 ha) centred on each location. Elevation measured at 30 arc second, approximately 1km pixels, (GTOPO30, http://eros.usgs.gov/#/Find_Data/Products_and_Data_Available/gtopo30_info) resolution was also included.

SECTION 1.3 Species Selection - Biome Obligates & BLM Birds of Conservation Concern

For this report, we focused on Birds of Conservation Concern on BLM administered lands in the western contiguous United States. The 47 species included in this report (see Table 3.0) were based on a list of BLM Birds of Conservation Concern by Bird Conservation Region, and on the obligate species dependent on each major habitat summarized in the 2011 SOTB Report. All of the species selected are birds of terrestrial habitats with adequate distributional data in eBird, and adequate performance in the distributional modeling as determined by experts at the Cornell Lab of Ornithology (see Methods). We then grouped the 47 species into habitat-species suites base on the primary breeding habitats shared by similar species. Note that some suites of species represent habitats with high stewardship responsibility in the western U.S., as determined by the 2011 SOTB Report, whereas other species are less common on BLM lands but still species of conservation concern where they do occur. We were not able to produce distributional models for primarily aquatic species for this report, although we did include several shorebirds that breed in upland habitats.

SECTION 2: METHODS

For each species, a statistical model was developed to learn the associations between observed patterns of bird occurrence and local land cover characteristics using the data described in Section 1. These models were then used to make estimates of each species' distribution throughout the year with fine resolution based on local land cover characteristics while accounting for gaps and biases in the crowdsourced eBird data. Summaries of each species distribution were used for the "step down" analysis to describe stewardship responsibilities in BLM lands at different times of the year.

The species' occupancy, the probability of occurrence corrected for variation in detection rates, was estimated across the U.S. with one daily estimate per week for all 52 weeks. To delineate where the species was estimated to be present and absent, a threshold was applied to each occupancy estimate. Visualizations of species' occupancy distributions were reviewed by avian distribution experts at the Cornell Lab of Ornithology to check for consistency with known patterns of broad-scale avian distribution and identify species for inclusion in this report.

In Section 2.1 we introduce the spatiotemporal exploratory modeling technique used to estimate species distributions using *eBird* occurrence data and predictors described in Section 1. In Section 2.2 we describe the computations for model training, and in Section 2.3 we describe occupancy estimates were produced from the model and reviewed by avian distribution experts. Section 2.4 describes how species' occupancy was summarized across jurisdictions, and Section 2.5 outlines how temporal jurisdictional trajectories were assessed.

SECTION 2.1: The SpatioTemporal Exploratory Model (STEM)

Statistical modeling of dynamic species distributions across large spatial and temporal extents entails solving two fundamental challenges. First, because relatively little is known about broad-scale migration patterns for North American birds, we needed a modeling approach that could automatically adapt to uncertain and likely highly species specific migration strategies. Second, the approach needed to be robust enough to handle noisy and often biased data collected by citizen scientists.

To deal with these challenges we developed a multi-scale, semi-parametric mixture model, the **SpatioTemporal Exploratory Model (STEM)**; Fink et al. 2010). STEM uses a multi-scale strategy to differentiate between local and global-scale spatiotemporal structure. This is achieved by creating a randomized ensemble of overlapping local models, each applied across a restricted geographic and temporal extent or *stixel*. A user-specified predictive model accounts for local variation as a function of local predictor values. Predictions are made for explicit location-time pairs by taking the mean across all of the overlapping local models that include that location-time. Thus, local patterns are allowed to “scale up” via ensemble averaging to larger scales. This combines the bias-reducing properties of local models (e.g., decision trees; Breiman et al. 1984) with the variance-reducing properties of randomized ensembles (e.g., bagging predictions; Breiman 1996). The STEM model automatically adapts to a wide variety of dynamic processes without requiring detailed information about the underlying dynamic processes. STEM has produced successful results with hundreds of species using the same model parameters and initializations. When there is multi-scale structure, STEM outperforms “global” models that lack explicit multi-scale structure. Moreover, STEM is robust to overfitting, meaning that performance does not degrade even when multi-scale structure is not present (Fink et al. 2010).

SECTION 2.2: STEM Model Training

This implementation of STEM uses a very simple, but adaptable two-step ensemble design. First, stixels are created by partitioning the spatiotemporal extent into a regular set of fixed size hyper-rectangular cells. The partition cells are defined by the three stixel dimensions; latitudinal and longitudinal lengths and the temporal width. A single partition gives rise to a set of non-overlapping stixels that cover the entire extent. In the second step, partitions are sampled from a uniform distribution to form an ensemble of overlapping stixels.

The approach we took to select the dimensions of the stixels was based on a practical compromise: we selected the smallest stixel dimensions that allow base models to be fit in the regions with the sparsest data. We began by selecting a temporal window short enough to capture seasonal changes at a regional

scale across the study extent. From previous experience modeling eBird data we have established the ability to a wide variety of complex avian migration patterns across a diverse set of terrestrial species using eBird data with a 40 day window (e.g., NABCI 2011 and NABCI 2013). In order to estimate the average seasonal distribution across the study period we pool data from all years within each 40-day window.

The number of stixels supporting a STEM estimate at a given location and time is called the *ensemble support*. We required at least 50% of the maximum ensemble support throughout the study area. Given the 40-day window, we estimated the smallest latitude-longitude stixel dimensions that achieve at least 50% support throughout the study area using the eBird training data locations during the season with the sparsest number of observations. To do this we generated a random sample of 10 uniformly distributed partitions and recorded ensemble support across a fine grid of locations within the study area. To be included in the ensemble support, each stixel was required to meet the base model minimum sample size of 30 observations.

For this analysis we used the following stixel dimensions: 7 degrees latitude, 10 degrees longitude, and a temporal window of 40 days. Figure 2 shows a partition with 7 degrees latitude by 10 degrees longitude stixels (Fig. 2.1; left) and the associated map of ensemble support (Fig. 2.1; right).

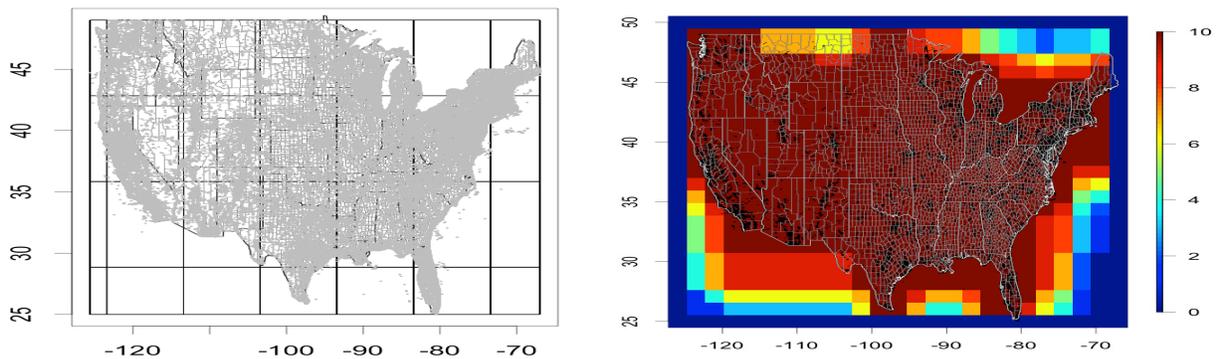


Fig. 2.1. Ensemble Support Diagnostics: A stixel partition at 7 degrees latitude by 10 degrees longitude with 40-day windows (LEFT) and the associated ensemble support map. The support map shows most of the continental US is covered by at least 9 out of 10 base-models possible. The combined effects of regionally sparse data and boundary effects are evident in Montana and North Dakota where ensemble support drops to 6 out of 10 partitions.

The STEM ensemble is created from a sample of partitions. We use this sample to achieve two goals. The first goal is to control for biases associated with partitioning the data into stixels. By creating a Monte Carlo sample of partitions uniformly distributed across the study area we can average out this variation across overlapping stixels. The second goal is to use the ensemble to generate estimates of uncertainty for model predictions and parameter estimates. To do this we incorporate bootstrap samples into the ensemble (Efron and Tibshirani 1993). In order to separately estimate the amount of sampling variation

and the variance associated with partitioning we use a nested design, generating a small set of randomly located partitions for each bootstrap replicate of the training data.

For this analysis we generated four randomly located partitions for each of 50 bootstrap replicates for each species' analysis. Thus, a maximum of 200 base models or 50 bootstrap replicates support estimates at any location and time. Bootstrap replicates were generated by sampling with replacement from the training data.

For each stixel of the ensemble, a boosted regression tree model was fit to the data within that stixel. We call these the base models. Base models were fit only when that stixel's sample size was greater or equal to the base-model minimum sample size parameter. For this study the minimum base model sample size was 30 observations. Boosted regression trees were fit using the `gbm` package version 1.6.3.1 (Ridgeway 2010) in R version 2.14 (R Development Core Team. 2011) with the Bernoulli deviance function, bagging fraction equal to 80 percent, shrinkage set to 0.01, and an interaction depth of 3. This means that each base model may potentially fit additive effects and interactive effects up to 3-way interactions.

Individual boosted models can be overfit by including too many trees in the boosted ensemble. To avoid overfitting the number of trees for the boosted ensemble are usually selected via validation or other statistics (Ridgeway 2007, Elith et al 2008, Hastie et al. 2009, Bühlmann and Hothorn 2007). In this application we can rely on the variance-reducing properties of the ensemble to control for some degree of overfitting of base-models. Thus, we use 500 trees for all `gbm` base models. This avoids extra computation associated with cross validation to select the number of trees.

SECTION 2.3: Species' occupancy estimation

For each species we calculate one daily occurrence estimate per week for all 52 weeks. The distribution surface is estimated based on a series of predictions designed to uniformly represent the study area. Because the spatial extent of the study area is large relative to the spatial resolution of model predictors, 1000's of km in extent with 1.5km pixels, it is computationally expensive to estimate weekly species' distributions at the 1.5km resolution of the predictors.

To reduce the computational cost, we have created two geographically Stratified Random Designs (SRD) to estimate national distributions. The 30km SRD consists of 130,769 locations generated with 15 locations sampled uniformly from each ~30 km pixel (strata) in a regular grid. The 3km SRD consists of 933,781 locations generated with 1 location samples uniformly from each 3km pixel (strata). Because SRD locations do not lie on a regular grid, it is necessary to use a pixel size a little larger than the nominal size of the design in order to "fill in" the complete extent for visualizations. For example, distribution estimates based on the 30km SRD are plotted with ~ 34km pixels and 3km SRD is plotted with ~6km pixels.

Variation in detectability associated with the search effort for individual searches was controlled by assuming that all effort predictors (search time, transect length, time of day, number of observers, and protocol) were constant and additively associated with the true occurrence probability. Thus, the quantity we use to estimate species distributions is defined as the probability that a typical eBird participant will detect the species on a search from 7-8AM while traveling 1 km on the given day at the given location.

This quantity is a relative measure of species occupation, to the degree that variation in detection rate has been corrected.

Because the model tends to "smooth" the eBird observational data in space and time, the estimated distributions often contain large areas with very small, but non-zero, estimated occupancy, especially along boundaries of species' ranges. The spatial extent of this non-zero boundary area is a function of the stixel size, here 10 degrees longitude by 7 degrees latitude, large enough to cover a large part of the continental US. The non-zero boundary area can bias the land ownership overlay analysis if large regions of small but non-zero occupancy accumulate into spurious and non-negligible ownership signal. To mitigate this source of bias, we applied a zero threshold to convert very small, non-zero occupancies that fall below the threshold to zero.

The zero threshold was defined as the median value of the non-zero occupancy estimates across the 3km SRD locations. This threshold was applied separately for each weekly distribution for each species. For visualizations of the distribution, only areas with occupancy estimates greater than the zero cutoff are shown. This simple data-driven threshold was found to adequately separate occupied and unoccupied regions across a wide range of species during the expert review process.

SECTION 2.4: Jurisdictional Summary

To provide a summary on how species' estimated occupancy was distributed across public lands, we calculated the percent of species' estimated probabilities of occupancy under four jurisdictional scenarios separately for the breeding and non-breeding or winter seasons. Seasonal distributions were based on occupancy estimates for weeks selected based on expert opinion to best represent their current distributions. To estimate the jurisdiction percentage from a given occupancy estimate, we calculated the proportion of total occupancy using all 130,769 locations from the 30km SRD across the land ownership classes for the specified scenario. We used the Protected Areas Database of the United States (PAD-US version 1.1) to determine land ownership and biodiversity protection status for all public lands.

The first jurisdictional scenario calculated the percentage of species occupancy on public vs. non-public lands. The second scenario calculated the percent of occupancy *on public lands* as administered by six public land agencies. The third scenario calculated the breakdown of occupancy *on BLM administered lands* based on 13 Bird Conservation Regions (BCR's) of North America (Fig. 2.2; Table 2.1). Lastly, the fourth scenario calculated the breakdown of occupancy on BLM administered lands by four levels of biodiversity protection status based on the GAP management status classification scheme (Table 2.2).

SECTION 2.5: Seasonal Field Office Summary

To provide a spatial summary of the BLM Field Offices that had the greatest representation of each species' seasonal distribution, we calculated the percent of each species total probability of occurrence within all lands located in each BLM Field Office for the breeding season and, when applicable, for the winter season. A total of 133 BLM Field Offices were considered within the contiguous United States (Fig. 2.3). Maps representing the top five or top ten BLM Field Offices were selected for each species and

season. We constrained this assessment to west of the 100th Meridian for the following species: Yellow-billed Cuckoo, Willow Flycatcher, Yellow Warbler, and Vesper Sparrow.

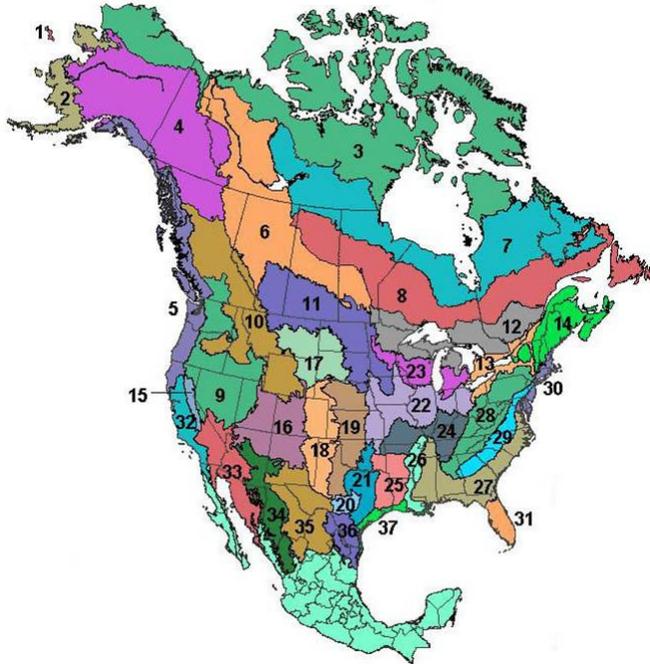


Fig. 2.2. Bird Conservation Regions (BCR's) of North America.

Table 2.1. Names and identification numbers for 13 Bird Conservation Regions of western North America.

Bird Conservation Region	Number
Northern Pacific Rainforest	5
Great Basin	9
Northern Rockies	10
Prairie Potholes	11
Boreal Hardwood Transition	12
Sierra Nevada	15
Southern Rockies/Colorado Plateau	16
Badlands and Prairies	17
Shortgrass Prairie	18
Coastal California	32
Sonoran and Mohave Deserts	33
Sierra Madre Occidental	34
Chihuahuan Desert	35

Table 2.2. Biodiversity protection status category numbers and descriptions based on the GAP management status classification scheme.

Category	Description
1	An area having permanent protection from conversion of natural land cover and a mandated management plan in operation to maintain a natural state within which disturbance events (of natural type, frequency, intensity, and legacy) are allowed to proceed without interference or are mimicked through management.
2	An area having permanent protection from conversion of natural land cover and a mandated management plan in operation to maintain a primarily natural state, but which may receive uses or management practices that degrade the quality of existing natural communities, including suppression of natural disturbance.
3	An area having permanent protection from conversion of natural land cover for the majority of the area, but subject to extractive uses of either a broad, low-intensity type (e.g., logging) or localized intense type (e.g., mining). It also confers protection to federally listed endangered and threatened species throughout the area.
4	There are no known public or private institutional mandates or legally recognized easements or deed restrictions held by the managing entity to prevent conversion of natural habitat types to anthropogenic habitat types. The area generally allows conversion to unnatural land cover throughout.

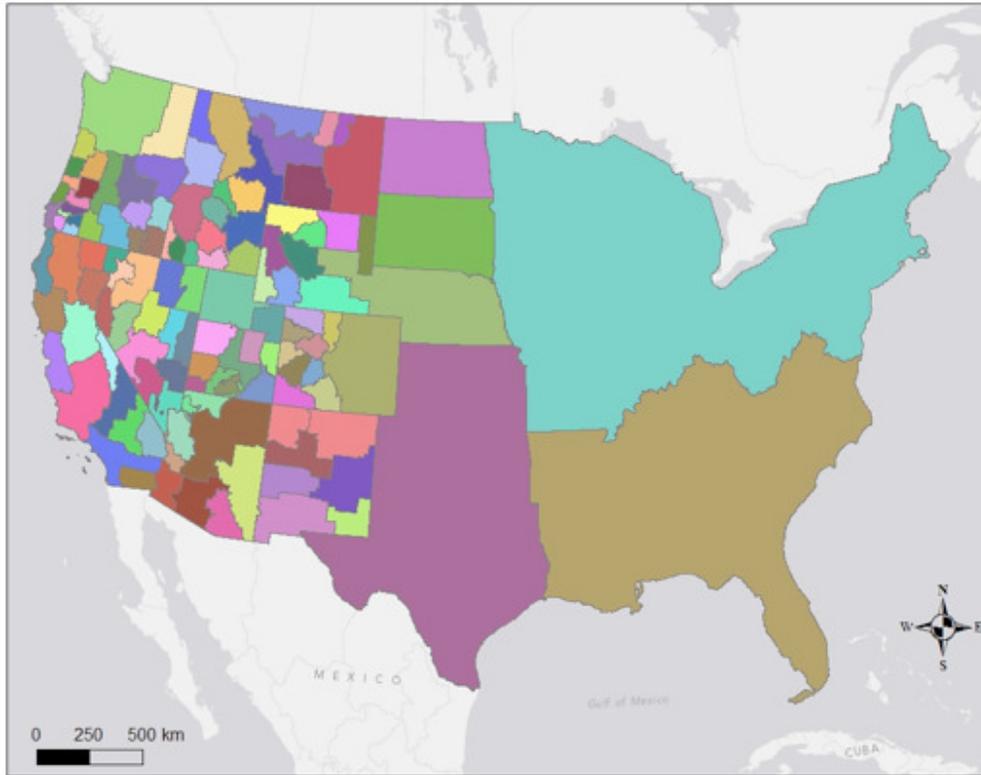


Fig. 2.3. The 133 BLM Field Offices in the contiguous United States.

SECTION 2.6: Seasonal Jurisdiction Trajectories

To complement the jurisdictional summary, we computed 52 weekly jurisdiction summaries based on the percent of occupancy on public lands as administered by six public land agencies (see scenario 2 in section 2.4). We restricted this analysis to the weeks when each species is resident within the contiguous U.S. to focus on those times when U.S. agencies have stewardship responsibilities. Residency was defined to be those weeks where the number of 30km SRD points where the species had a probability of occurrence greater than 0.0175 was greater than a third of the weekly maximum. We produced line plots of the portion of each species' distribution that is publicly owned.

SECTION 3: RESULTS

Our modeling produced results for 47 bird species; 46 species during the breeding season, and 17 species with separate winter distribution results. A summary of these results is presented in Table 3.0 followed by the full results for all species, organized by habitat. Note that data for Ferruginous Hawk were adequate only for the winter season analysis, although this species is important on BLM lands during the breeding

season as well. For six species that are considered non-migratory residents, a single breeding-season distribution model is considered adequate to represent the year-round distribution of the species.

Overall, suites of species with the highest stewardship responsibility on BLM lands were Sagebrush species (30%-67% of breeding distribution on BLM lands), Desert Scrub species (28%-41%), and Pinyon-Juniper species (39%-52%), whereas Arctic-Alpine Tundra species (2%-6%) and Prairie Grassland species (1%-19%) had among the lowest stewardship responsibility on BLM lands. Golden Eagle exhibited very high stewardship responsibility on BLM lands during the breeding season (53%) and less so in winter (25%). In contrast, Bald Eagle occurred only 1% (breeding) to 4% (winter) on BLM land, but is still considered a Bird of Conservation Concern. The vast majority of BLM lands supporting these suites of species are managed for multiple use (GAP 3); however, 35% to 43% of BLM lands supporting Desert Scrub species have elevated biodiversity protection status (GAP 1 and 2).

A total of 93 BLM Field Offices were represented among the Top 10 or Top 5 Field Offices in terms of regional responsibility across the 47 species. Field Offices with consistently high responsibility across suites of species included Oklahoma (19 species; because of large proportion of many species' distributions in Texas); Hassayampa (12 species); Spokane-Wenatchee (10 species); and Rawlins (7 species).

Note: We urge caution in strict interpretation of the importance of Field Offices to various species, however, because large Field Offices (especially Oklahoma) will always have higher percentages of species distributions than smaller Field Offices, and smaller FOs (e.g., in western Colorado) that may support important concentrations of a species in the core of its range could be missed in this analysis.

Table 3.0. Results for 47 BLM Stewardship Birds (at least one FO managing land with habitat fulfilling needs of species subpopulation(s)). Includes all terrestrial species with adequate distributional data in eBird and adequate performance in STEM distributional modeling. Species with an asterisk (*) had analysis restricted to the western U.S. (west of the 100th Meridian), so that the analysis includes a greater proportion of the western populations of these species; note that the results do not strictly pertain to the western subspecies. This is discussed in more detail in the text for each species.

<u>Species-Habitat suite</u>	<u>% of total distribution on BLM Land</u>	<u>% BLM distribution by BCR (see map, Figure 2.2)</u>	<u>Top BLM Field Offices (see map, Figure 2.3)</u>
SAGEBRUSH			
Sage Thrasher (breeding)	63%	BCR 9(72%); BCR 10 (23%); BCR 16 (4%)	Humboldt River (6%), Rawlins (6%); Rock Springs (5%); Lakeview District, Tuscarora, Wells (4%)

Green-tailed Towhee (breeding)	30%	BCR 9 (60%); BCR 16 (17%); BCR 10 (13%)	Salt Lake (6%); Bakersfield, Bishop, Mt. Lewis, Royal Gorge, Tonoapah, Wells (3%);
Green-tailed Towhee (winter)	23%	BCR 35 (41%); BCR 33 (29%); BCR 34 (11%); BCR 16 (11%)	Oklahoma (27%); Las Cruces District (14%); Safford 11%); Tucson (7%); Hassayampa (6%)
Brewer's Sparrow (breeding)	55%	BCR 9 (70%); BCR 10 (22%); BCR 16 (5%)	Rawlins (5%); Humboldt River, Rock Springs, Tuscarora (4%);
Brewer's Sparrow (winter)	25%	BCR 33 (38%); BCR 35 (36%); BCR 34, 16 (9%)	Oklahoma (24%); Las Cruces District (14%); Safford 10%); Hassayampa, Lower Sonoran, Tucson (7%)
Sage Sparrow (breeding)	67%	BCR 9 (72%); BCR 10 (13%); BCR 33 (11%)	Humboldt River (7%); Tonopah (6%); Ridgecrest, Stillwater (5%)
DESERT SCRUB			
Costa's Hummingbird (breeding)	37%	BCR 33 (89%); BCR 9 (5%); BCR 16 (3%)	Palm Springs/S. Coast (12%); Barstow (11%); Ridgecrest (10%); Lower Sonoran, Needles (9%)
Costa's Hummingbird (winter)	39%	BCR 33 (91%); BCR 16 (4%); BCR 9 (3%)	Lower Sonoran (12); Yuma (11%); Barstow, Needles, Palm Springs/S. Coast (8%)
Gilded Flicker (breeding/year-round)	39%	BCR 33 (96%)	Lower Sonoran (29%); Yuma (13%); Tucson (8%); Hassayampa, Needles (7%)
Le Conte's Thrasher (breeding/year-round)	41%	BCR 33 (96%)	Ridgecrest (21%); Barstow (18%); Needles (14%); El Centro (11%); Yuma (8%)
Phainopepla (breeding)	28%	BCR 33 (68%); BCR 35 (14%); BCR 34 (7%); BCR 16 (5%)	Lower Sonoran (10%); Hassayampa, Oklahoma, Safford, Tucson (8%)

Lucy's Warbler (breeding)	28%	BCR 33 (60%); BCR 35 (17%); BCR 34 (9%); BCR 16 (8%)	Lower Sonoran (14%); Tucson (12%); Safford (11%); Oklahoma (9%)
WESTERN GRASSLAND			
Swainson's Hawk (breeding)	9%	BCR 10 (35%); BCR 35 (22%); BCR 16 (18%); BCR 9 (13%)	Oklahoma (25%); Royal Gorge (10%); Casper (8%); South Dakota (6%); North Dakota, Roswell (5%)
Golden Eagle (breeding)	53%	BCR 9 (71%); BCR 10 (15%); BCR 33 (5%)	Miles City (6%); Rawlins, Humboldt River (5%); Wells (4%); Lakeview District, Rock Springs, Tonapah, Tuscarora (3%)
Golden Eagle (winter)	25%	BCR 9 (41%); BCR 10 (36%); BCR 16 (12%); BCR 17 (8%)	Casper (9%); Miles City, South Dakota (8%); North Dakota, Rawlins (4%)
Mountain Plover (breeding)	16%	BCR 10 (78%); BCR 16 (19%)	Royal Gorge (22%); Farmington (17%); Rawlins (15%); Casper (12%); Roswell (8%)
Mountain Plover (winter)	5%	BCR 9 (87%); BCR 32 (13%)	Oklahoma (41%); Bakersfield (12); Mother Lode (9%); El Centro (6%); Redding (4%)
Long-billed Curlew (breeding)	11%	BCR 9 (45%); BCR 11, 17 (18%); BCR 10 (11%); BCR 16 (7%)	Havre (14%); Lewistown (12%); Miles City (12%); Billings (6%); Farmington (5%)
Loggerhead Shrike (breeding)	31%	BCR 9 (53%); BCR 33 (27%); BCR 10 (9%); BCR 16 (7%)	Southeastern States (16%); Oklahoma (6%); Casper 4%; Ridgecrest, Royal Gorge, South Dakota (3)
Loggerhead Shrike (winter)	10%	BCR 33 (37%); BCR 9 (24%); BCR 35 (20%); BCR 16 (12%)	Oklahoma (45%); Southeastern States (21%); Las Cruces District (3%)

Cassin's Sparrow (breeding)	3%	BCR 34 (65%); BCR 16 (20%); BCR 18 (15%)	Oklahoma (69%); Roswell, Royal Gorge (8%); Farmington (5%)
Cassin's Sparrow (winter)	< 1%	BCR 18 (81%); BCR 34 (19%)	Oklahoma (97%); Carlsbad (2%)
(Western) Vesper Sparrow* (breeding)	23%	BCR 9 (51%); BCR 10 (32%); BCR 17 (9%)	Miles City (10%); North Dakota (9%); Lewistown (6%), Billings, Havre (5%)
(Western) Vesper Sparrow* (winter)	15%	BCR 35 (42%); BCR 33 (20%); BCR 16 (18%); BCR 34 (10%)	Oklahoma (43%); Las Cruces District (11%); Safford (7%); Hassayampa (6%)
PRAIRIE GRASSLAND			
Ferruginous Hawk (winter)	3%	BCR 9 (35%); BCR 16 (31%); BCR 18 (16%); BCR 33, 34 (7%)	Oklahoma (43%); Royal Gorge (16%); Bakersfield (6%); Casper, Roswell (5%)
Upland Sandpiper (breeding)	3%	BCR 17 (66%); BCR 11 (33%)	South Dakota (30%); Casper (22%); North Dakota (17%) Oklahoma (12%); Miles City (10%)
Marbled Godwit (breeding)	3%	BCR 11 (54%); BCR 17 (43%)	North Dakota (39%); South Dakota (17%); Miles City (16%); Northeastern (8%)
Horned Lark (breeding)	19%	BCR 9 (61%); BCR 10 (20%); BCR 16 (7%)	Northeastern States (11%); Oklahoma (11%); Casper (9%); Royal Gorge, South Dakota (7%)
Horned Lark (winter)	6%	BCR 9 (34%); BCR 16 (22%); BCR 17, 35 (12%); BCR 10 (10%)	Oklahoma (22%); Northeastern States (15%); Casper (12%) Royal Gorge (8%) South Dakota (7%)
Sprague's Pipit (breeding)	< 1%	BCR 11 (71%); BCR 16 (29%)	North Dakota (30%); Havre (23%); Miles City (18%); Lewistown (10%)

Chestnut-collared Longspur (breeding)	4%	BCR 17 (55%); BCR 11 (45%)	South Dakota (33%); North Dakota (23%); Miles City (20%); Havre (8%); Lewistown (4%)
Chestnut-collared Longspur (winter)	6%	BCR 16 (58%); BCR 35 (28%); BCR 34 (10%)	Oklahoma (38%); Roswell (17%); Socorro (7%); Farmington, Las Cruces (6%)
Lark Bunting (breeding)	6%	BCR 17 (63%); BCR 11 (27%); BCR 10 (6%)	Miles City (20%); South Dakota (17%); Casper (15%); Royal Gorge (11%); North Dakota (6%)
Lark Bunting (winter)	14%	BCR 35 (60%); BCR 33 (12%); BCR 16 (10%)	Oklahoma (56%); Las Cruces District (14%); Carlsbad (5%)
Grasshopper Sparrow (breeding)	1%	BCR 17 (50%); BCR 11 (26%);	South Dakota (20%); Oklahoma (19%); Casper (16%); Northeastern States (15%); North Dakota (10%)
WESTERN RIPARIAN			
(Western) Yellow-billed Cuckoo* (breeding)	1%	BCR 35 (38%); BCR 33 (32%); BCR 34 (30%)	Oklahoma (94%); Carlsbad, Casper, Lower Sonoran, Tucson (1%)
(Western) Willow Flycatcher* (breeding)	3%	BCR 10 50%; BCR 5 (24%); BCR 9 (17%)	Spokane Wenatchee (26%); Spokane Border (12%); Missoula (9%); Cottonwood, North Dakota (5%)
Bell's Vireo (breeding)	14%	BCR 33 (56%); BCR 35 (25%); BCR 34 (9%)	Oklahoma (37%); Casper (9%); South Dakota (7%); Lower Sonoran, Safford, Tucson (5%)
(Western) Yellow Warbler* (breeding)	18%	BCR 9 (58%); BCR 10 (21%); BCR 16 (11%); BCR 17 (7%)	North Dakota (7%); Miles City (6%); Spokane Wenatchee (5%); Missoula, South Dakota, Spokane Border (4%)

PINYON-JUNIPER WOODLAND			
Gray Vireo (breeding)	43%	BCR 16 (57%); BCR 10 (18%); BCR 9 (16%); BCR 35 (6%)	Hassayampa (12%); Oklahoma (7%); Las Cruces District, Monticello (5%);
Pinyon Jay (breeding/year-round)	52%	BCR 9 (63%); BCR 16 (23%); BCR 10 (11%)	Hassayampa (7%); Tonapah, Wells (5%); Egan, Farmington, Mount Lewis, Schell (4%)
Juniper Titmouse (breeding/ year-round)	39%	BCR 16 (58%); BCR 10 (24%); BCR 9 (15%)	Farmington (12%); Hassayampa (8%); Rio Puerco (7%); Rawlins, Socorro (5%)
WESTERN MONTANE FOREST			
Rufous Hummingbird (breeding)	2%	BCR 5 (85%); BCR 10 (11%)	Spokane Wenatchee (48%); Missoula (9%); Spokane Border (6%); Coeur d'Alene, Salem Tillamook (5%)
Calliope Hummingbird (breeding)	4%	BCR 9 (51%); BCR 10 (38%); BCR 10 (5%)	Spokane Wenatchee (22%); Missoula (12%); Spokane Border (10%); Coeur D'Alene, Cottonwood (7%)
Lewis's Woodpecker (breeding)	25%	BCR 9 (80%); BCR 10 (12%); BCR 16 (6%)	Spokane Wenatchee (10%); Prineville Central Oregon (6%); Farmington, Lakeview District, Prineville Deschutes, Vale Baker (5%)
Williamson's Sapsucker (breeding)	9%	BCR 9 (70%); BCR 16 (19%); BCR 10 (9%)	Bakersfield (6%); Mother Lode (5%); Farmington, Missoula, Royal Gorge, Spokane Border (4%)
Williamson's Sapsucker (winter)	9%	BCR 9 (81%); BCR 16 (11%); BCR 34 (5%)	Safford (15%), Socorro (12%); Hassayampa (8%); Mother Lode (7%); Bakersfield, Eagle Lake, Las Cruces District (6%)

White-headed Woodpecker (breeding/year-round)	8%	BCR 9 (85%); BCR 5 (7%); BCR 15 (5%)	Spokane Wenatchee (12%); Bakersfield, Eagle Lake, Mother Lode (8%); Redding (7%)
Olive-sided Flycatcher (breeding)	11%	BCR 9 (59%); BCR 5 (15%); BCR 16 (12%); BCR 10 (7%)	Spokane Wenatchee (12%); Missoula (7%); Bakersfield, Cottonwood, Redding (4%)
Virginia's Warbler (breeding)	19%	BCR 16 (70%); BCR 9 (19%); BCR 10 (10%)	Farmington (12%); Hassayampa (8%); Rio Puerco, Royal Gorge, Safford, Socorro (6%)
Black-throated Gray Warbler (breeding)	25%	BCR 9 (43%); BCR 16 (35%); BCR 5 (10%); BCR 10 (9%)	Redding, Safford (7%); Arcata, Hassayampa (6%); Spokane Wenatchee (5%)
Cassin's Finch (breeding)	15%	BCR 9 (68%); BCR 16 (19%); BCR 10 (10%)	Missoula, Spokane Wenatchee (6%); Bakersfield, Butte, Cottonwood, Four Rivers, Mother Lode, Salt Lake (3%)
Cassin's Finch (winter)	24%	BCR 9 (53%); BCR 16 (34%); BCR 10 (12%)	Royal Gorge (7%); Farmington (6%); Rawlins, San Luis Valley (4%);
PINE-OAK WOODLAND			
Grace's Warbler (breeding)	4%	BCR 16 (93%); BCR 34 (4%); BCR 9 (3%)	Safford (29%); Socorro (18%); Hassayampa (15%); Las Cruces (11%); Farmington (8%)
CALIFORNIA OAK WOODLAND			
Yellow-billed Magpie (breeding/ year-round)	< 1%	BCR 32 (100%)	Bakersfield (29%); Mother Lode (23%); Hollister, Ukiah (19%); Redding (5%)
Lawrence's Goldfinch (breeding)	8%	BCR 32 (67%); BCR 9 (15%); BCR 33 (15%)	Bakersfield (31%); Palm Springs/S. Coast (29%); Hollister (15%); El Centro, Ridgecrest (4%); Barstow, Mother Lode (3%)

ARCTIC-ALPINE TUNDRA			
Black Rosy-Finch (breeding)	2%	BCR 9 (47%); BCR 10 (37%); BCR 16 (16%)	Cody (23%); Lander, Pinedale (16%); Vernal (9%); Salt Lake (7%)
Black Rosy-Finch (winter)	18%	BCR 9 (77%); BCR 16 (14%); BCR 10 (8%)	San Luis Valley (14%); Royal Gorge (13%); Gunnison (9%); Tres Rios (7%); Farmington (6%)
Brown-capped Rosy-Finch (breeding)	6%	BCR 16 (100%)	Royal Gorge (29%); Kremmling (26%); San Luis Valley (11%); Gunnison (10%); Colorado River Valley (8%)
Brown-capped Rosy-Finch (winter)	4%	BCR 16 (100%)	San Luis Valley (22%); Royal Gorge (19%); Gunnison (13%); Tres Rios (11%); Farmington (9%)
MISCELLANEOUS			
Bald Eagle (breeding)	1%	BCR 5 (38%); BCR 9 (34%); BCR 10 (11%); BCR 17 (9%)	Northeastern States (48%); Southeastern States (15%); Spokane Wenatchee (11%)
Bald Eagle (winter)	4%	BCR 9 (55%); BCR 10 (19%); BCR 17 (13%)	Northeastern States (30%); Southeastern States (14%); Spokane Wenatchee (7%); North Dakota (6%); South Dakota (5%)

Section 3.1: Sagebrush species

This analysis includes five sagebrush bird species (Table 3.1), all of which were Aridland species included in the 2011 State of the Birds Report. This suite of species shows the highest proportion of their distributions on BLM land of any habitat group, and therefore BLM is the primary steward of their populations.

Four of these birds are closely tied to sage steppe, characterized by extensive stands of Big Sagebrush (*Artemisia tridentata*); Green-tailed Towhee is the exception, as it can be found in a variety of mixed-shrub communities including those at the ecotones between sage steppe and montane shrublands or

pinyon juniper forest. The sage steppe habitat is most typical in the Great Basin Desert, but also occurs in drier, high elevation valleys and parks in the Sierra Nevada and southern Rocky Mountains. The extent to which these bird species may use similar desert scrub habitats varies, accounting for the differences in the breeding range of each; both Sage Sparrow and Brewer's Sparrow have additional subspecies that utilize alternate habitats. Sage steppe is still a widespread habitat, but has suffered losses due to overgrazing, mining, energy development and other uses and with the proposed listing of Greater Sage-Grouse, the awareness about importance of protecting this habitat has been raised significantly. The results for these more common and widespread sagebrush birds, however, indicate that management for healthy Sage-Grouse populations will benefit an entire suite of species that are of high conservation concern.

Table 3.1. The five sagebrush species examined in the assessment with dates for which distributional estimates were used in the jurisdictional summary.

Species	Breeding	Winter
Greater Sage-Grouse (<i>Centrocercus urophasianus</i>)	March 8	n/a
Sage Thrasher (<i>Oreoscoptes montanus</i>)	June 7	n/a
Green-tailed Towhee (<i>Pipilo chlorurus</i>)	July 12	December 27
Brewer's Sparrow (<i>Spizella breweri</i>)	July 5	December 20
Sage Sparrow (<i>Artemisiospiza belli</i>)	July 12	n/a

Section 3.1.1: Greater Sage-Grouse

Greater Sage-Grouse is a resident species, undertaking only limited movements of a few miles from its breeding and lekking grounds to winter areas where it may form flocks of 100 or more birds. Based on STEM modeling of eBird data, the March 8 distribution best represents both the breeding and year-round distribution of this species. The distribution of Greater Sage-Grouse largely follows the distribution of big sagebrush (*Artemisia tridentata*), but has significantly contracted its range over the past century, as sage desert has been lost to irrigation, development, and overgrazing. Greater Sage-Grouse is a species of high conservation concern. The current range is discontinuous and includes several isolated populations in northeastern California, eastern Oregon, eastern Washington and extreme southern Alberta and Saskatchewan (Fig. 3.1.1a). The model captures the range very well, with some slight areas of over-extrapolation, most notably in northern Oregon and the Dakotas. A couple of small populations in western North Dakota and South Dakota are the easternmost birds and those in north-central Colorado are the southeasternmost. Note that the small signal in the Gunnison Basin and se. Utah is an error of overextrapolation, since that area is in fact occupied by Gunnison Sage-Grouse (*Centrocercus minimus*), which has a very similar life history.

According to the latest distributional data in eBird, 59% of Greater Sage-Grouse distribution is on public land, and 79% of its public land distribution is on BLM land (Fig. 3.1.1b). A majority of BLM Greater

Sage-Grouse are in BCR 9 (72%), with 18% in BCR 10. The vast majority (91%) of Sage-Grouse are on multiple-use lands. The top ten BLM Field Offices account for 39% of the total distribution, with the highest stewardship responsibility in the Miles City, Humboldt River, Lakeview District, and Spokane-Wenatchee Field Offices (Table 3.1.1a; Fig. 3.1.1c).

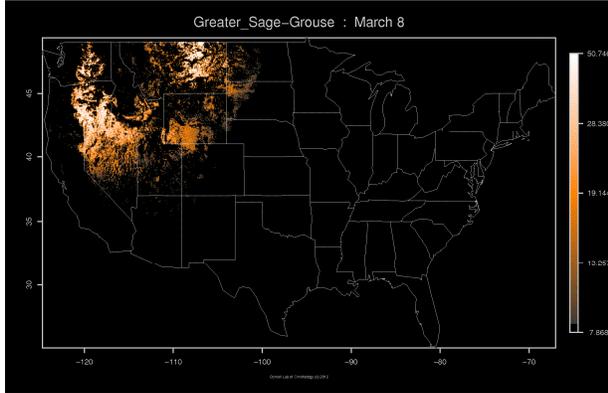


Fig. 3.1.1a. Distributional models for the Greater Sage-Grouse.

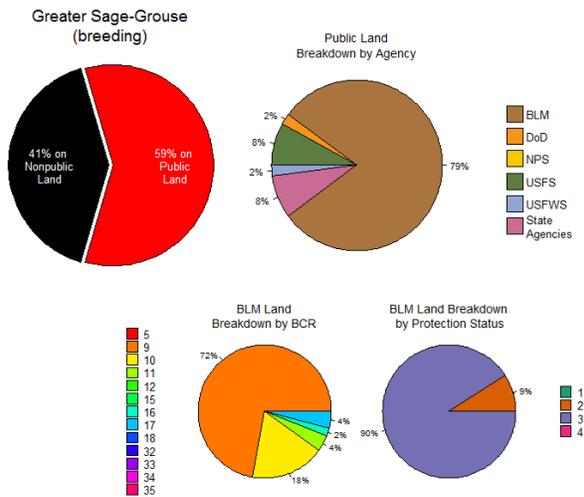


Fig. 3.1.1b. Jurisdictional breakdown for the Greater Sage-Grouse.

Table 3.1.1a. Percent of breeding distribution within the top ten BLM Field Offices for the Greater Sage-Grouse.

BLM Field Office	Percent of Distribution
Miles City	8.3
Humboldt River	4.9
Spokane Wenatchee	4.1
Lakeview District Lakeview	3.8
Prineville Central Oregon	3.3
Malta	3.2
Tuscarora	3.1
Vale Jordan	3.0
Vale Malheur	2.9
Wells	2.9

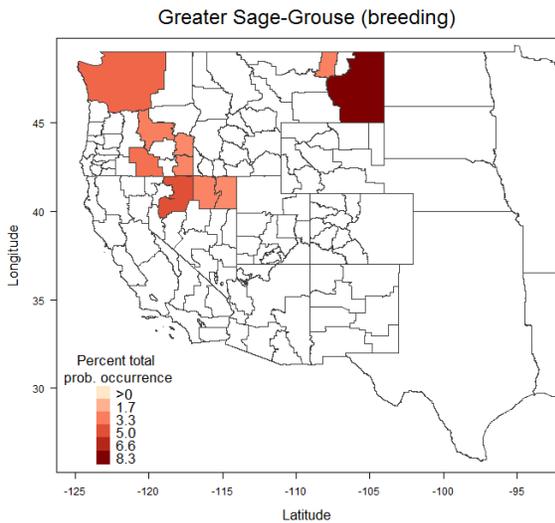


Fig. 3.1.1c. Ten most important BLM Field offices for the Greater Sage-Grouse.

Section 3.1.2: Sage Thrasher

Like Greater Sage-Grouse, Brewer's Sparrow and Sage Sparrow, the Sage Thrasher is an endemic breeder in the Great Basin sagebrush steppe (dominated by big sagebrush *Artemisia tridentata*). With breeding grounds centered on Nevada, western Utah, and southern Wyoming (areas of >70% BLM ownership), this species is highly dependent upon those areas for breeding (Fig. 3.1.2a). As in other sagebrush species the percentage of the breeding distribution on public lands is very high (74%), but the proportion of public lands within the distribution under BLM management is the highest (85%) of any species analyzed for this report. The vast majority of the BLM distribution is in BCR's 9 and 10 (Fig. 3.1.2b). Over 90% of BLM lands supporting breeding Sage Thrashers are classified as "GAP 3" or multiple-use.

The top 10 Field Offices account for 41% of the total Sage Thrasher distribution, with the greatest stewardship responsibility in the Humboldt River, Rawlins, and Rock Springs Field Offices (Table 3.1.2a; Fig3.1.2c). The seasonal jurisdiction of the Sage Thrasher is highest on BLM lands in the summer months (April-August), and lowest in fall and later winter, when they occur more widely on state-owned lands (Fig. 3.1.2d).

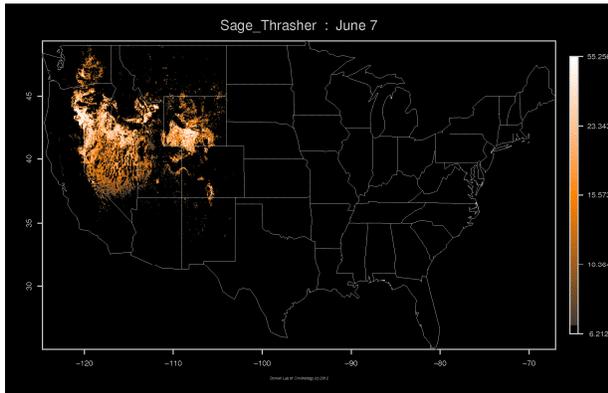


Fig. 3.1.2a. Distributional models for the Sage Thrasher.

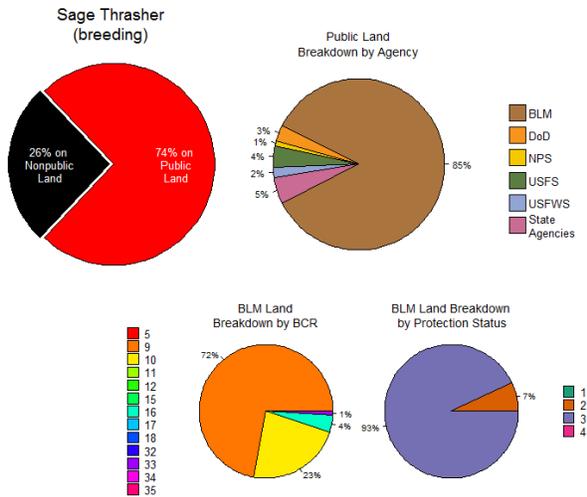


Fig. 3.1.2b. Jurisdictional breakdown for the Sage Thrasher.

Table 3.1.2a. Percent of breeding distribution within the top ten BLM Field Offices for the Sage Thrasher.

BLM Field Office	Percent of Distribution
Rawlins	6.0
Humboldt River	5.5
Rock Springs	5.4
Lakeview District Lakeview	4.4
Tuscarora	4.2
Wells	3.9
Vale Jordan	2.9
Prineville Central Oregon	2.9
Upper Snake	2.8
Lander	2.8

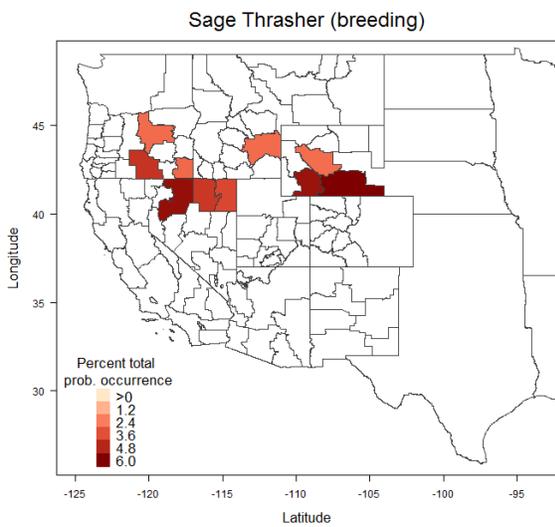


Fig. 3.1.2c. Ten most important BLM Field offices for the Sage Thrasher.

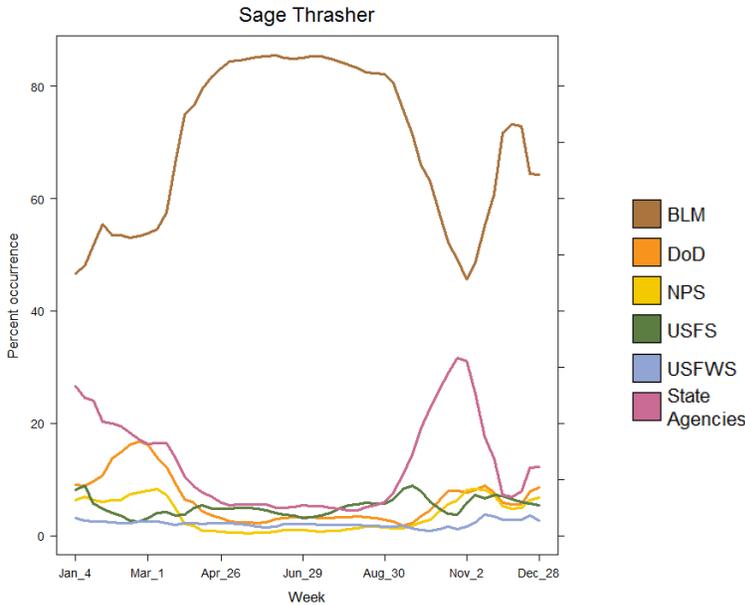


Fig. 3.1.2d. Seasonal jurisdictional breakdown by public agency for the Sage Thrasher.

Section 3.1.3: Green-tailed Towhee

Unlike the other sparrows in this analysis (Brewer’s and Sage Sparrow), Green-tailed Towhee is a higher elevation breeder, preferring taller and denser sagebrush, mountain mahogany and other more extensive shrub communities. It is commonly found in recently burned areas in high elevation conifer forests (8-15 years after fire). In winter, Green-tailed Towhees occur widely south of the United States, but a large number winter in southern California, Arizona, New Mexico, and Texas (Fig. 3.1.3a). While 39% of its breeding distribution on public lands is managed by the BLM, this slightly different preference in its breeding habitat is reflected in its much higher proportion of distribution on U.S. Forest Service lands as well, covering an additional 51% of its public-land range (Fig. 3.1.3b). Together the two agencies have stewardship responsibility for management of over 60% of the species’ breeding distribution and 90% of the distribution on public lands. Considering only the breeding distribution on BLM lands, more than two-thirds are within the Great Basin BCR (9), and 87% is on lands classified as “GAP 3” or multiple-use.

Although the proportion of public land managed by BLM used by Green-tailed Towhees is relatively constant from summer to winter (40%-50%), the overall BLM responsibility for the species’ distribution drops from 30% to 23% (Table 3.0), because of their greater use of private lands in winter (Fig. 3.1.3d). Also, the winter distribution is shared more with state-managed and Department of Defense lands, rather than primarily USFS lands as in summer. In winter a higher proportion of BLM distribution of Green-tailed Towhee (21%) is on lands classified as “GAP 1 or 2” and offer greater biodiversity protections.

Because of their wide breeding distribution, the top ten BLM Field Offices support 30% of the total Green-tailed Towhee distribution, but with birds more concentrated in winter, 88% of the distribution is within the top ten Field Offices. Salt lake is the most important Field Office for this species in the

breeding season, whereas Oklahoma, Las Cruces District, and Safford are most important in winter (Table 3.1.3a; Fig. 3.1.3c).

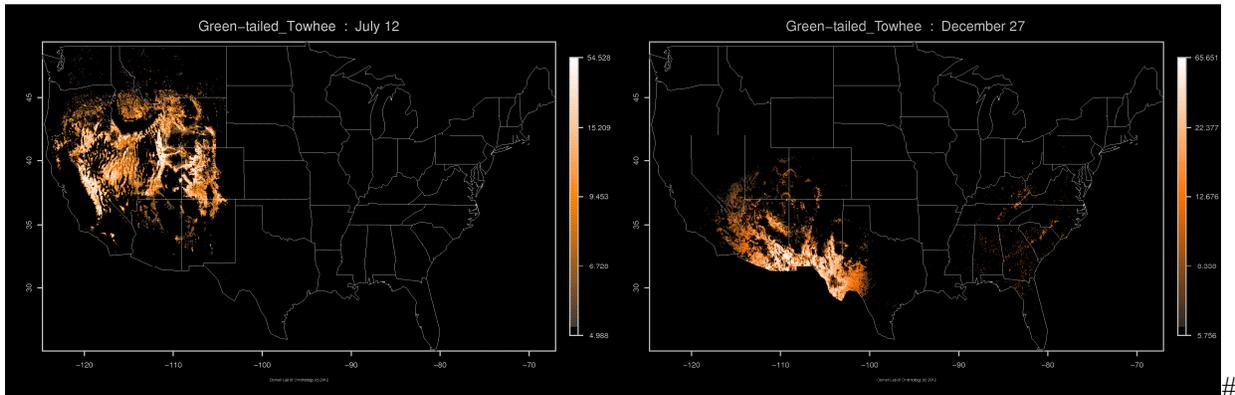


Fig. 3.1.3a. Distributional models for the Green-tailed Towhee.

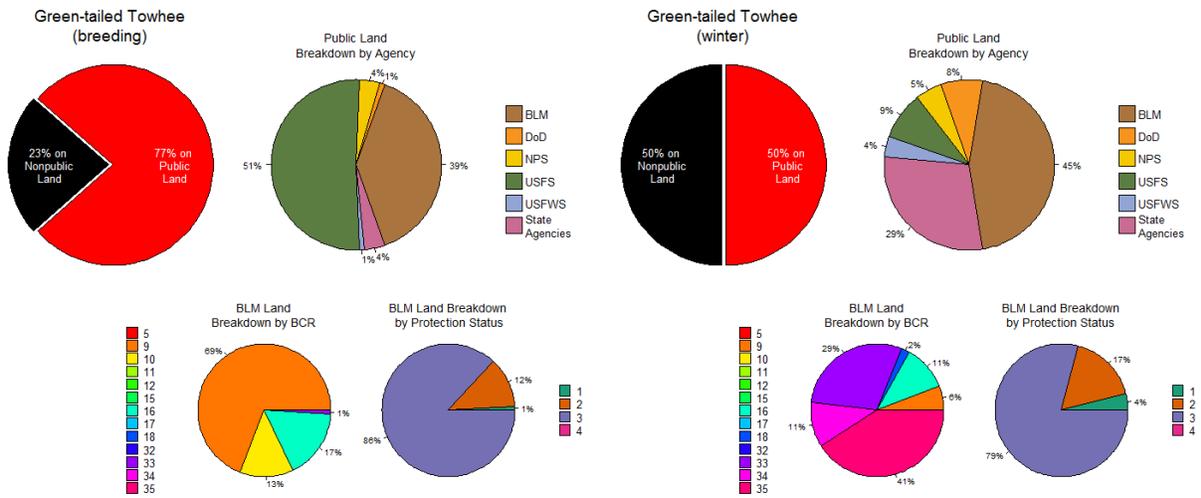


Fig. 3.1.3b. Jurisdictional breakdown for the Green-tailed Towhee.

Table 3.1.3a. Percent of breeding distribution within the top ten BLM Field Offices for the Green-tailed Towhee.

BLM Field Office	Percent of Distribution
Salt Lake	5.9
Mount Lewis	3.3
Bakersfield	2.9
Royal Gorge	2.8
Tonopah	2.8
Bishop	2.7
Wells	2.7
Mother Lode	2.4
Tuscarora	2.2
Tres Rios	2.2

Table 3.1.3b. Percent of winter distribution within the top ten BLM Field Offices for the Green-tailed Towhee.

BLM Field Office	Percent of Distribution
Oklahoma	27.0
Las Cruces District Office	14.0
Safford	11.1
Tucson	6.8
Hassayampa	6.0
Lower Sonoran	5.3
Carlsbad	4.6
Southeastern States	3.7
Roswell	3.0
Kingman	1.8

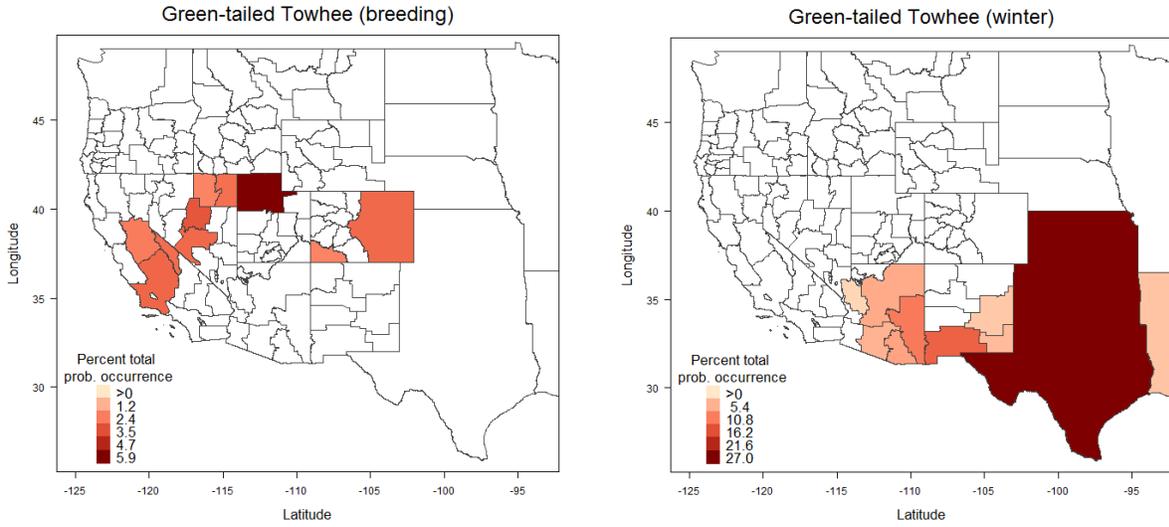


Fig. 3.1.3c. Ten most important BLM Field offices for the Green-tailed Towhee.

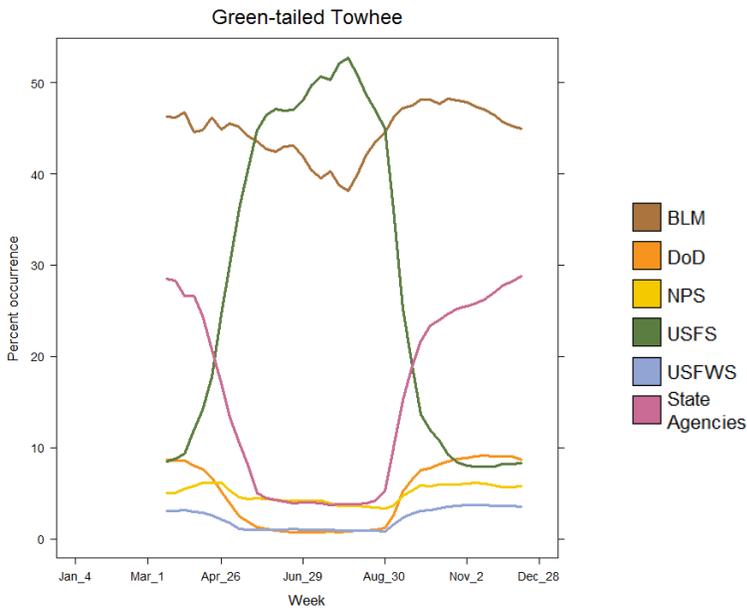


Fig. 3.1.3d. Seasonal jurisdictional breakdown by public agency for the Green-tailed Towhee.

Section 3.1.4: Brewer's Sparrow

Brewer's Sparrow is on the Partners in Flight Watch List (Rich et al. 2004) and is potentially a model for common species of interest to BLM because of its high stewardship responsibility. This species is a desert dweller, breeding in sagebrush scrub (e.g., desert valleys and mountain glades) centered in the Great Basin Desert (e.g., northern Nevada). Its wintering grounds do not overlap with the breeding grounds, as the species moves south to winter in the open, sparse grasslands and desert scrub of the Chihuahuan and Sonoran Deserts (Fig. 3.1.4). BLM lands are very important year round for Brewer's Sparrows, although different regions are used in summer and winter. Since so much of the Great Basin Deserts are managed by BLM, 55% of total Brewer's Sparrow distribution is under BLM management (Table 3.0).

Of the 73% of Brewer's Sparrow distribution on public lands, more than three-fourths are on BLM lands (Fig. 3.1.4b). Considering only the Brewer's Sparrow breeding distribution on BLM land, 78% is within the Great Basin Bird Conservation Region, and more than 90% is on land classified as "GAP3" (multiple-use) in the PAD-US database. In winter, when Brewer's Sparrows occur primarily from Arizona to west Texas, the proportion of their total distribution on BLM land is halved (55% to 25% on BLM; Table 3.0). In winter the percent of total distribution on public lands is reduced to 54% with 46% of the public lands distribution on BLM lands. Considering only the wintering distribution on BLM lands, more than 70% is within BCRs 33, 34, and 35, covering the Sonoran, Mohave, and Chihuahuan Desert regions. In winter, a higher proportion (22%) of Brewer's Sparrows on BLM lands are under management to maintain habitats in a natural state, offering greater protections for biodiversity (Fig. 3.1.4b).

As with other widespread species, no single BLM Field office has an overwhelming responsibility for Brewer's Sparrow, although the top ten Field Offices support 35% of the total breeding distribution with Rawlins on top of the list (Table 3.1.4a; Fig. 3.1.4c). In winter, with a more limited distribution within the U.S., the top 10 BLM Field Offices cover 81% of the total distribution in the U.S., with Oklahoma, Las Cruces, and Safford supporting 48% (Table 3.1.4b). The year-round distribution of Brewer's Sparrow remains relatively high on BLM lands, with higher proportions in summer and lower in winter, when the public lands distribution is shared more with state agencies (Fig. 3.1.4d).

Note that a larger and darker alpine and Canadian subspecies, *Spizella breweri taverneri* (Taverner's Sparrow), is not well represented by this analysis. Its breeding grounds are largely north of the United States and its wintering grounds are not well understood, but probably in Mexico.

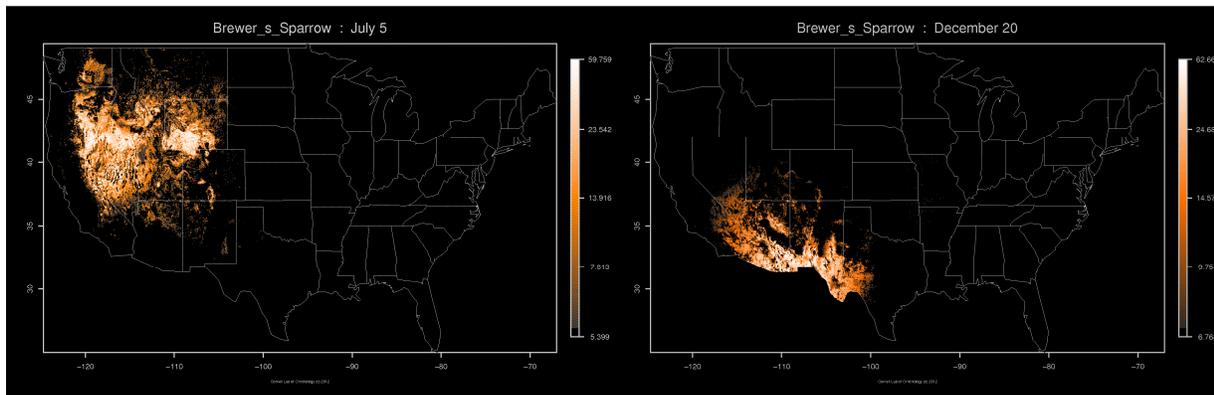


Fig. 3.1.4a. Distributional models for the Brewer's Sparrow.

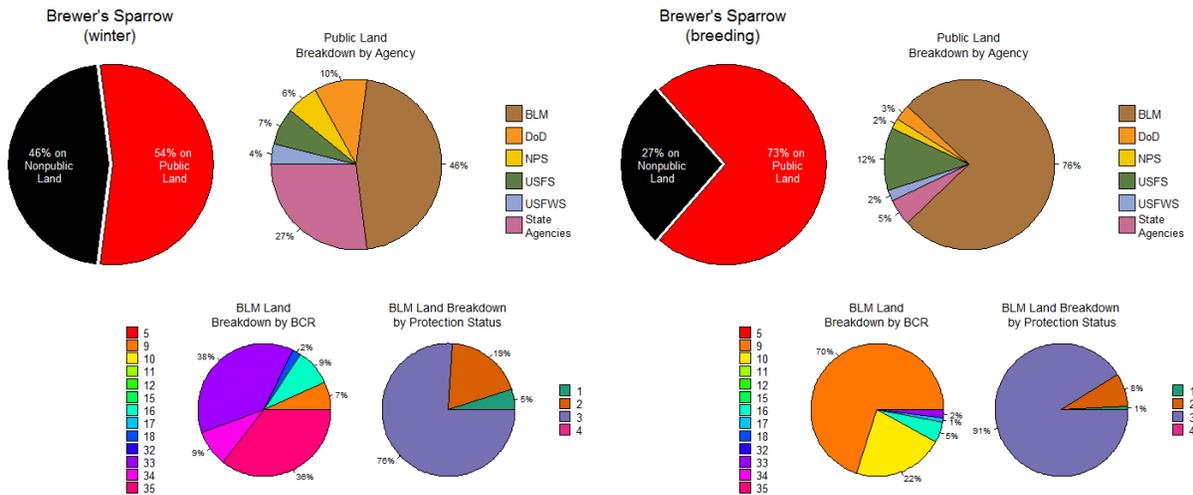


Fig. 3.1.4b. Jurisdictional breakdown for the Brewer's Sparrow.

Table 3.1.4a. Percent of breeding distribution within the top ten BLM Field Offices for the Brewer's Sparrow.

BLM Field Office	Percent of Distribution
Rawlins	5.1
Humboldt River	4.5
Tuscarora	4.2
Rock Springs	4.1
Wells	3.4
Salt Lake	3.2
Tonopah	3.2
Mount Lewis	3.0
Lakeview District Lakeview	2.9
Lander	2.7

Table 3.1.4b. Percent of winter distribution within the top ten BLM Field Offices for the Brewer's Sparrow.

BLM Field Office	Percent of Distribution
Oklahoma	23.9
Las Cruces District Office	14.4
Safford	10.4
Tucson	6.7
Lower Sonoran	6.6
Hassayampa	6.5
Carlsbad	4.2
Roswell	3.3
Yuma	2.6
Socorro	2.1

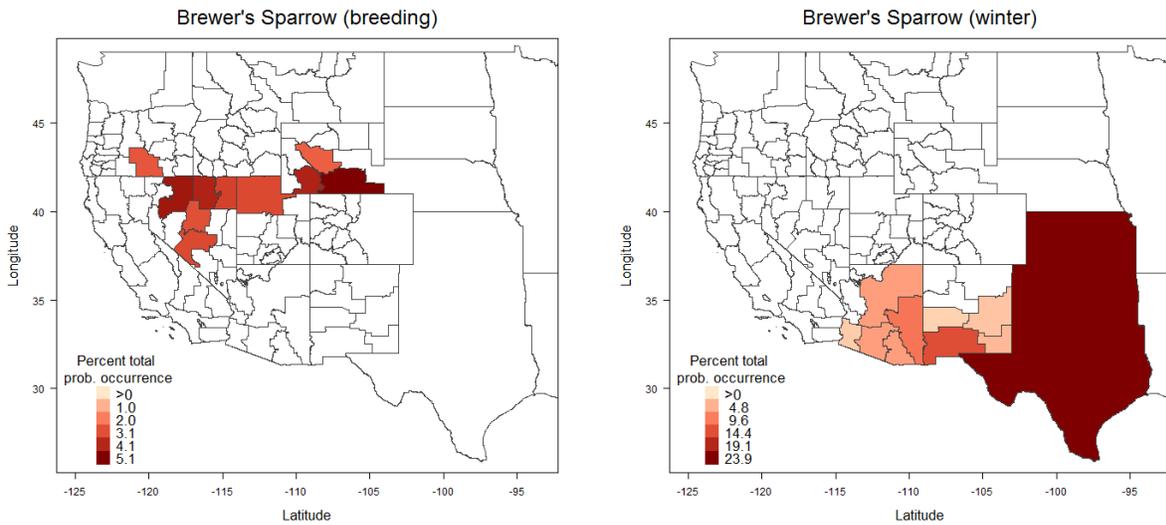


Fig. 3.1.4c. Ten most important BLM Field offices for the Brewer's Sparrow.

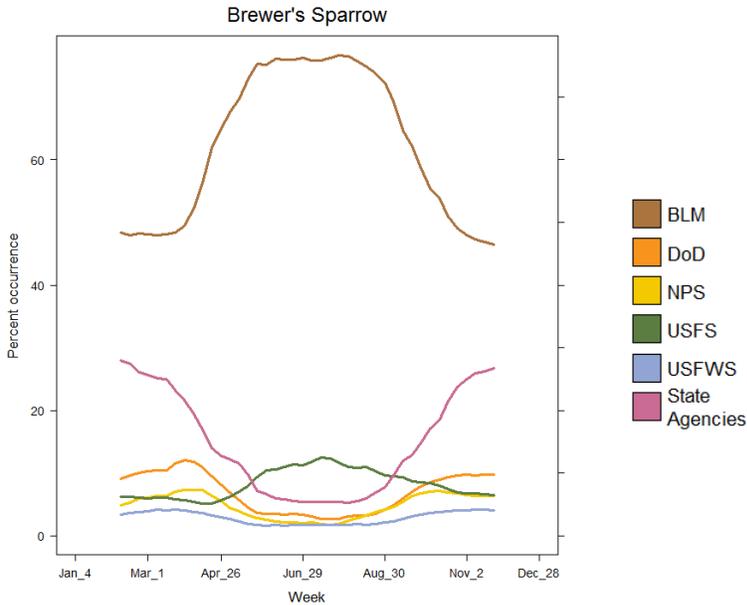


Fig. 3.1.4d. Seasonal jurisdictional breakdown by public agency for the Brewer's Sparrow.

Section 3.1.5: Sage Sparrow

Even more so than Brewer's Sparrow and Sage Thrasher, interior populations of Sage Sparrow are almost completely dependent upon Great Basin sagebrush steppe habitat, which is largely under BLM management (Fig. 3.1.5a). Of all 47 species analyzed, it is the species with the highest proportion of its total breeding distribution (67%) on BLM land (Table 3.0). Among U.S. birds, Sage Sparrow has among the largest percentage of its breeding distribution on public lands (83%), with 81% of the distribution on public land being on BLM-managed lands (Fig. 3.1.5b). The vast majority of the BLM distribution is in BCR 9 and 10, and is on multiple-use “Gap-3” lands (87%).

The top ten BLM Field Offices support 44% of the total Sage Sparrow breeding distribution, with the highest stewardship responsibility in Humboldt River, Tonopah, Ridgecrest and Stillwater offices (Table 3.1.5a; Fig 3.1.5c). Throughout the year, the Sage Sparrow is a quintessential “BLM species” (Fig. 3.1.5d).

Note on distribution model: Although the northern and eastern boundaries of the breeding range are well defined by our modeling, the southwestern quadrant is showing significant over-extrapolation; Sage Sparrow does not occur in summer in western Arizona and southeastern California. Although the model defined the boundaries quite well in other parts of the species' range, perhaps the landscape variables used in the model did not accurately identify the transition zone between the Great Basin and Mojave Deserts, which effectively defines the southern breeding range of Sage Sparrow.

This extrapolation probably results in an *under-estimate* of the total proportion of the species' range that

occurs on BLM land, since the BLM holdings in eastern California and western Arizona are comparatively less than those in the core range of northern Nevada. An additional resident population of Sage Sparrow may represent a full species in its own right. In addition to different plumage characteristics, the subspecies *Artemisospiza belli belli* has different migratory behavior, habitat, and range, breeding in sage scrub along the Pacific slope including the Coast Ranges from northern Mexico to northern California. (This population does not show a strong signal on the maps.)

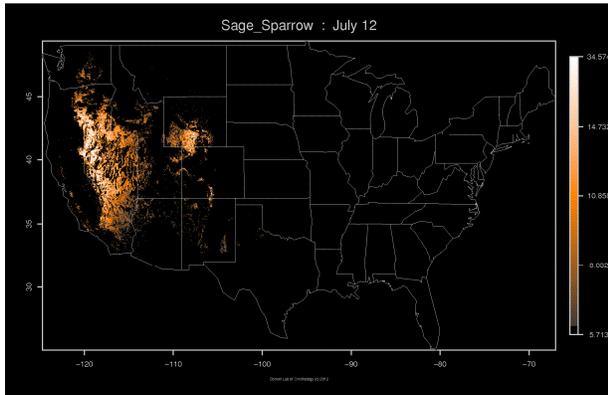


Fig. 3.1.5a. Distributional models for the Sage Sparrow.

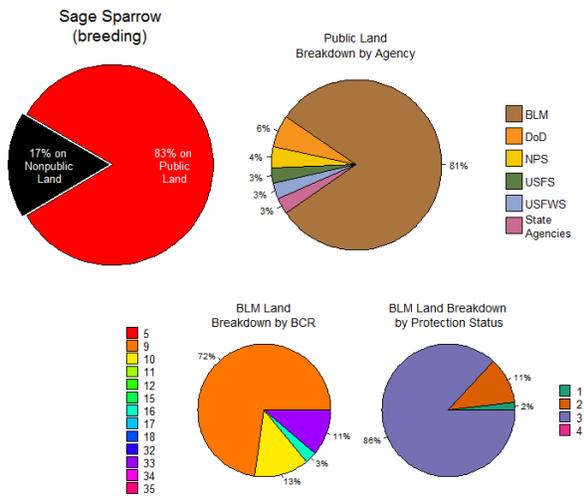


Fig. 3.1.5b. Jurisdictional breakdown for the Sage Sparrow.

Table 3.1.5a. Percent of breeding distribution within the top ten BLM Field Offices for the Sage Sparrow.

BLM Field Office	Percent of Distribution
Humboldt River	7.4
Tonopah	5.6
Ridgecrest	5.2
Stillwater	4.5
Rawlins	4.4
Lakeview District Lakeview	4.2
Rock Springs	3.6
Pahrump	3.4
Tuscarora	3.1
Vale Jordan	2.9

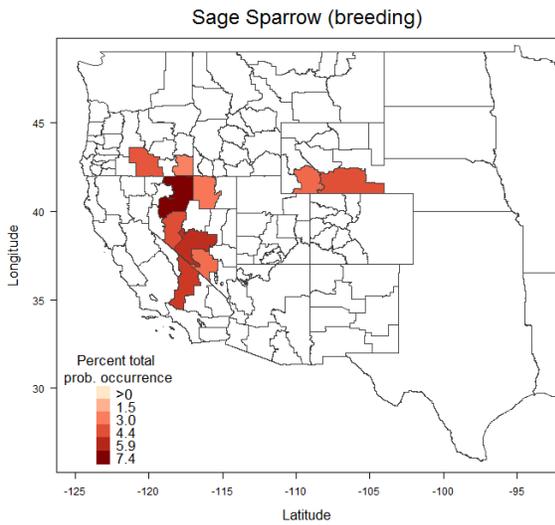


Fig. 3.1.5c. Ten most important BLM Field offices for the Sage Sparrow.

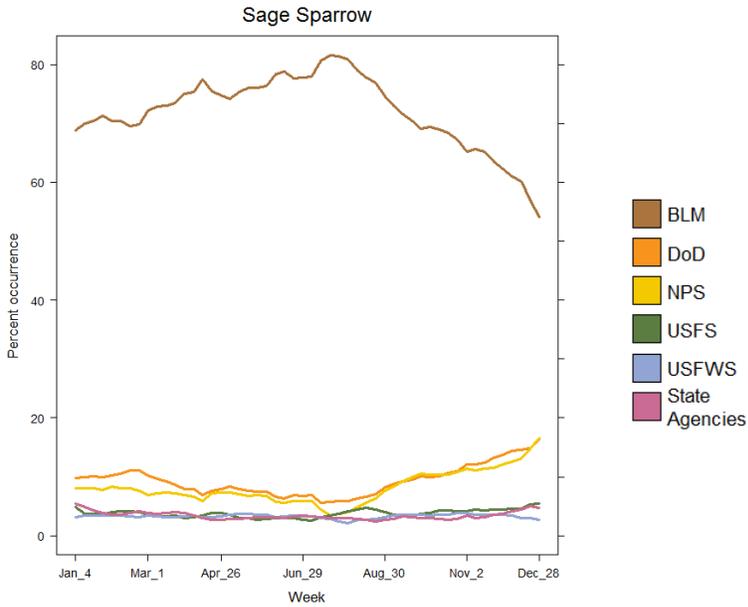


Fig. 3.1.5d. Seasonal jurisdictional breakdown by public agency for the Sage Sparrow.

Section 3.2: Desert scrub species

We include analysis for five species of desert scrub bird species (Table 3.2), all of which were Aridland obligate species included in the 2011 State of the Birds Report. As a group, this suite of species shows a relatively high dependence on BLM lands throughout the year.

Most of these species occur widely in Mexico as well, but in the U.S. are largely restricted to the Sonoran and/or Mojave Deserts centered on southeastern California and Arizona, and extending north to southern Nevada and southeastern Utah and east to eastern New Mexico. These deserts have diverse plant assemblages, and each species in this group has unique habitat requirements that govern its distribution. Three species are migratory to some degree and two--Phainopepla and Costa's Hummingbird--are fairly widespread in interior and coastal California as well.

Table 3.2. The five desert scrub species examined in the assessment with dates for which distributional estimates were used in the jurisdictional summary. Note that Gilded Flicker and Le Conte’s Thrasher, and to some extent Phainopepla, are generally considered resident in most areas and the breeding date was chosen as the best representation of their year-round presence.

Species	Breeding	Winter
Costa’s Hummingbird (<i>Calypte costae</i>)	July 12	December 27
Gilded Flicker (<i>Colaptes chrysoides</i>)	August 9	n/a
Le Conte’s Thrasher (<i>Toxostoma lecontei</i>)	August 9	n/a
Phainopepla (<i>Phainopepla nitens</i>)	June 7	n/a
Lucy’s Warbler (<i>Oreothlypis luciae</i>)	July 19	n/a

Section 3.2.1: Costa's Hummingbird

Costa’s Hummingbird is a bird of dry deserts in northwest Mexico (especially the Baja California Peninsula) and the desert southwest of the United States. Reaching its extreme northern extent just south of San Francisco Bay, the species is common in dry deserts of southern California, western Arizona, and southern Nevada, shown well in Fig. 3.2.1a. The timing of its breeding differs substantially by region. In Arizona, it breeds in January and February and by late spring it can be quite hard to find; in California birds arrive in March and breed from April to June, and may undergo post-breeding dispersal upslope in the mountains thereafter. Most birds depart for Mexico during September and October and it has a more restricted distribution in the U.S. during November and December (Fig. 3.2.1a). The movements of this species are complex and there may be more to learn about the movements of this species; however, BLM lands are important for Costa’s Hummingbirds year-round (37%-39% of total distribution; Table 3.0).

The jurisdictional breakdown of Costa’s Hummingbird varies little from breeding to winter (Fig. 3.2.1d), with 73%-76% of the distribution on public land, and 49%-53% of the public land distribution on BLM lands (Fig. 3.2.1b). The vast majority of the BLM distribution is within BCR 33 (Sonoran Desert), but unlike many other species, 41% to 43% of the BLM distribution is on lands with strong biodiversity protection status (GAP-1 and 2; PAD-US).

With its relatively small total distribution in the southwestern U.S. 80% of the distribution is supported by the top-10 BLM Field Offices in both breeding and winter seasons. Because of the subtle shift in distribution between seasons, however, the top BLM Field Offices in terms of highest stewardship

responsibility also changes slightly – from Palm Springs/South Coast, Barstow, and Ridgecrest during breeding, to Lower Sonoran, Yuma, and Needles among others during winter.

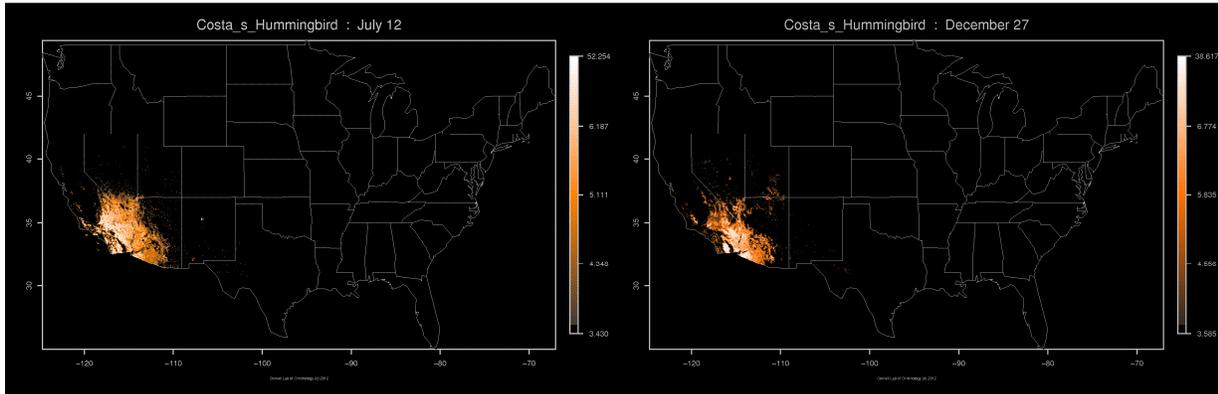


Fig. 3.2.1a. Distributional models for the Costa's Hummingbird.

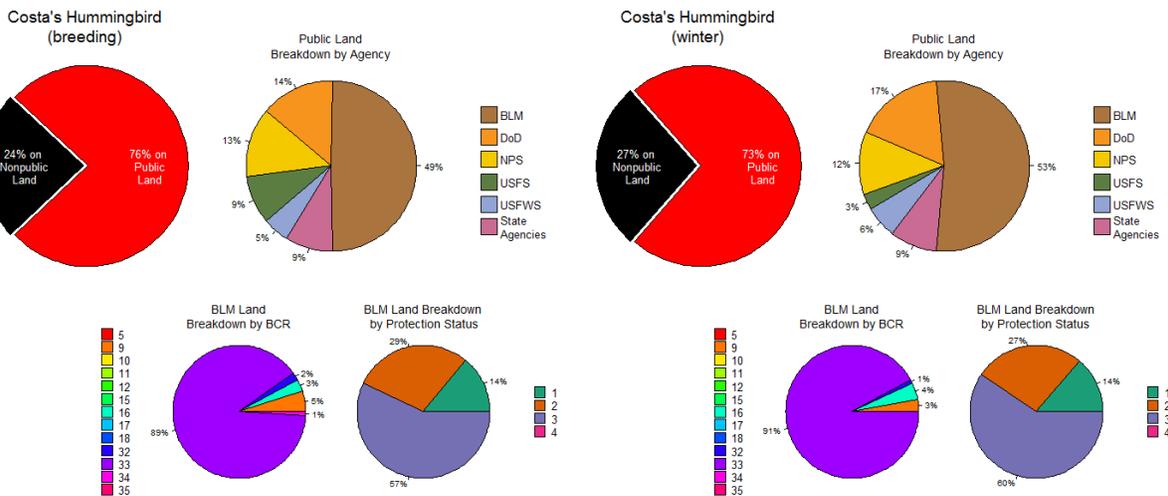


Fig. 3.2.1b. Jurisdictional breakdown for the Costa's Hummingbird.

Table 3.2.1a. Percent of breeding distribution within the top ten BLM Field Offices for the Costa's Hummingbird.

BLM Field Office	Percent of Distribution
Palm Springs/S. Coast	11.8
Barstow	10.9
Ridgecrest	10.5
Lower Sonoran	9.2
Needles	8.5
Yuma	6.6
Kingman	6.2
Hassayampa	5.7
Las Vegas	5.1
El Centro	4.9

Table 3.2.1b. Percent of winter distribution within the top ten BLM Field Offices for the Costa's Hummingbird.

BLM Field Office	Percent of Distribution
Lower Sonoran	12.3
Yuma	11.0
Barstow	10.4
Needles	10.2
Palm Springs/S. Coast	9.6
El Centro	7.9
Ridgecrest	6.9
Hassayampa	5.3
Las Vegas	4.4
Lake Havasu	4.1

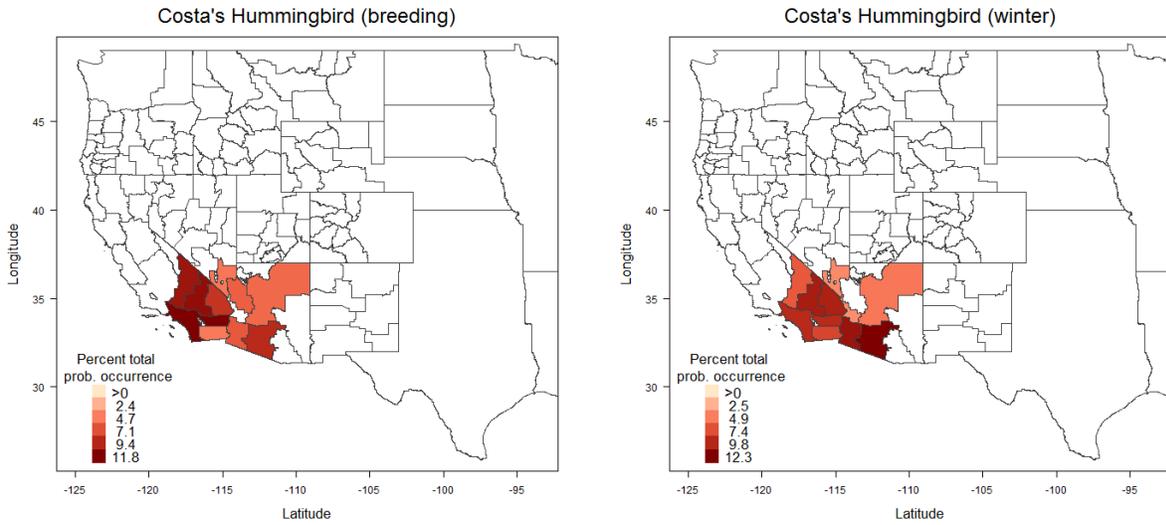


Fig. 3.2.1c. Ten most important BLM Field offices for the Costa's Hummingbird.

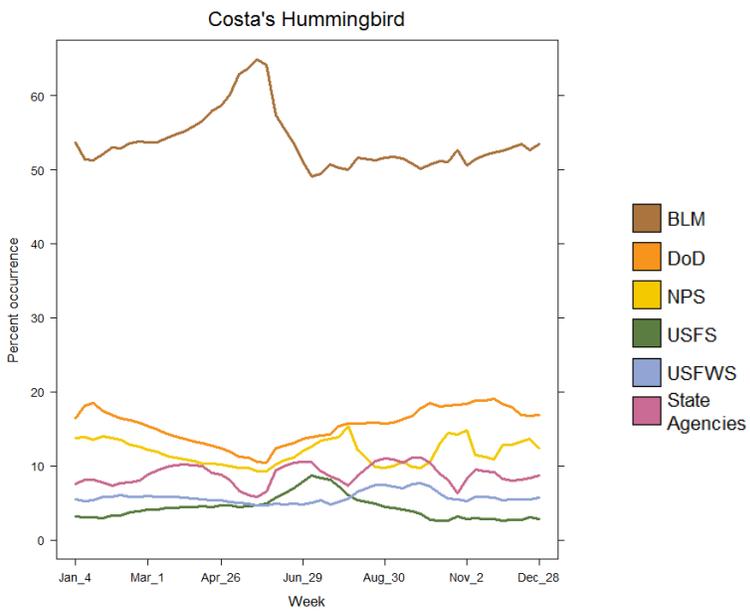


Fig. 3.2.1d. Seasonal jurisdictional breakdown by public agency for the Costa's Hummingbird.

Section 3.2.2: Gilded Flicker

Once considered conspecific with the more widespread Northern Flicker (*Colaptes auratus*), the Gilded Flicker has a very limited range in the Sonoran Desert of southern Arizona, extreme eastern California (where rare), northwest Mexico (western Sonora), and the Baja California Peninsula. Fig. 3.2.2a shows the breeding range well, but extrapolates slightly at the northern edge of its range since the species does not quite reach southwestern Utah. Gilded Flicker is a desert specialist, excavating large cacti like saguaros and organ pipe cacti, and cottonwoods along watercourses, for its nests. The species is resident with extremely limited seasonal movements. BLM lands support 39% of its total U.S. Distribution (Table 3.0).

As with Costa's Hummingbird and other Sonoran Desert specialists, 74% of the breeding (and year-round) distribution is on public land, and 54% of that public land distribution is managed by BLM (Fig. 3.2.2b). Other lands that share relatively high responsibility for this species are DoD and State-owned lands (14% each). This high reliance on BLM lands is consistent throughout the year (Fig. 3.2.2d). Gilded Flickers on BLM land occur nearly exclusively in BCR 33 (Sonoran Desert) and a relatively high proportion (40%) of these BLM lands have elevated biodiversity protection status (Gap 1 and 2).

Five BLM Field Offices support 64% of the total breeding distribution, with Lower Sonoran and Yuma offices having the highest stewardship responsibility for this species.

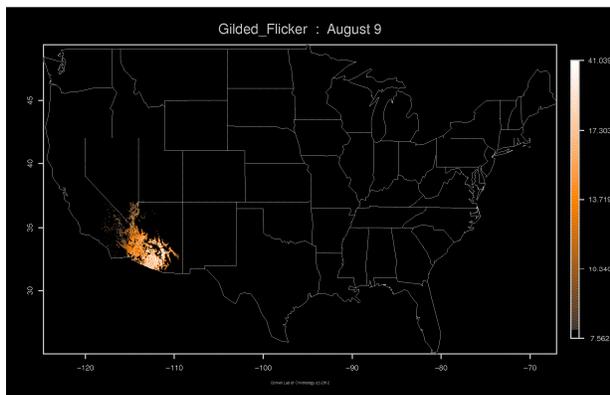


Fig. 3.2.2a. Distributional models for the Gilded Flicker.

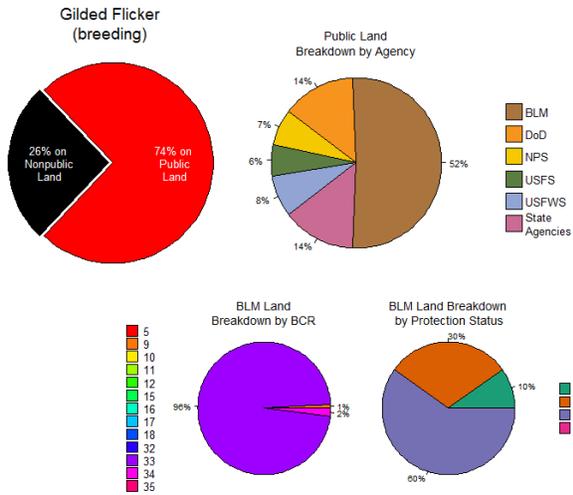


Fig. 3.2.2b. Jurisdictional breakdown for the Gilded Flicker.

Table 3.2.2a. Percent of breeding distribution within the top five BLM Field Offices for the Gilded Flicker.

BLM Field Office	Percent of Distribution
Lower Sonoran	29.3
Yuma	13.5
Tucson	8.5
Needles	7.2
Hassayampa	6.6

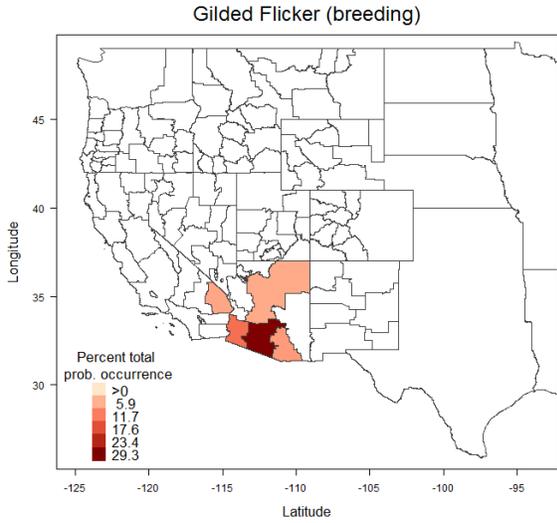


Fig. 3.2.2c. Five most important BLM Field Offices for the Gilded Flicker.

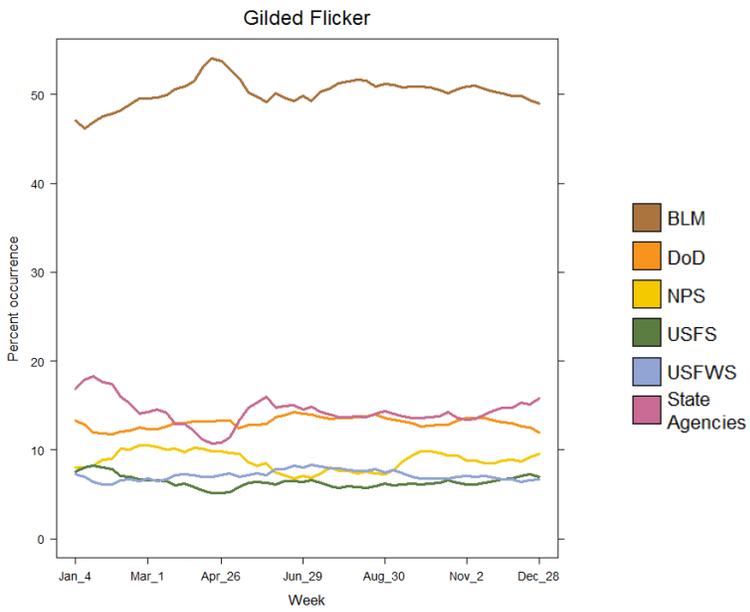


Fig. 3.2.2d. Seasonal jurisdictional breakdown by public agency for the Gilded Flicker.

Section 3.2.3: Le Conte's Thrasher

Aside from an isolated population on the central Baja California Peninsula that is sometimes considered a separate species (Vizcaino Thrasher), the Le Conte's Thrasher is entirely restricted to a very small region from northwestern Sonora to east-central California, southern Nevada, southwesternmost Utah, and western Arizona, shown well in Fig. 3.2.3a. Even within that range it is somewhat locally distributed, preferring sandy deserts with very sparse vegetation, especially saltbush and creosote. This species is non-migratory and is likely a very poor disperser.

Le Conte's Thrasher has among the highest percentage of its overall distribution on public lands of any U.S. bird – 85%, and although a relatively high percentage of its public land distribution is on BLM land (48%), responsibility is shared extensively with National Park Service (21%) and DoD (20%) lands (Fig. 3.2.3b). This proportional responsibility among agencies is consistent throughout the year (Fig. 3.2.3d). As with Costa's Hummingbird, virtually all of the BLM distribution of Le Conte's Thrasher is within BCR 33, and a relatively high proportion (40%) of these BLM lands have elevated biodiversity protection status (Gap 1 and 2).

The top 10 BLM Field Offices support 93% of the breeding (and year-round) distribution of Le Conte's Thrasher, with Ridgecrest, Barstow, and Needles Field Offices having the greatest jurisdictional responsibility for the species.

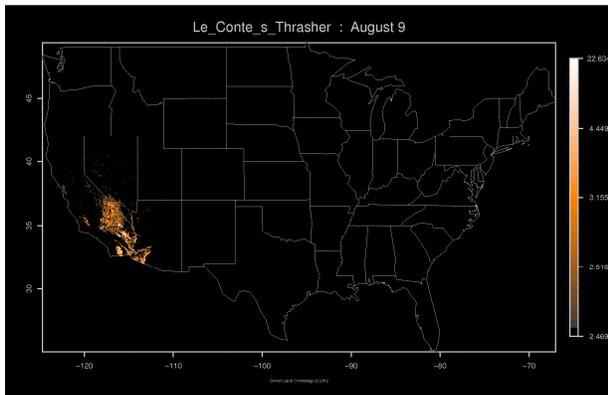


Fig. 3.2.3a. Distributional models for the Le Conte's Thrasher.

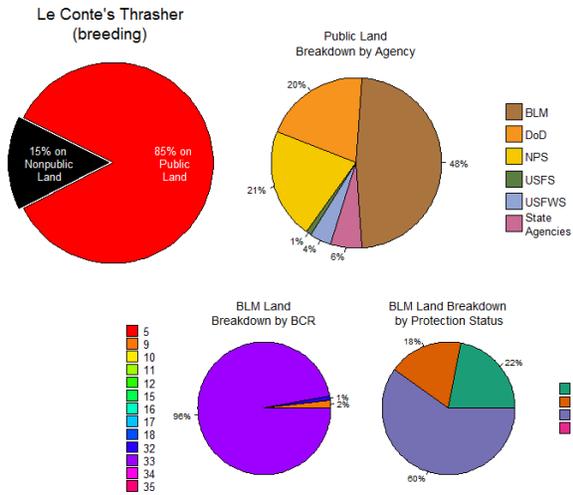


Fig. 3.2.3b. Jurisdictional breakdown for the Le Conte's Thrasher.

Table 3.2.3a. Percent of breeding distribution within the top ten BLM Field Offices for the Le Conte's Thrasher.

BLM Field Office	Percent of Distribution
Ridgecrest	21.3
Barstow	18.2
Needles	14.0
El Centro	10.9
Yuma	7.5
Lower Sonoran	7.1
Palm Springs/S. Coast	5.2
Pahrump	4.2
Bakersfield	3.9
Lake Havasu	1.5

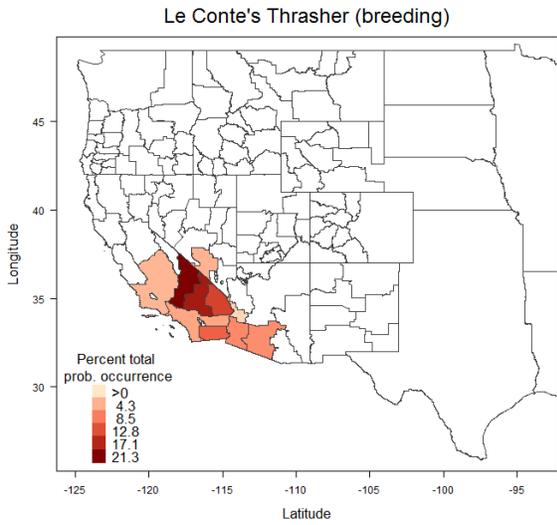


Fig. 3.2.3c. Ten most important BLM Field offices for the Le Conte's Thrasher.

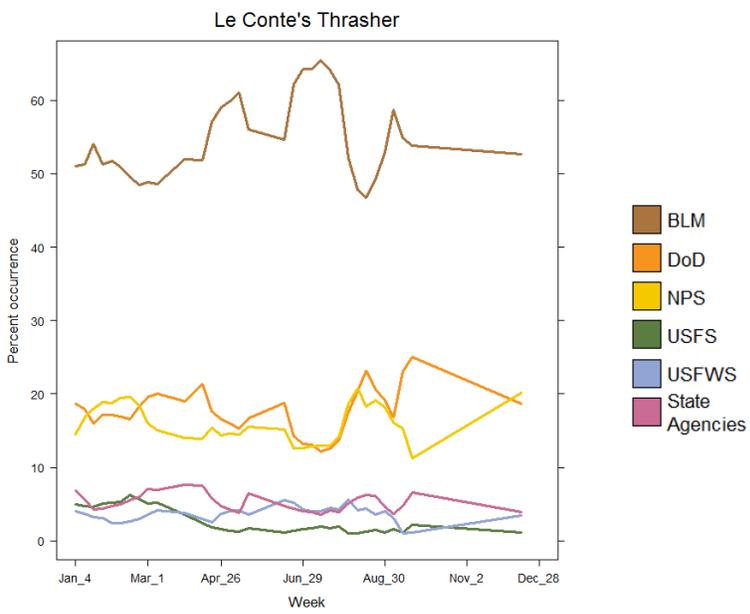


Fig. 3.2.3d. Seasonal jurisdictional breakdown by public agency for the Le Conte's Thrasher.

Section 3.2.4: Phainopepla

Phainopepla is an enigmatic bird of western deserts and oak woodlands, and its distribution is largely governed by the distribution of fruiting mistletoe, on which it feeds extensively. They are quite common in the western Chihuahuan Desert, Sonoran Desert, and Mojave Desert, as well as the oak woodlands in mid-elevations of California mountains. This distribution also spans the length of the Baja California Peninsula and north through California west of the Sierra Nevada on both sides of the Central Valley. To the east, it reaches its northern limits in southern Nevada, northern Arizona, central New Mexico, and the Trans-Pecos of Texas. The modeled results in Fig. 3.2.4a are very accurate, with only very slight over-extrapolation in Utah and west Texas. Some Phainopepla appear to be resident in Sonoran Desert and nest early (Jan–May), while others breed later in oak and sycamore canyons as far n. as central California (May–Jul). During winter and the first breeding season Phainopeplas favor deserts where they are most common in desert riparian areas and along ditches with larger trees, particularly in areas with mesquite. The two different breeding seasons contribute to complex movements, with seasonal changes in abundance varying regionally in Arizona and California. Whether some of this variation is the result of birds migrating east and west within areas of year-round occurrence is still incompletely understood.

As with other desert scrub species, a majority of Phainopepla's breeding distribution is on public land (62%), although its occurrence in California's chaparral and oak woodlands makes this value lower than some other obligate species. The distribution on public land is shared rather equally between BLM (45%) and other federal and state agencies (Fig. 3.2.4b). This jurisdictional breakdown is consistent throughout the year (Fig. 3.2.4d). BLM lands supporting Phainopeplas are primarily in BCR 33 and 35, and as with other desert-scrub species, a relatively high proportion of these BLM lands (37%) have elevated biodiversity protection status (GAP 1 and 2).

The top Ten BLM Field Offices support 71% of the total Phainopepla distribution, with Lower Sonoran, Hassayampa, Oklahoma, Safford, and Tucson offices sharing the highest stewardship responsibility.

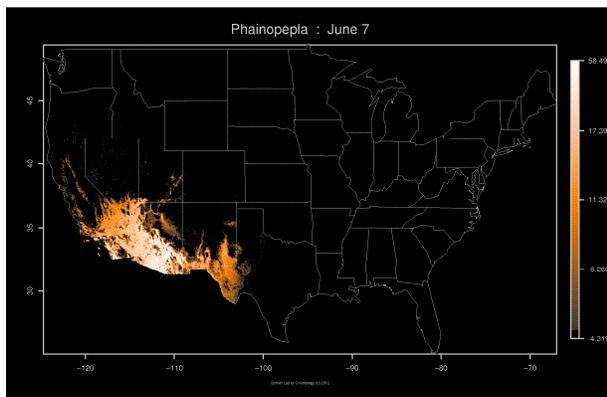


Fig. 3.2.4a. Distributional models for the Phainopepla.

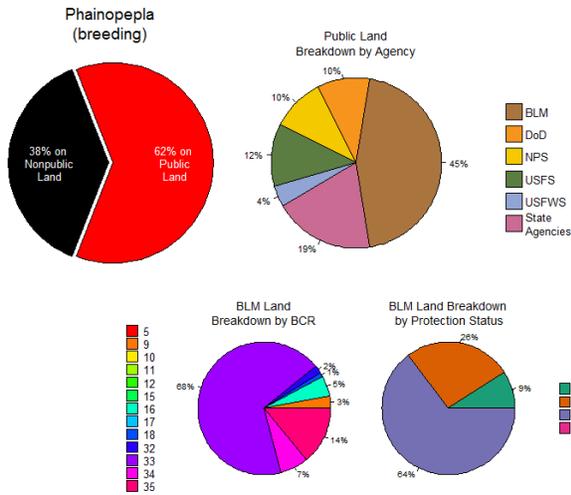


Fig. 3.2.4b. Jurisdictional breakdown for the Phainopepla.

Table 3.2.4a. Percent of breeding distribution within the top ten BLM Field Offices for the Phainopepla.

BLM Field Office	Percent of Distribution
Lower Sonoran	10.1
Oklahoma	8.5
Safford	7.9
Hassayampa	7.7
Tucson	7.7
Palm Springs/S. Coast	6.8
Las Cruces District Office	6.6
Barstow	4.8
Kingman	4.8
Yuma	4.5

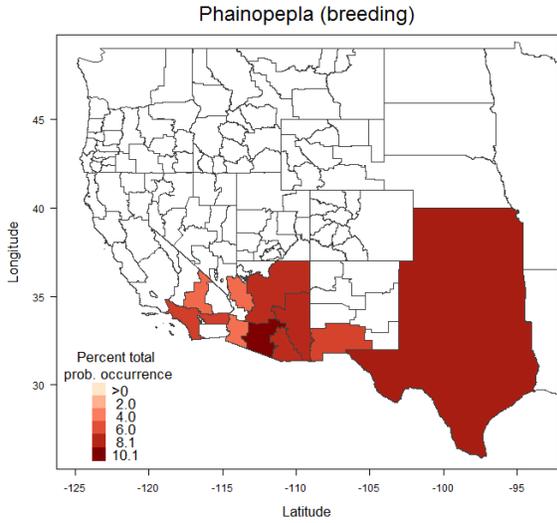


Fig. 3.2.4c. Ten most important BLM Field offices for the Phainopepla.

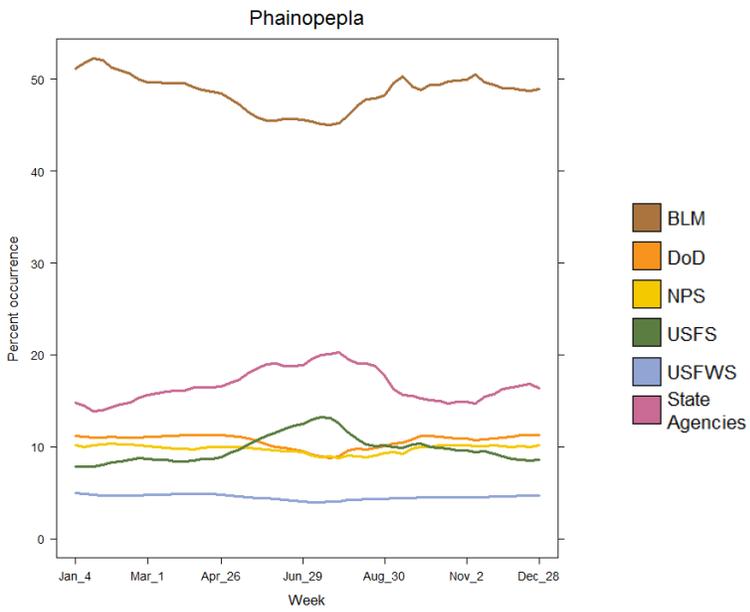


Fig. 3.2.4d. Seasonal jurisdictional breakdown by public agency for the Phainopepla.

Section 3.2.5: Lucy's Warbler

Lucy's Warbler is a small, gray warbler and the only member of Parulidae that is exclusively adapted to deserts. Along with Prothonotary Warbler, it is also the only cavity-nesting warbler. With Lucy's often selecting cavities in large mesquites for their nest site. It breeds along watercourses and in mesquite woodlands from west Texas to southeastern California and north to southwestern Utah and southern Nevada. Although the core areas are shown well, the model results in Fig. 3.2.5a indicate that this species was more difficult to model than some, since its true range in Texas is restricted to the western Rio Grande, and since its range is more limited in eastern New Mexico and does not extend so far north in Utah. Lucy's Warbler entirely vacates the United States during winter, migrating south to the west coast of Mexico.

The jurisdictional breakdown for Lucy's Warbler is most similar to that of Phainopepla, with 62% of the total distribution on public lands, and that public lands distribution shared between BLM (45%) and other federal and state agency lands (Fig. 3.2.5b). BLM lands supporting Lucy's Warblers are distributed in BCRs 33, 35, 34, and 16, and as with other desert-scrub species, a relatively high proportion of these BLM lands (35%) are managed with higher biodiversity protections (GAP 1 and 2).

The top ten BLM Field Offices support 77% of the total Lucy's Warbler breeding distribution, with Lower Sonoran, Tucson, Safford, and Oklahoma Field Offices having the highest stewardship responsibility for the species.

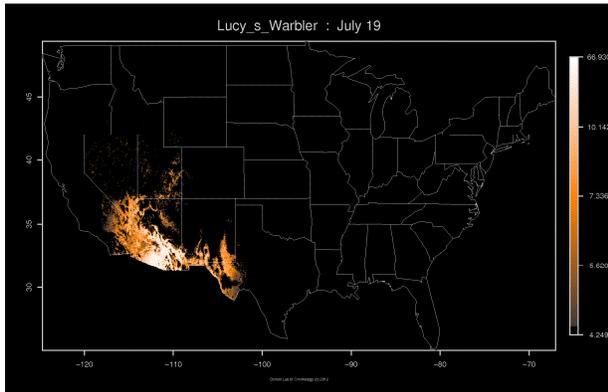


Fig. 3.2.5a. Distributional models for the Lucy's Warbler.

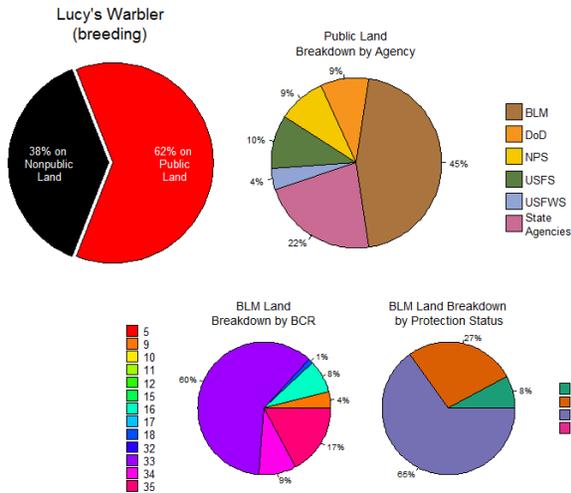


Fig. 3.2.5b. Jurisdictional breakdown for the Lucy's Warbler.

Table 3.2.5a. Percent of breeding distribution within the top ten BLM Field Offices for the Lucy's Warbler.

BLM Field Office	Percent of Distribution
Lower Sonoran	13.6
Tucson	11.7
Safford	10.7
Oklahoma	10.0
Hassayampa	8.1
Las Cruces District Office	7.4
Kingman	4.3
Yuma	4.1
Needles	3.7
Barstow	3.5

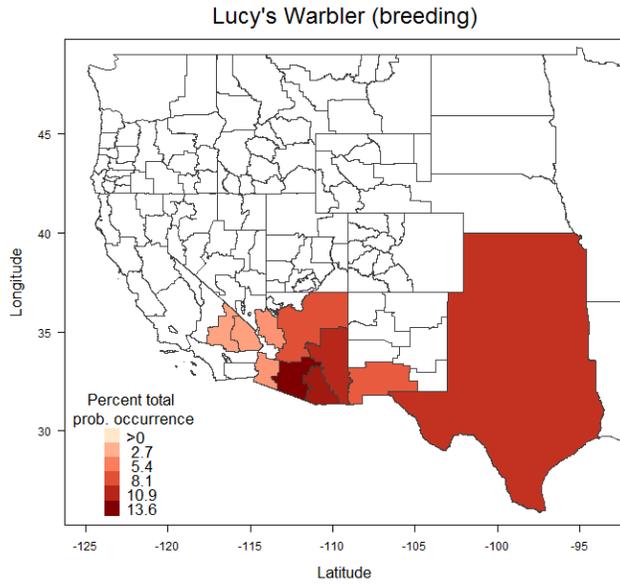


Fig. 3.2.5c. Ten most important BLM Field offices for the Lucy's Warbler.

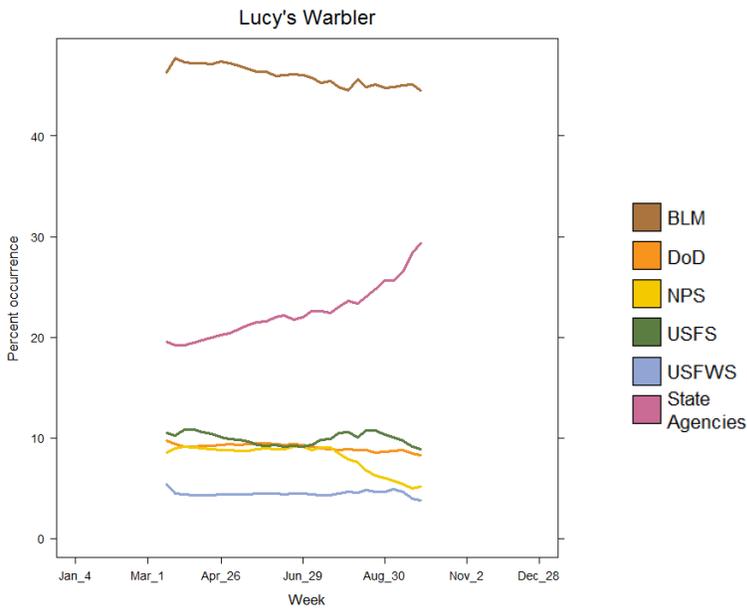


Fig. 3.2.5d. Seasonal jurisdictional breakdown by public agency for the Lucy's Warbler.

Section 3.3: Western Grassland species

Seven species of Western Grassland birds are included here (Table 3.3), five of which were Grassland species included in the 2011 State of the Birds Report. In addition, Golden Eagle and Loggerhead Shrike were added specifically for this report. Their distribution is quite broad across much of the West and neither is a true grassland obligate, since desert and agriculture are used to some extent by both and mountains are important for Golden Eagle nesting. Note that for Vesper Sparrow, we examined only distribution west of the 100th Meridian, although the full distribution is illustrated in the map.

The Western Grassland grouping includes the birds that are not so closely tied to prairie grasslands of the Great Plains as are the species in the Prairie Grasslands grouping; it may be useful to consider these two groupings together since some in the Prairie Grassland group (e.g., Grasshopper Sparrow and Ferruginous Hawk) are more widespread and use other western grasslands, while some in the Western Grasslands group (e.g., Swainson's Hawk and Loggerhead Shrike) are certainly prevalent on the prairies as well.

The Western Grassland group includes species that use a wide range of grassland types; for several species their distributions barely overlap, but overall these species provide a good indication of grasslands throughout the West. Vesper Sparrow and Swainson's Hawk are widespread, and also breed in grassland and agricultural lands in sage steppe habitats. Mountain Plover is a shortgrass prairies breeder in a fairly limited zone from New Mexico to Montana, but is not a prairie grassland obligate, since it uses grasslands and agriculture more widely in winter. Cassin's Sparrow is largely restricted to Chihuahuan Desert grasslands from Texas to Arizona, while Long-billed Curlew nests in dry prairies as well as wet meadows along river valleys and, like Mountain Plover, uses grasslands more widely in winter. Because of the variability in habitat use and range of these species, their dependence on BLM lands also is highly variable, ranging from 3% of the distribution for breeding Cassin's Sparrow to 53% of the breeding distribution of Golden Eagle.

Table 3.3. The seven Western Grassland species examined in the assessment with dates for which distributional estimates were used in the jurisdictional summary.

Species	Breeding	Winter
Swainson's Hawk (<i>Buteo swainsoni</i>)	July 5	n/a
Golden Eagle (<i>Aquila chrysaetos</i>)	June 21	December 20
Mountain Plover (<i>Charadrius montanus</i>)	May 24	November 15
Long-billed Curlew (<i>Numenius americanus</i>)	May 24	n/a
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	June 14	January 4
Cassin's Sparrow (<i>Peucaea cassinii</i>)	May 24	January 25
Vesper Sparrow (<i>Pooecetes gramineus</i>)	June 7	January 18

Section 3.3.1: Swainson's Hawk

Swainson's Hawk has the longest migration route of any raptor in the Americas, breeding as far north as the Yukon Territory and wintering as far south as Argentina. The breeding distribution effectively covers the entire Great Plains, as well as much of the Chihuahuan and Great Basin deserts stretching from southern Canada to northern Mexico; the U.S. portion of the range is shown very accurately in Fig. 3.3.1a. For breeding, it prefers grasslands or irrigated agricultural areas. This species migrates south in large flocks, with tens of thousands streaming through concentration points in south Texas, Mexico, and Central America as they head south to winter in the grasslands of southern South America. The spring migration is no less impressive, with large flocks streaming back north along the same route before fanning out across the western half of North America to breed.

Interestingly, the winter and breeding distribution of Swainson's Hawk has changed substantially in the last half-century as irrigation has created agricultural areas suitable for the species where none had previously existed. In recent years the species has increasingly wintered in the Central Valley of California, Baja California Sur, West Mexico (Sonora to Jalisco), Panama, Texas, and Florida, the breeding range has expanded somewhat in the Central Valley, and migration timing of these more proximal wintering populations has diverged from that of the long-distance migrants wintering in Patagonia. This has interesting implications for the species' future distribution and conservation.

Being largely an agricultural bird at present, 18% of the total distribution is on public land, but nearly half of the public land distribution of Swainson's Hawk is on BLM land (Fig. 3.3.1b). State-owned lands share a relatively high percentage (33%) of the responsibility for this species on public lands. This pattern changes somewhat during the fall migration period, when BLM lands are equally important as U.S. Forest Service and State lands (Fig. 3.3.1d). The BLM distribution of this species primarily occurs across four large BCRs (10, 35, 16, 9), and a vast majority (94%) of this BLM land is managed for multiple use (GAP 3).

Despite its large distribution, the top 10 BLM Field Offices support 70% of the breeding distribution of Swainson's Hawk, with Oklahoma, Royal Gorge, and Casper offices having the greatest stewardship responsibility.

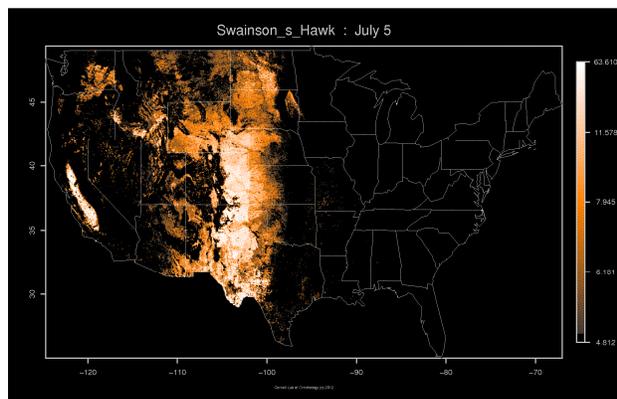


Fig. 3.3.1a. Distributional models for the Swainson's Hawk.

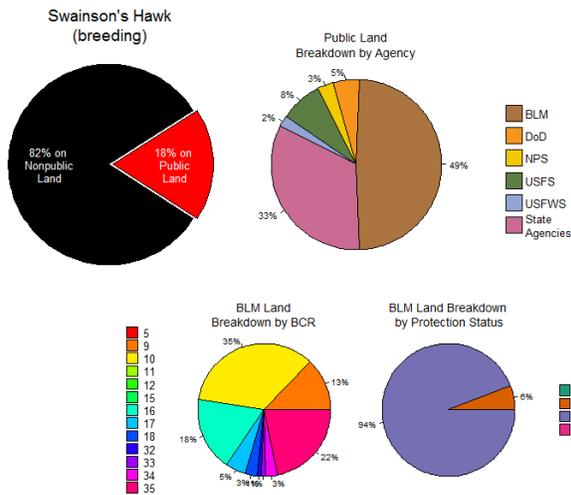


Fig. 3.3.1b. Jurisdictional breakdown for the Swainson's Hawk.

Table 3.3.1a. Percent of breeding distribution within the top ten BLM Field Offices for the Swainson's Hawk.

BLM Field Office	Percent of Distribution
Oklahoma	25.2
Royal Gorge	10.1
Casper	8.0
South Dakota	5.5
North Dakota	5.0
Roswell	4.6
Taos	3.2
Las Cruces District Office	2.7
Rawlins	2.4
Bakersfield	2.3

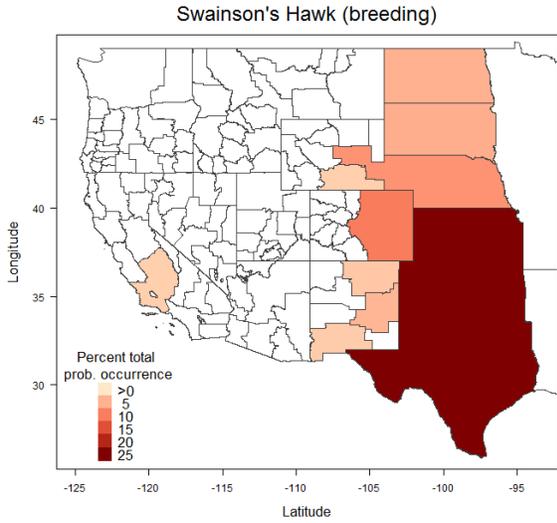


Fig. 3.3.1c. Ten most important BLM Field offices for the Swainson's Hawk.

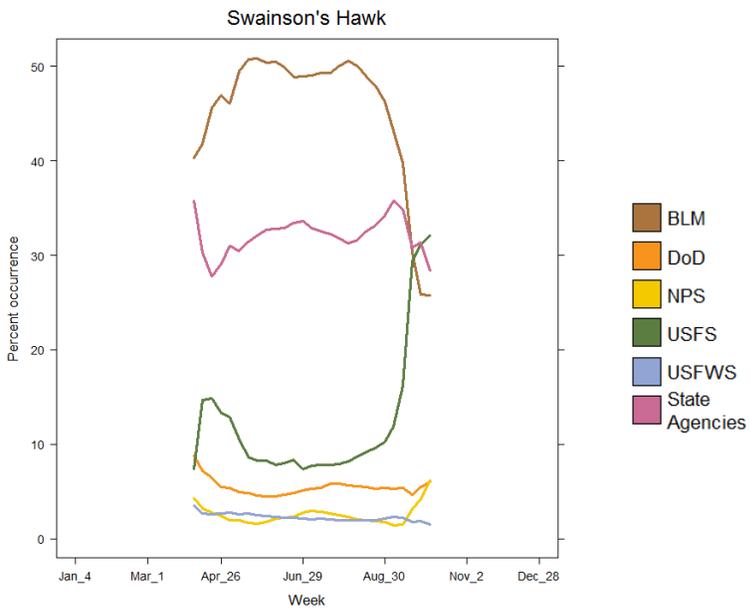


Fig. 3.3.1d. Seasonal jurisdictional breakdown by public agency for the Swainson's Hawk.

Section 3.3.2: Golden Eagle

Golden Eagles occur widely, but sparsely, in the mountains of North America from Mexico to Alaska. Golden Eagles can be found year-round in much of the western U. S., where they favor mountainous areas in summer and open grasslands and deserts in winter. This largely resident population is supplemented in winter by breeders from Canada and Alaska, with many of those wintering in the northern prairies (e.g., BCR 17), resulting in an overall eastward and southward shift in the range of Golden Eagle within the U.S. The percentage of their total distribution on BLM land in summer (53%) and winter (25%) shifts accordingly, with Golden Eagles utilizing more private land in winter. As a sparsely distributed breeding bird, it is a difficult one to model and map, but Fig. 3.3.2.a does a very good job, although it under-extrapolates a bit at the southern margins of the range in Arizona and New Mexico where the species can regularly be found in some of the isolated mountain ranges and canyons. It is worth remembering that their territories are very large, with mountain and cliff nest sites often considerable distances from foraging areas in flatlands, and this adds to the a modeling challenge since a single pair may use a variety of habitats.

During the breeding season, 70% of the Golden Eagle’s distribution is on public lands, with 76% of the distribution on public lands being on BLM-managed land. In winter, the percent of distribution on public land is reduced to 41%, but still more than half of the distribution on public land is BLM. The relatively high BLM responsibility for Golden Eagles on public lands is apparent throughout most of the year, except during the peak of fall migration, when a majority occurs along higher mountain passes on U.S. Forest Service land. Considering only the distribution on BLM lands, in both breeding and winter seasons, more than 90% of the distribution is on “GAP3” (multiple-use) lands, spread across BCRs 9 and 10 and in winter, also BCRs 16 and 17.

Given the very large distribution of this species, the top ten BLM Field Offices account for 38% of the total U.S. breeding and wintering distributions. The Miles City Field Office has among the highest responsibility for Golden Eagles in both seasons, but additional high responsibility shifts from Humboldt River and Rawlins in the breeding season to Casper and South Dakota in winter (Table 3.3.2a,b; Fig. 3.3.2c).

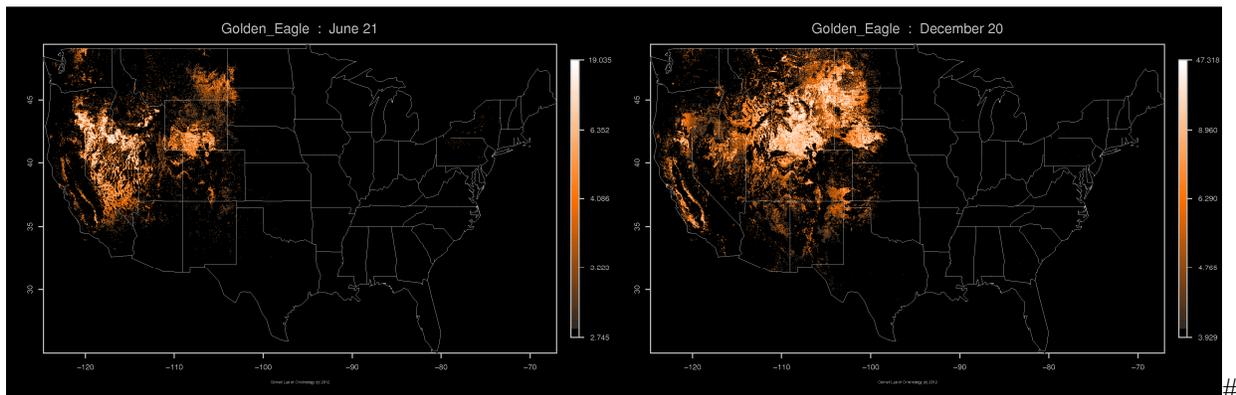


Fig. 3.3.2a. Distributional models for the Golden Eagle.

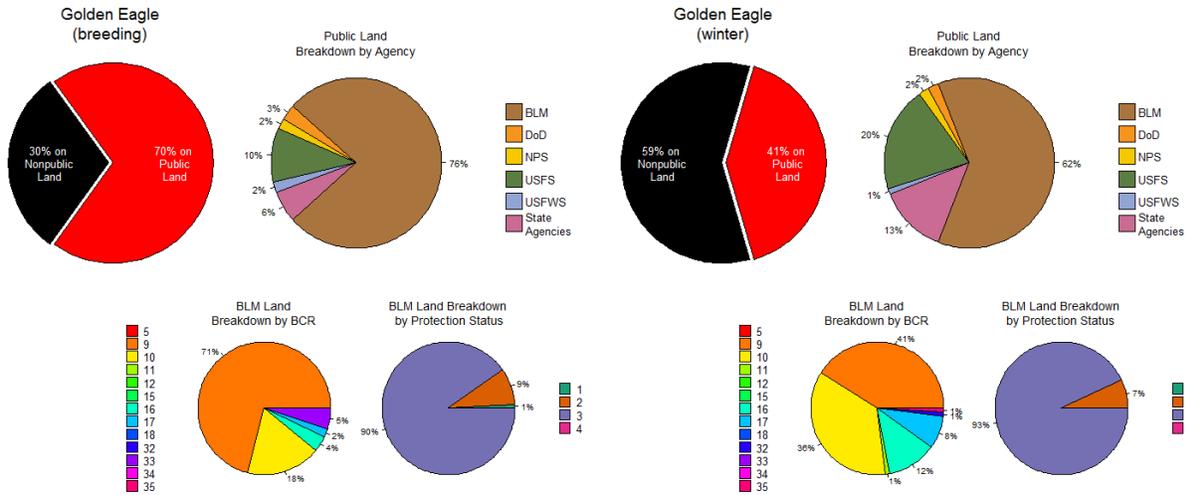


Fig. 3.3.2b. Jurisdictional breakdown for the Golden Eagle.

Table 3.3.2a. Percent of breeding distribution within the top ten BLM Field Offices for the Golden Eagle.

BLM Field Office	Percent of Distribution
Miles City	6.0
Rawlins	5.3
Humboldt River	4.5
Wells	3.9
Lakeview District Lakeview	3.4
Tonopah	3.2
Rock Springs	3.0
Tuscarora	2.9
Vale Jordan	2.4
Salt Lake	2.3

Table 3.3.2b. Percent of winter distribution within the top ten BLM Field Offices for the Golden Eagle.

BLM Field Office	Percent of Distribution
Casper	8.9
South Dakota	8.1
Miles City	8.0
North Dakota	4.1
Rawlins	4.0
Salt Lake	2.8
Lander	2.7
Rock Springs	2.6
Billings	2.3
Buffalo	2.3

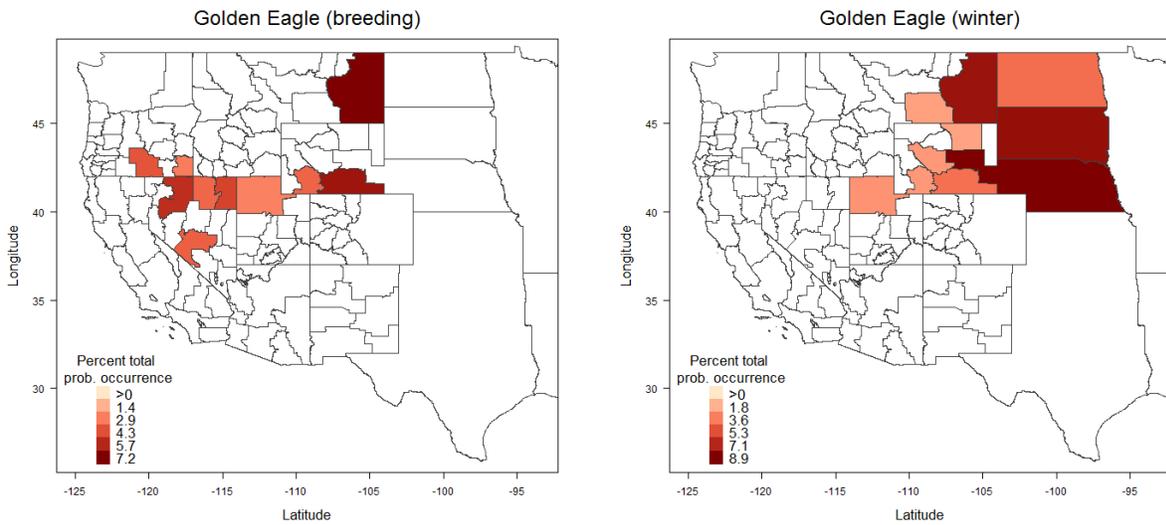


Fig. 3.3.2c. Ten most important BLM Field offices for the Golden Eagle.

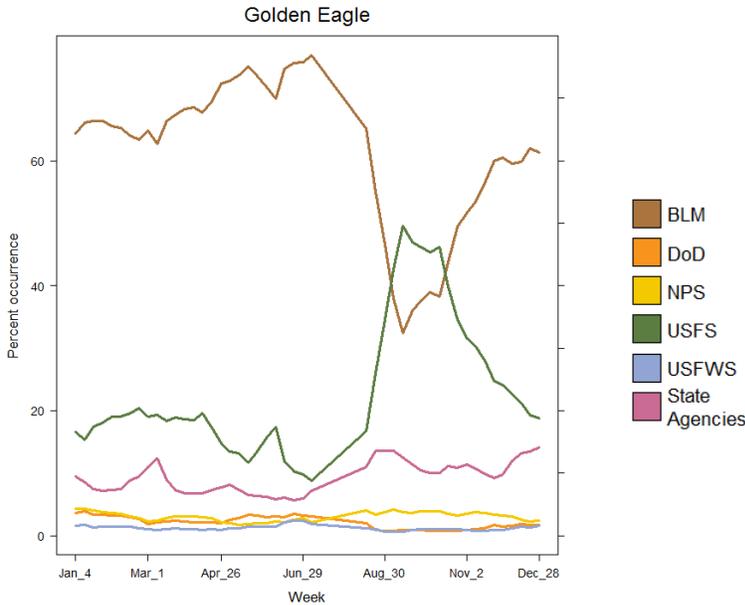


Fig. 3.3.2d. Seasonal jurisdictional breakdown by public agency for the Golden Eagle.

Section 3.3.3: Mountain Plover

The Mountain Plover is patently not a bird of mountains and instead breeds on shortgrass prairies of the western Great Plains, from northwest Texas and northeast New Mexico (and one site in Mexico) to Saskatchewan and Alberta. The breeding range shown in Fig. 3.3.3.a is overall accurate, but under-extrapolates by missing the breeding birds in central Montana, presumably due to sparse birder coverage in that region. The species was probably adapted to shortgrass prairies maintained by American Bison, and now primarily uses Black-tailed Prairie-Dog towns, recently burned prairie, heavily grazed ranchland, and in some areas cropland. It winters very locally in isolated agricultural fields, prairie dog towns, and pastures, scattered from California’s Central Valley and Imperial Valley, sparingly through Arizona, northern Mexico, to west and south Texas. Important wintering areas do appear on the winter map in Fig. 3.3.3a, with perhaps a slight overrepresentation of the species’ range in California’s Central Valley. It has declined drastically in recent years and is a species of high conservation concern.

Roughly 29% of the breeding distribution of Mountain Plovers is on public lands; this percentage is reduced to 11% in winter, when they depend more on agricultural land (Fig. 3.3.3b). More than half the breeding distribution on public land is managed by BLM, with state lands sharing a relatively high responsibility for the species (35% of distribution). In winter, 44% of the public land distribution is on BLM, shared roughly equally with U.S. Forest Service lands. Although the percentage on BLM land is roughly similar between breeding and winter seasons, the distribution of those BLM lands shifts from BCRs 10 and 16 in summer to BCRs 9 and 32 in winter. Nearly all of the BLM land that supports breeding Mountain Plovers is managed for multiple use (GAP-3), whereas in winter 38% of BLM lands within the species’ distribution have higher biodiversity protections (GAP-1 and 2).

Because of the limited distribution of this species, the top five BLM Field Offices support 74% of the total breeding distribution and 72% of the winter distribution. There is no overlap in Field Offices with high responsibility across seasons, with Royal Gorge, Toas, and Rawlins most important in summer, and Oklahoma, Bakersfield, and Mother Lode most important in winter (Table 3.3.3a,b; Fig. 3.3.3c).

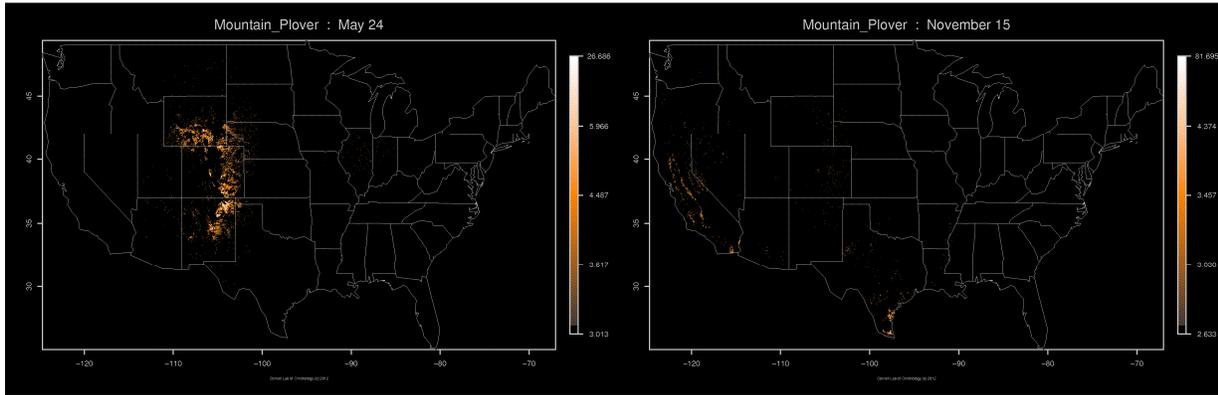


Fig. 3.3.3a. Distributional models for the Mountain Plover.

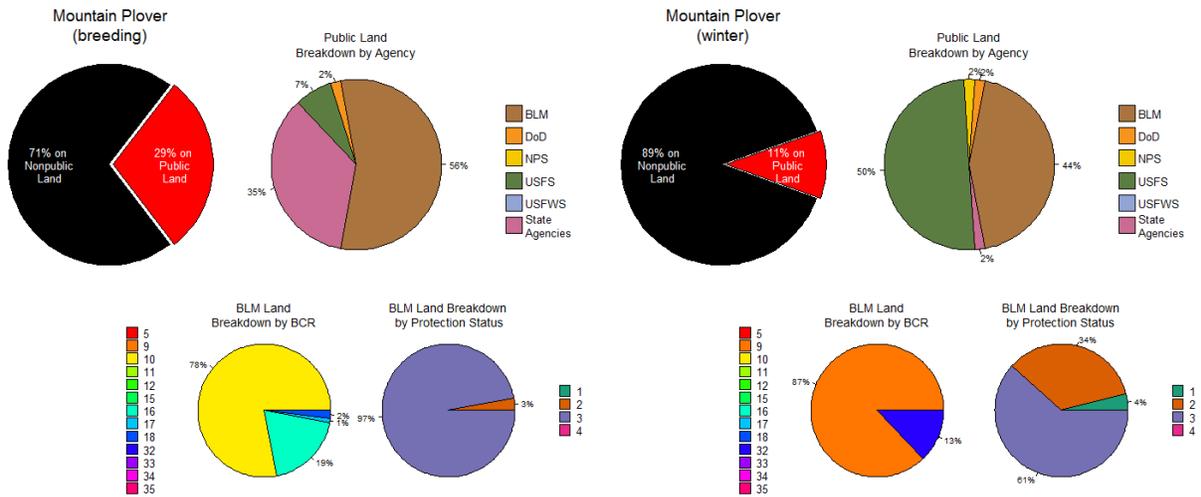


Fig. 3.3.3b. Jurisdictional breakdown for the Mountain Plover.

Table 3.3.3a. Percent of breeding distribution within the top five BLM Field Offices for the Mountain Plover.

BLM Field Office	Percent of Distribution
Royal Gorge	22.0
Taos	16.6
Rawlins	14.8
Casper	12.0
Roswell	7.5

Table 3.3.3b. Percent of winter distribution within the top five BLM Field Offices for the Mountain Plover.

BLM Field Office	Percent of Distribution
Oklahoma	40.6
Bakersfield	12.2
Mother Lode	9.3
El Centro	5.6
Redding	3.7

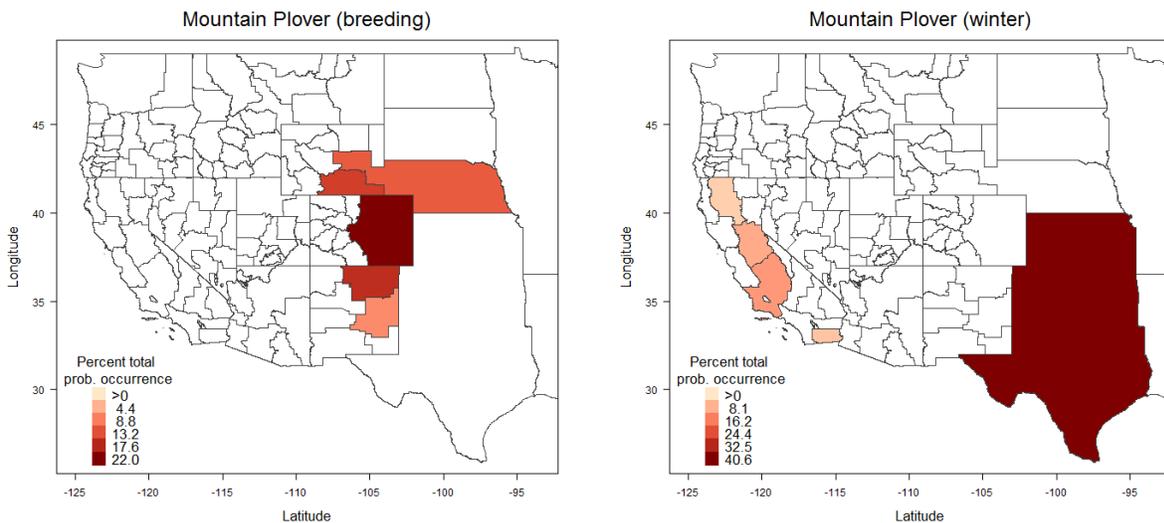


Fig. 3.3.3c. Five most important BLM Field Offices for the Mountain Plover.

Section 3.3.4: Long-billed Curlew

Long-billed Curlew is one of the more southerly-breeding shorebirds, nesting in shortgrass prairies and wet meadows of the western Great Plains and Great Basin Desert. This distribution extends roughly from the northern Panhandle of Texas to western North Dakota, north to southern Alberta, southern Saskatchewan, and southern British Columbia, and west to central Oregon and northwestern California. Fig. 3.3.4a gives a very good representation of the breeding range, but note that this is a map of the distribution on 24 May, so it also includes over-summering non-breeders along some of the Gulf coast and the Salton Sea. Since our model results are based on species distribution on a certain date, breeding-season maps for shorebirds and other species with separate non-breeding populations will always include a mixture of breeding grounds and over-summering sites. After breeding, Long-billed Curlews move to agricultural areas (such as the Central and Imperial Valleys of California) and playas, as well as the Pacific and Gulf coasts, to molt. The species also winters extensively in Mexico—both on the coasts and inland in grasslands and wetlands—and sparingly on the southern Atlantic coast (from North Carolina south).

Roughly 24% of Long-billed Curlew’s breeding distribution is on public land, and 45% of the public land distribution is on BLM land (Fig. 3.3.4b). Responsibility for breeding curlews on public lands is shared with state agencies (33%) and U.S. Forest Service (15%). Seasonal representation of jurisdictional responsibility (Fig. 3.3.4c) indicates that BLM responsibility peaks during spring arrival on the breeding grounds, and is lowest in the post-breeding period, when a higher proportion of the distribution is on state lands. BLM lands supporting Long-billed Curlews are distributed across five BCRs (45% in BCR 9), and 90% of these BLM lands are managed for multiple use (GAP-3).

Two-thirds of the total breeding distribution is supported by the top 10 BLM Field Offices, with Havre, Lewistown, and Miles City having the greatest responsibility for breeding curlews (Table 3.3.4a, Fig. 3.3.4c).

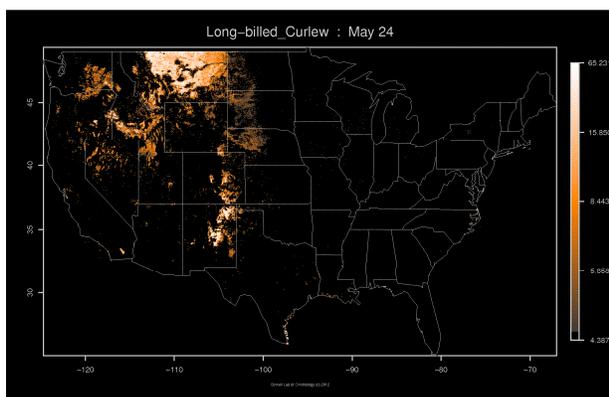


Fig. 3.3.4a. Distributional models for the Long-billed Curlew.

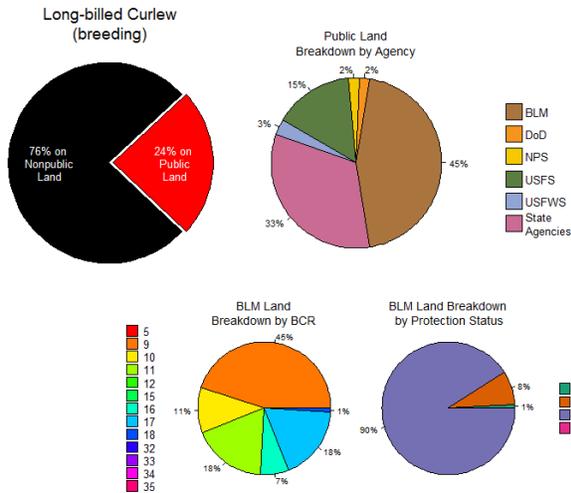


Fig. 3.3.4b. Jurisdictional breakdown for the Long-billed Curlew.

Table 3.3.4a. Percent of breeding distribution within the top ten BLM Field Offices for the Long-billed Curlew.

BLM Field Office	Percent of Distribution
Havre	14.1
Miles City	12.3
Lewistown	11.5
Billings	5.9
Taos	5.2
Malta	4.0
Royal Gorge	3.9
Roswell	3.2
Casper	2.6
Glasgow	2.6

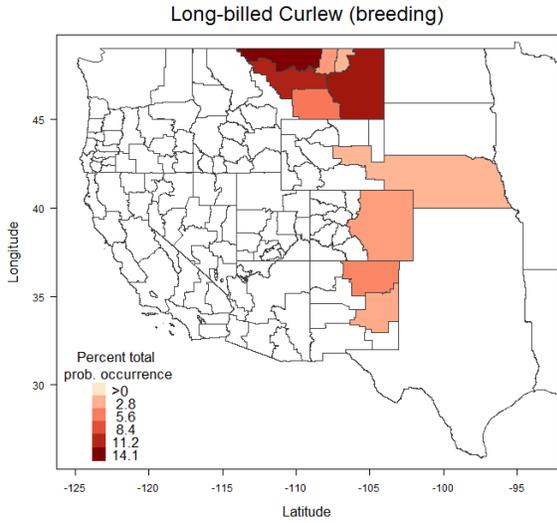


Fig. 3.3.4c. Ten most important BLM Field offices for the Long-billed Curlew.

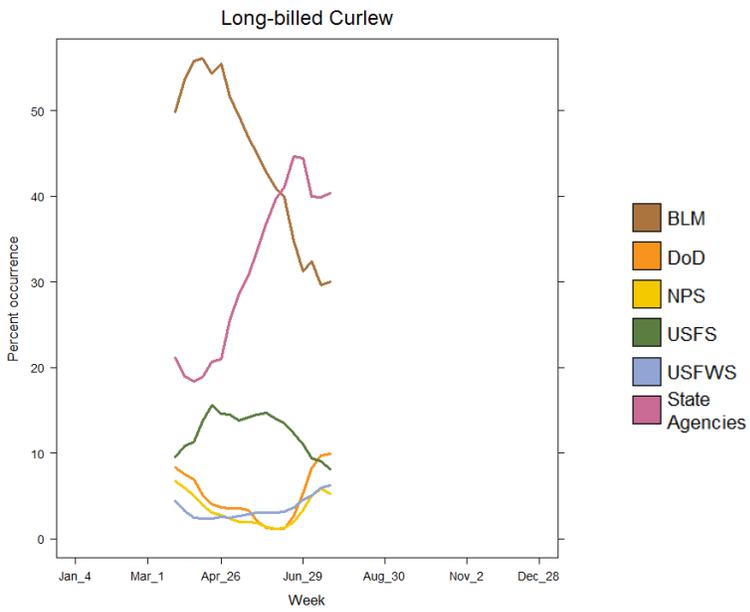


Fig. 3.3.4d. Seasonal jurisdictional breakdown by public agency for the Long-billed Curlew.

Section 3.3.5: Loggerhead Shrike

Loggerhead Shrike is a widespread breeding bird of the western and southern United States and is showing alarming declines across its entire U.S. range. Some populations are resident while others are migratory; the STEM models illustrated in Fig. 3.3.5a accurately show the northward movement of breeding shrikes into the Great Basin Desert, western Great Plains, and Rocky Mountains. For such a widespread bird, the proportion of the Loggerhead Shrike breeding distribution that is managed by BLM is surprisingly high at 31%.

Roughly 48 % of breeding shrikes is on public land, and 64% of shrikes on public land are on BLM land (Fig. 3.3.5b); clearly BLM manages a high proportion of the western lands that are used by shrikes. The BLM shrike distribution is primarily within BCRs 9 and 33, and 80% of the BLM lands supporting breeding shrikes are classified as “GAP 3” or multiple-use.

In winter, the migratory shrikes move to the southwest deserts and agricultural lands to winter. This is shown quite clearly on the maps as well as in Fig. 3.3.5b, which shows that BLM lands in the Southwest (BCR 33, 34, and 35) host 60% of the shrike distribution in winter, compared to just 27% in summer. The lower overall percentage of winter shrike distribution on public land (23%) reflects their greater use of agriculture in winter; still a high proportion (45%) of public lands used by shrikes are BLM. In fact, the jurisdictional responsibility that BLM has for Loggerhead Shrike, compared with other agencies, is relatively high throughout the year (Fig. 3.3.5d). A slightly higher proportion (25%) of BLM lands supporting wintering shrikes are “GAP 1 or 2” and are managed to maintain a natural state and offer greater biodiversity protections.

As with other very widespread species, the top ten BLM Field Offices support 43% of the total breeding distribution, with the Southeastern States Field Office clearly having the greatest responsibility for the species (Table 3.3.5a; Fig. 3.3.5c). In winter, a much higher percentage (82%) of the distribution is encompassed in the top ten Field Offices, primarily because of the very high percentage on the large Oklahoma and Southeastern States Field Offices (which have little or no BLM land).

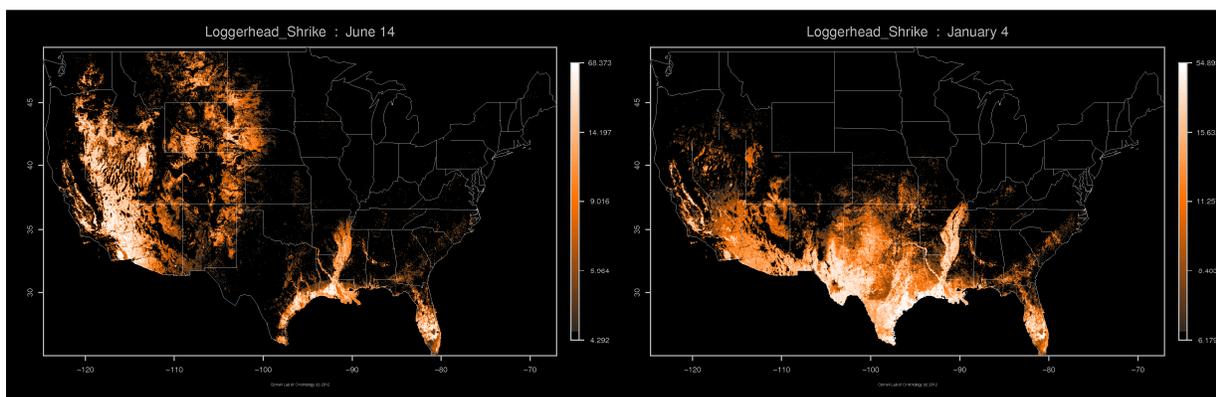


Fig. 3.3.5a. Distributional models for the Loggerhead Shrike.

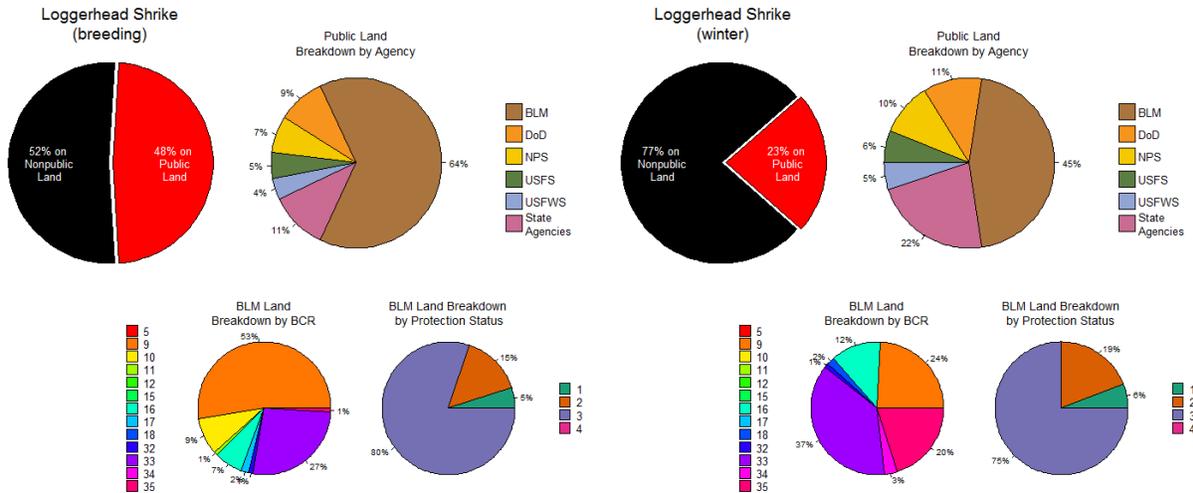


Fig. 3.3.5b. Jurisdictional breakdown for the Loggerhead Shrike.

Table 3.3.5a. Percent of breeding distribution within the top ten BLM Field Offices for the Loggerhead Shrike.

BLM Field Office	Percent of Distribution
Southeastern States	15.7
Oklahoma	6.2
Casper	4.3
South Dakota	3.1
Ridgecrest	2.9
Royal Gorge	2.8
Barstow	2.4
Miles City	2.3
Hassayampa	2.3
Humboldt River	2.2

Table 3.3.5b. Percent of winter distribution within the top ten BLM Field Offices for the Loggerhead Shrike.

BLM Field Office	Percent of Distribution
Oklahoma	45.0
Southeastern States	20.9
Las Cruces District Office	3.0
Hassayampa	2.3
Roswell	2.2
Carlsbad	1.7
Safford	1.7
Bakersfield	1.6
Lower Sonoran	1.5
Tucson	1.1

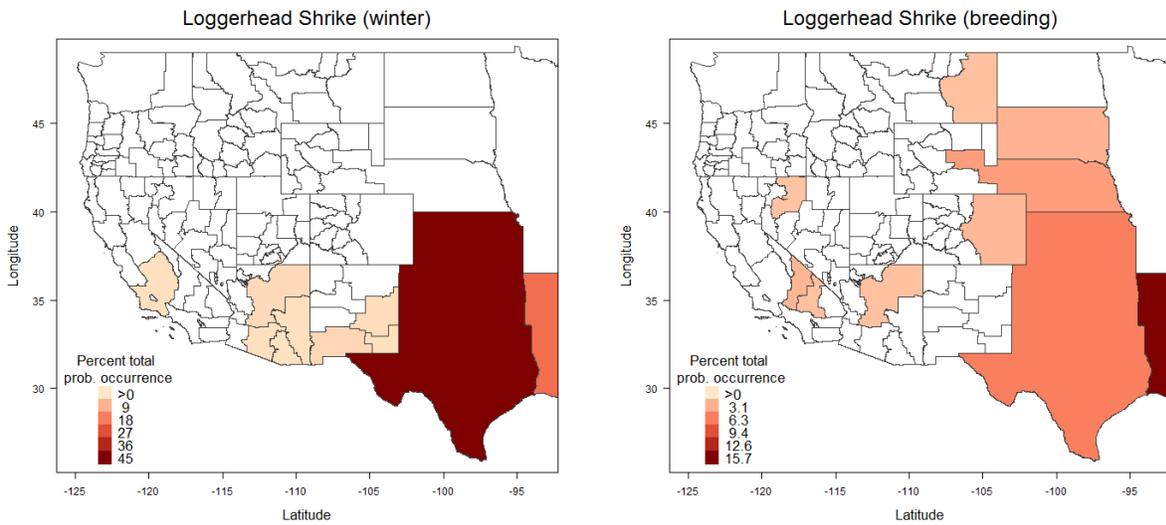


Fig. 3.3.5c. Ten most important BLM Field offices for the Loggerhead Shrike.

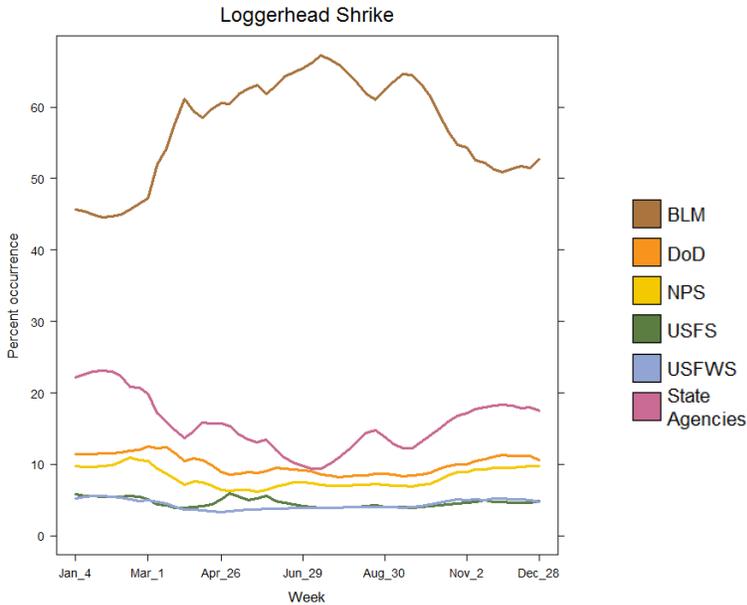


Fig. 3.3.5d. Seasonal jurisdictional breakdown by public agency for the Loggerhead Shrike.

Section 3.3.6: Cassin's Sparrow

Cassin's Sparrow is primarily a species of Chihuahuan Desert and southern shortgrass prairie grasslands, breeding from central Texas and western New Mexico north to Kansas and eastern Colorado. After the July monsoons in southeast Arizona, some Cassin's Sparrows move into that area to breed. Note that the map and model results, shown in Fig. 3.6.6a, are for 24 May and so do an excellent job with the more easterly populations, but do not display the monsoon breeders that reach Arizona in July; that small population is therefore underrepresented in the results. During the winter, most Cassin's move to the grasslands of the Central Mexican Plateau, but a significant number winter in the grasslands of south and west Texas. Interestingly, this species may respond to drought by widespread dispersal into new areas, with notable invasions to the west of the primary range (including California) in 1978 and 2001 and to the north, east, and west in the very dry summer of 2011.

Because of their dependence on agricultural grassland and the large part of their range in Texas, only 10% of the breeding population and only 2% of the U.S. winter distribution is on public land (Fig. 3.3.6b). The proportion of public lands supporting Cassin's Sparrow that is BLM is similar in both seasons (26%-27%), with the greatest proportion of public lands being state-owned. The seasonal jurisdictional plot (Fig. 3.3.5d) indicates that the proportion of the public lands distribution on BLM does increase and surpass that on state lands in late summer, during the monsoon period described below. BLM lands supporting Cassin's Sparrows are primarily within BCR 34 in summer and 18 in winter; 96%-99% of these lands are managed for multiple use (GAP-3).

Virtually the entire distribution of Cassin's Sparrow is encompassed by eight BLM Field Offices in the breeding season, and by only two Field Offices in winter; in both seasons the Oklahoma Field Office (which includes Texas) has by far the greatest responsibility for the species (Table 3.3.5a,b; Fig. 3.3.5c).

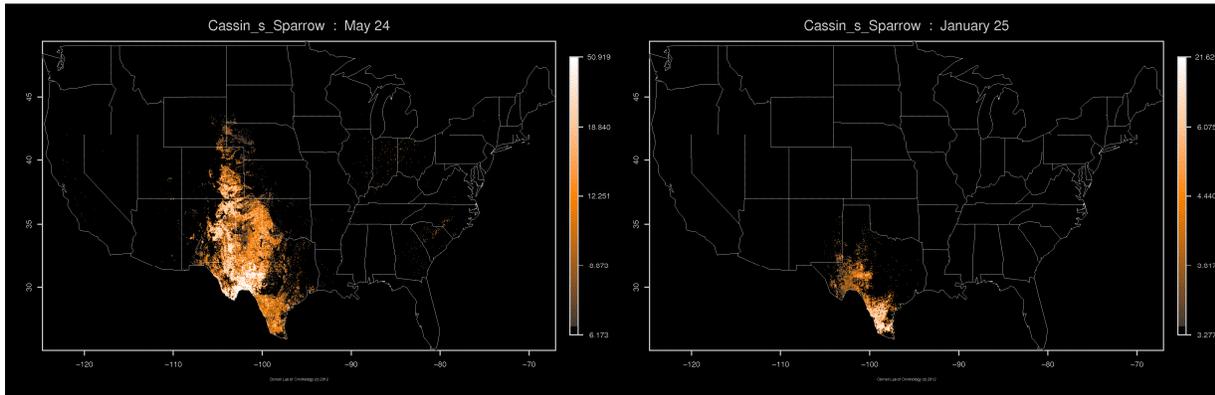


Fig. 3.3.6a. Distributional models for the Cassin's Sparrow.

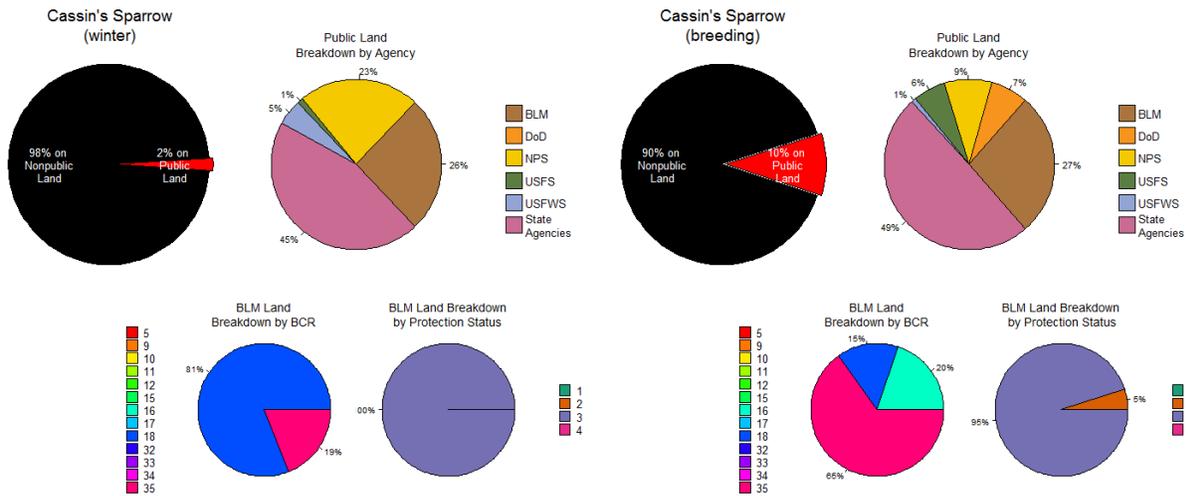


Fig. 3.3.6b. Jurisdictional breakdown for the Cassin's Sparrow.

Table 3.3.6a. Percent of breeding distribution within the top ten BLM Field Offices for the Cassin's Sparrow.

BLM Field Office	Percent of Distribution
Oklahoma	69.3
Royal Gorge	7.8
Roswell	7.5
Taos	4.9
Carlsbad	4.0
Casper	1.6
Las Cruces District Office	1.3
Rio Puerco	1.0
Northeastern States	0.5
Southeastern States	0.4

Table 3.3.6b. Percent of winter distribution within the top ten BLM Field Offices for the Cassin's Sparrow.

BLM Field Office	Percent of Distribution
Oklahoma	96.9
Carlsbad	1.9
Roswell	0.4
North Dakota	0.3
Casper	0.2
South Dakota	0.1
Royal Gorge	0.1
Taos	0.0

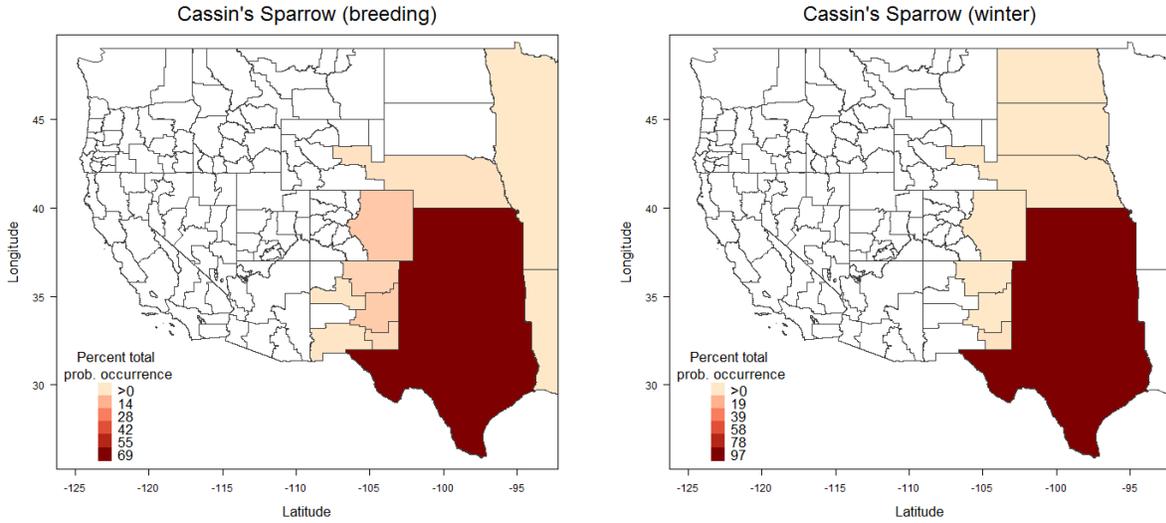


Fig. 3.3.6c. Ten most important BLM Field offices for the Cassin's Sparrow.

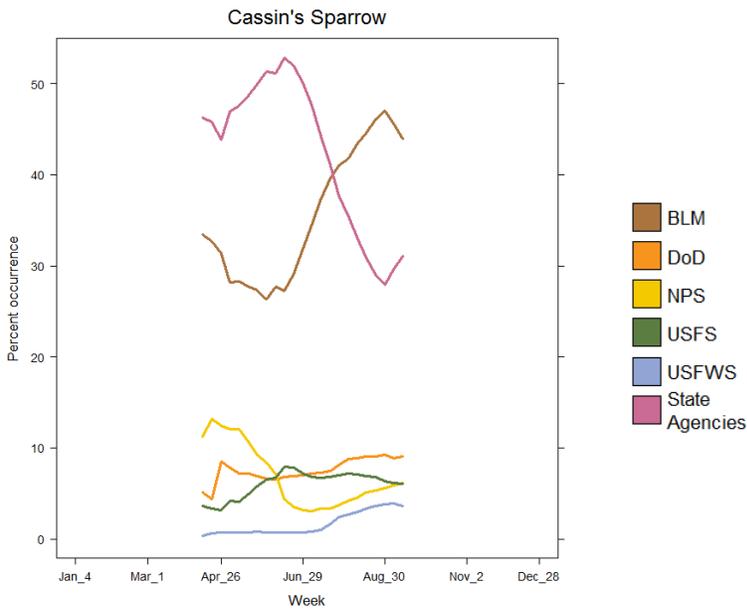


Fig. 3.3.6d. Seasonal jurisdictional breakdown by public agency for the Cassin's Sparrow.

Section 3.3.7: Vesper Sparrow

Vesper Sparrow is a species of dry grasslands, grassy deserts, mountain basins, and fallow agricultural fields, preferring areas with significant patches of barren ground. Vesper Sparrow is broadly distributed throughout North America from the Northwest Territories and northern California to the Prairie Provinces and Midwest. It is now rare and highly local as a breeder in the Northeast and mid-Atlantic. It is most common in the Great Plains, Rockies and Great Basin Desert where appropriate habitat is available. Its breeding and wintering distribution is very broad, extending from the Northeast U.S. and mid-Atlantic

west to central Arizona and New Mexico and northern California north through the Prairie Provinces to the southern Northwest Territory. Within this range it is now very rare and local in the eastern third of the country and at the western and southern margins of its range, but is quite common through the Great Plains, Rocky Mountains, and Great Basin Desert. The model captures this breeding range well (Fig. 3.3.7a).

This species is highly migratory and completely vacates the breeding grounds to winter in the southern United States and northern Mexico. In winter it most prefers expansive sparse, short-grass grasslands and fallow agriculture. In the West this winter range includes most of Texas, southern New Mexico, Arizona, and California, as well as California's Central Valley, and this is well shown in Fig. 3.3.7a

Along with Yellow-billed Cuckoo, Yellow Warbler, and Willow Flycatcher, the jurisdictional analysis for Vesper Sparrow was restricted to the range from the 100th Meridian west.

Considering only "western" Vesper Sparrow, 40% of the breeding distribution is on public land, and 56% of that public land distribution is on BLM land (Fig. 3.3.7b). Stewardship responsibility is shared with U.S. Forest Service grasslands (22%) and state-owned lands (15%). In winter, the proportion on public land is less (34%), as is the proportion of that public land that is BLM (44%). This pattern is also seen in the seasonal jurisdictional breakdown (Fig. 3.3.7d), which shows the relatively high proportion on BLM in summer and a higher proportion on state lands in winter. BLM lands supporting Vesper Sparrows occur primarily in BCRs 9 and 10 for breeding, and in BCRs 33, 34, and 35 in winter. Most of this land in both seasons is managed for multiple use (GAP-3).

Just under half the breeding distribution of "western" Vesper Sparrow is supported on the top 10 BLM Field Offices, with Miles City and North Dakota having the greatest responsibility. In winter, 87% of the distribution is within ten BLM Field Offices, with Oklahoma office having by far the greatest responsibility (Table 3.3.7a,b; Fig. 3.3.7c).

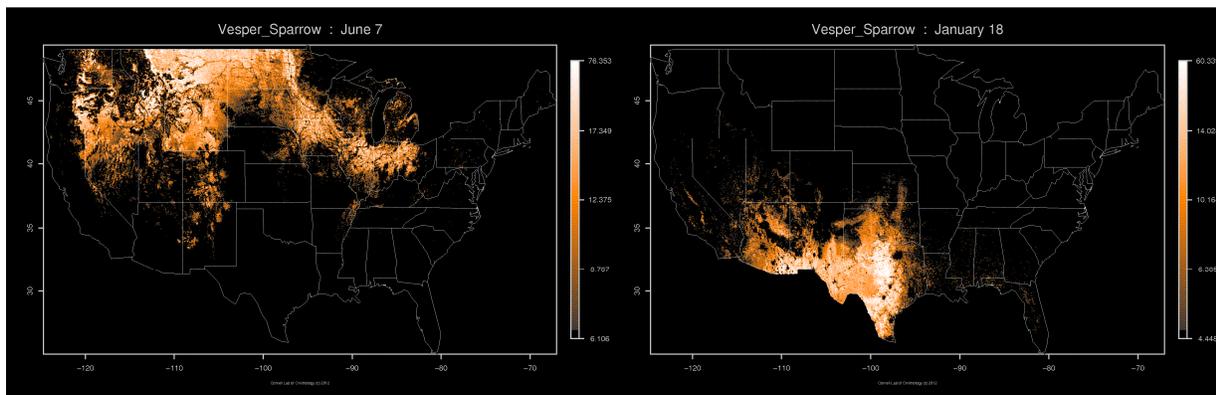


Fig. 3.3.7a. Distributional models for the Vesper Sparrow.

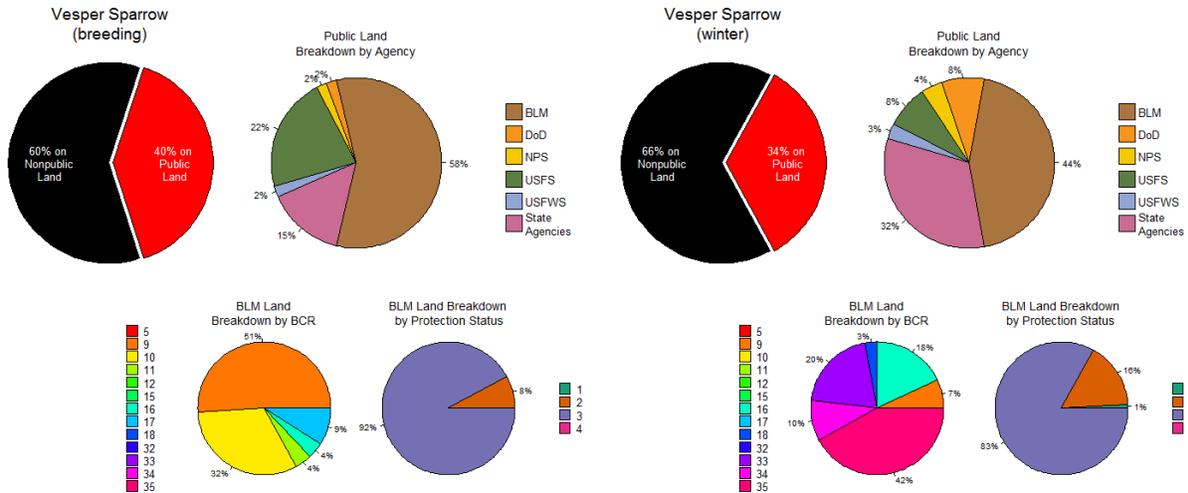


Fig. 3.3.7b. Jurisdictional breakdown for the Vesper Sparrow.

Table 3.3.7a. Percent of breeding distribution within the top ten BLM Field Offices for the Vesper Sparrow.

BLM Field Office	Percent of Distribution
Miles City	9.9
North Dakota	9.4
Lewistown	5.6
Havre	5.4
Billings	4.6
Spokane Wenatchee	3.2
Dillon	2.8
Rawlins	2.8
South Dakota	2.6
Butte	2.3

Table 3.3.7b. Percent of winter distribution within the top ten BLM Field Offices for the Vesper Sparrow.

BLM Field Office	Percent of Distribution
Oklahoma	43.4
Las Cruces District Office	11.4
Safford	7.3
Hassayampa	6.3

Tucson	4.4
Carlsbad	4.4
Roswell	4.2
Lower Sonoran	3.6
Socorro	2.0
Yuma	1.5

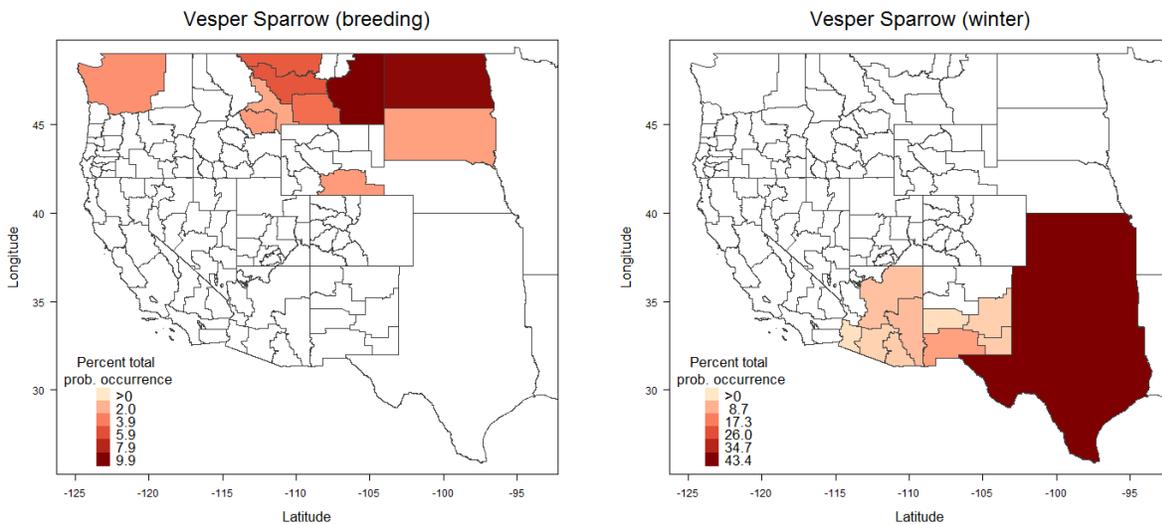


Fig. 3.3.7c. Ten most important BLM Field offices for the Vesper Sparrow.

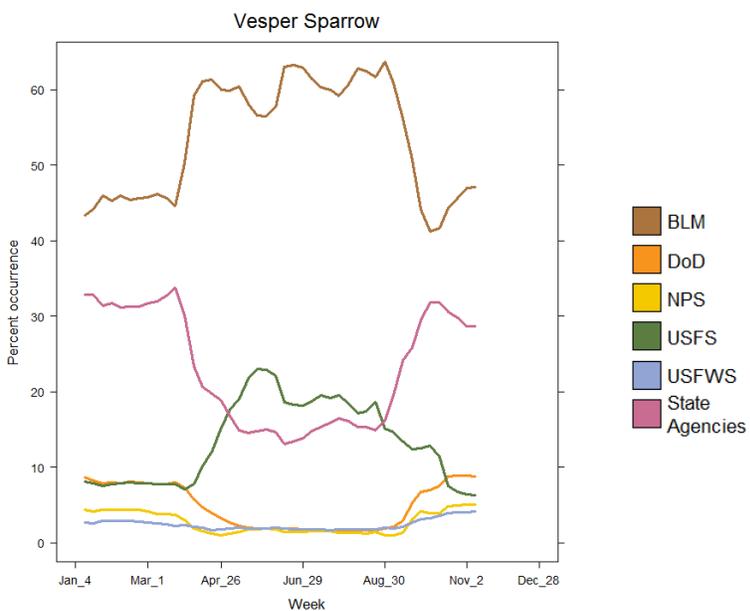


Fig. 3.3.7d. Seasonal jurisdictional breakdown by public agency for the Vesper Sparrow.

Section 3.4: Prairie Grassland species

We include eight species of Prairie Grassland birds (Table 3.4a), all of which were Grassland obligate species included in the 2011 State of the Birds Report, although Horned Lark is a grassland obligate only in winter.

Although there is some overlap with the Western Grassland group, this Prairie Grassland grouping includes species that have their entire distribution or their core population in the prairie grasslands of the Great Plains. Includes are some with reactively restricted ranges in tallgrass prairie (e.g., Sprague's Pipit and Chestnut-collared Longspur) and others that are quite widespread (e.g., Upland Sandpiper and Grasshopper Sparrow) but extraordinarily concentrated in the Great Plains grasslands. Because of their more easterly distributions, this suite of species is less dependent on BLM lands, with most species showing less than 10% of their distribution on BLM land.

Grassland habitats, and especially tallgrass prairie, is one of the most imperiled habitats in the country (largely due to conversion to agriculture) and, as discussed by the 2011 State of the Birds Report (2011), almost all of these species are showing steep declines.

Table 3.4. The eight Prairie Grassland species examined in the assessment with dates for which distributional estimates were used in the jurisdictional summary.

Species	Breeding	Winter
Ferruginous Hawk (<i>Buteo regalis</i>)	n/a	February 7
Upland Sandpiper (<i>Bartramia longicauda</i>)	June 28	n/a
Marbled Godwit (<i>Limosa fedoa</i>)	June 7	n/a
Horned Lark (<i>Eremophila alpestris</i>)	June 7	December 27
Sprague's Pipit (<i>Anthus spragueii</i>)	June 7	n/a
Chestnut-collared Longspur (<i>Calcarius ornatus</i>)	June 28	January 4
Lark Bunting (<i>Calamospiza melanocorys</i>)	June 7	January 15
Grasshopper Sparrow (<i>Ammodramus savannarum</i>)	May 31	n/a

Section 3.4.1: Ferruginous Hawk

Ferruginous Hawk is an endemic breeder of dry grasslands and high desert of the western United States and southern Canada. It is a large *Buteo* and feeds heavily on small mammals like ground squirrels, rabbits, and especially prairie dogs, and can often be found frequenting prairie-dog towns. Its breeding

range extends from northern Texas to eastern North Dakota, as far north as southern Alberta and Saskatchewan, west to southern Washington and southern Oregon and southwest to southern Nevada. Birds at the northern edge of the breeding range withdraw south in winter, but some Ferruginous Hawks can be found year-round in much of Nevada, Utah, northern Arizona, northern New Mexico, and eastern Colorado. Relatively rare species like raptors are more challenging to model, and breeding-season data were not adequate to produce a usable model; however, the map (Fig. 3.4.1a) does show the main wintering areas well and even shows some of the isolated valleys that host populations, such as those in southern Arizona and southern California. In winter its habitat is similar, but it is more likely to use open agricultural areas than it is in the breeding season. South of the breeding range, wintering birds can be found from northern Mexico and Texas west to California.

Only 7% of the wintering Ferruginous Hawk distribution is on public land; about a third of the public land distribution is on BLM, with the greatest proportion on state lands (Fig. 3.4.1b). These proportions are undoubtedly somewhat higher in summer, as suggested by the seasonal jurisdictional breakdown (Fig. 3.4.1d). Most of the BLM land supporting this species in winter is in BCRs 9, 16 and 32, and 83% of this land is managed for multiple use (GAP3).

The top ten BLM Field Offices support 84% of wintering Ferruginous Hawk distribution, with the Oklahoma Field Office clearly having the greatest responsibility for the species (Table 3.4.1a; Fig 3.4.1c).

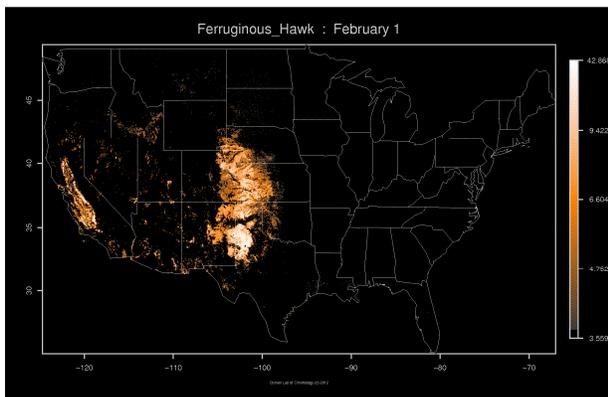


Fig. 3.4.1a. Distributional models for the Ferruginous Hawk.

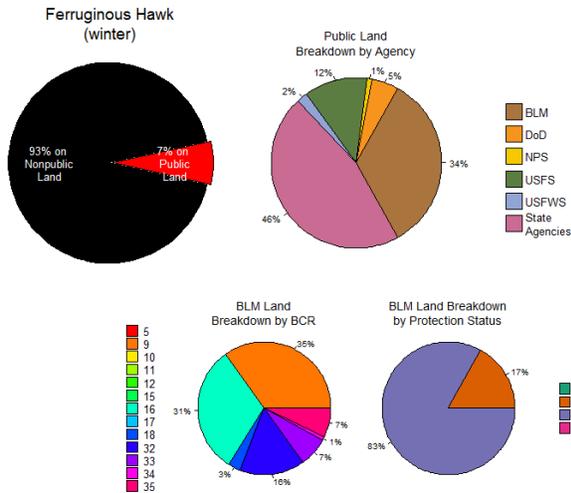


Fig. 3.4.1b. Jurisdictional breakdown for the Ferruginous Hawk.

Table 3.4.1b. Percent of winter distribution within the top ten BLM Field Offices for the Ferruginous Hawk.

BLM Field Office	Percent of Distribution
Oklahoma	42.8
Royal Gorge	16.2
Bakersfield	6.5
Roswell	5.5
Casper	5.5
Taos	3.7
Mother Lode	2.5
Hollister	1.4
Carlsbad	1.2
Redding	1.1

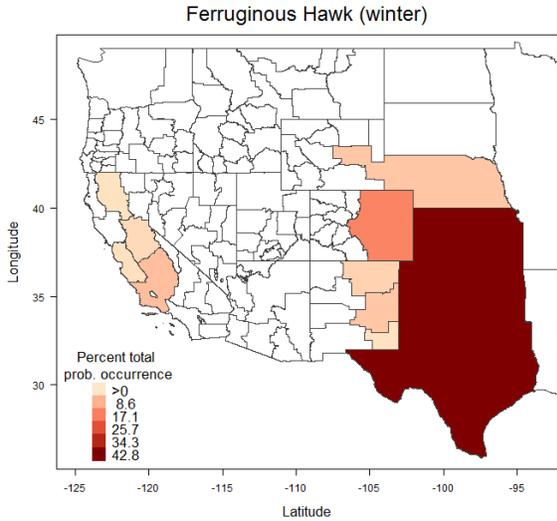


Fig. 3.4.1c. Ten most important BLM Field offices for the Ferruginous Hawk.

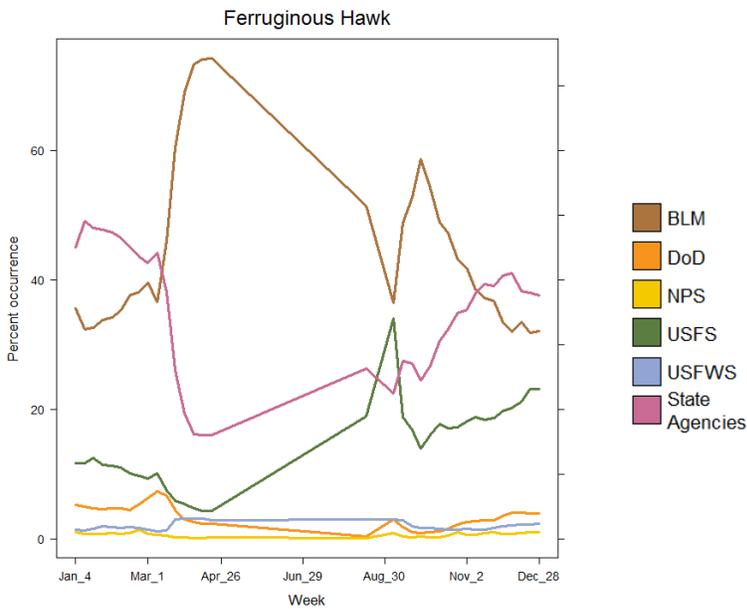


Fig. 3.4.1d. Seasonal jurisdictional breakdown by public agency for the Ferruginous Hawk.

Section 3.4.2: Upland Sandpiper

Although Upland Sandpiper is a widespread breeder in North America, it can be extremely local and rare away from its core range. With the significant loss of grasslands to agriculture and urbanization in the United States, it is a species that has declined significantly over the past century. Although the Northeast U.S. and eastern Canada are included in most range maps for the species, breeding populations here are highly fragmented and limited to rare patches of extensive grasslands—usually airports, military bases or

cranberry barrens in Maine and Canada. Its core range is in the northern Great Plains, mostly west of Lake Michigan, extending south to northern Oklahoma and west to Montana. With the exception of the vast Canadian range, the maps in Fig. 3.4.2a shows very accurate model results for the breeding range, including the near absence from much of the eastern U.S. Importantly, the species is also common on the Prairie Provinces of Canada and extends north and west to breed in boggy tundra of central Alaska.

Only 9% of breeding Upland Sandpiper distribution is on public land, with a quarter of that public land being BLM land (Fig. 3.4.2b). The seasonal jurisdictional plot (Fig. 3.4.2d) indicates that this species occurs relatively less on BLM lands and more on state lands during the migration periods in April and August. BLM lands with Upland Sandpipers are distributed in BCRs 11 and 17, and 90% of these lands are managed for multiple use (GAP3).

Nearly the entire U.S. breeding distribution is within the top ten BLM Field Offices, with South Dakota, Casper, and North Dakota having the highest responsibility for the species (Table 3.4.2a; Fig. 3.4.2c).

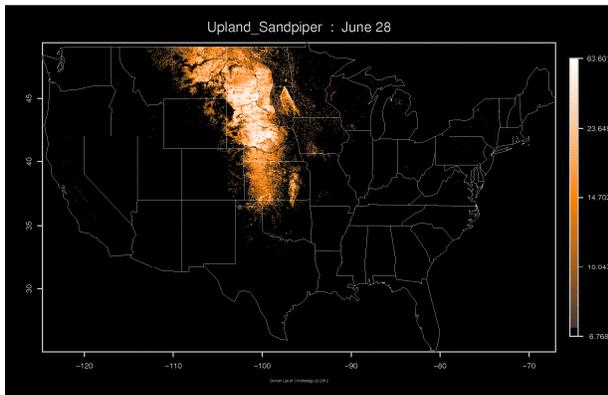


Fig. 3.4.2a. Distributional models for the Upland Sandpiper.

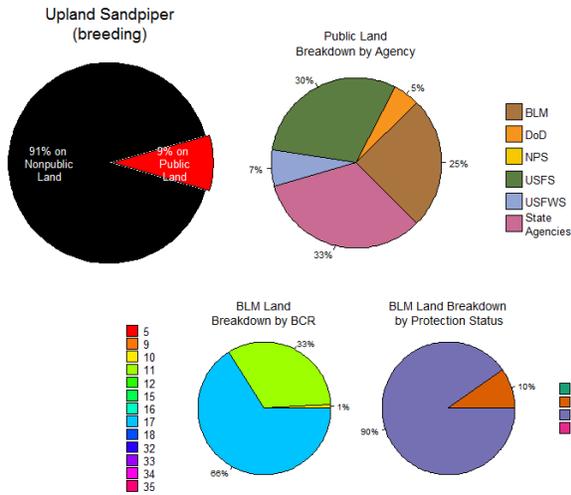


Fig. 3.4.2b. Jurisdictional breakdown for the Upland Sandpiper.

Table 3.4.2a. Percent of breeding distribution within the top ten BLM Field Offices for the Upland Sandpiper.

BLM Field Office	Percent of Distribution
South Dakota	29.8
Casper	22.4
North Dakota	16.6
Oklahoma	12.1
Miles City	10.1
Northeastern States	2.3
Malta	1.2
Glasgow	1.2
Havre	1.1
Billings	0.9

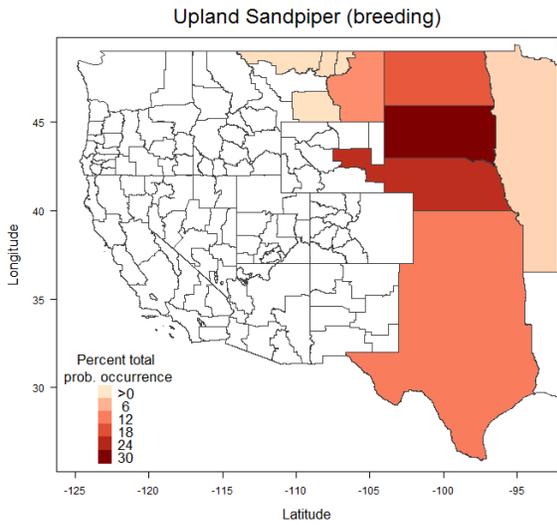


Fig. 3.4.2c. Ten most important BLM Field offices for the Upland Sandpiper.

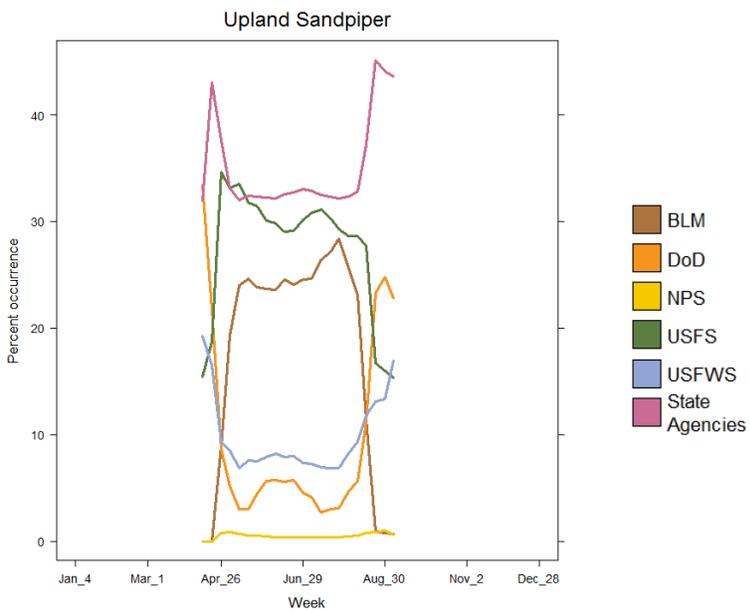


Fig. 3.4.2d. Seasonal jurisdictional breakdown by public agency for the Upland Sandpiper.

Section 3.4.3: Marbled Godwit

This prairie-nesting shorebird aggressively defends its territory from intruders in moist prairies and potholes from the Red River Valley westward. The core of the species' range is the prairie potholes of the Dakotas, Montana, and the Prairie Provinces. It is found more locally to western Minnesota, Nevada and northeastern California. Like Long-billed Curlew, the model correctly maps the core breeding range (Fig. 3.4.3a) along with some signal for over-summering birds, most notably in Florida and the Salton Sea of California. It vacates the breeding grounds shortly after breeding (often in July), and migrates to coastal wintering sites. Some birds appear to stop at inland staging grounds en route. It winters in coastal bays, marshes, and mudflats along the Atlantic coast (from Virginia south), the Gulf coast, and Pacific coast (British Columbia south). A recently described subspecies (*Limosa fedoa beringiae*) has a very small population that breeds in western Alaska, far from the population of the nominate subspecies, and winters in the Pacific Northwest.

As with many grassland birds, only 15% of the Marbled Godwit breeding population is on public land, and of that, 22% is on BLM land (Fig. 3.4.3b) – overall, BLM is responsible for 3% of the species' breeding distribution (Table 3.0). BLM lands supporting Marbled Godwits are distributed in BCRs 11 and 17, and 91% of these lands are managed for multiple use (GAP3). The seasonal jurisdictional breakdown (Fig. 3.4.3d) indicates that the highest BLM responsibility for this species is shortly after the species arrive on the breeding grounds and declines throughout the breeding season; state-owned lands are relatively more important through the rest of the season until the birds migrate south.

Five BLM Field Offices account for 85% of the total breeding distribution, with North Dakota, South Dakota, and Miles City offices having the greatest responsibility (Table 3.4.3a; Fig. 3.4.3c).

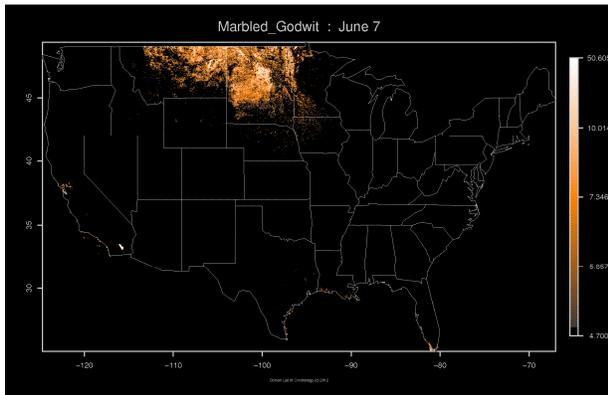


Fig. 3.4.3a. Distributional models for the Marbled Godwit.

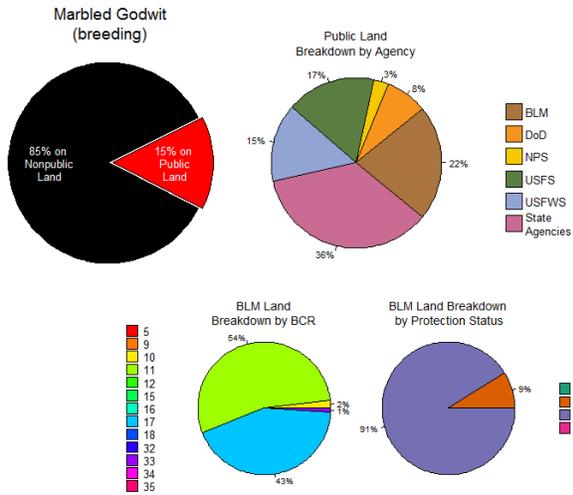


Fig. 3.4.3b. Jurisdictional breakdown for the Marbled Godwit.

Table 3.4.3a. Percent of breeding distribution within the top five BLM Field Offices for the Marbled Godwit.

BLM Field Office	Percent of Distribution
North Dakota	39.5
South Dakota	17.1
Miles City	16.2
Northeastern States	7.8
Havre	4.9

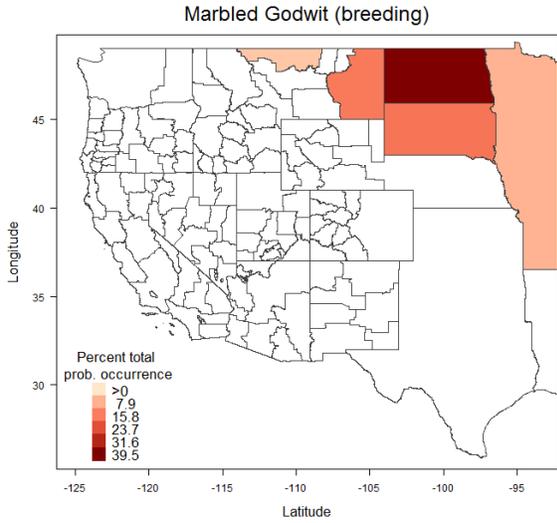


Fig. 3.4.3c. Five most important BLM Field Offices for the Marbled Godwit.

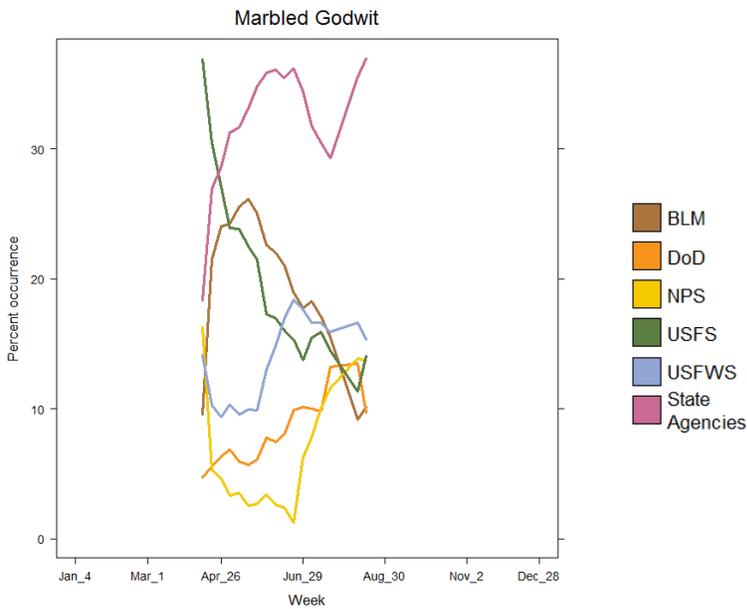


Fig. 3.4.3d. Seasonal jurisdictional breakdown by public agency for the Marbled Godwit.

Section 3.4.4: Horned Lark

One of the more widespread birds in the United States and Canada, Horned Lark has at least 20 described subspecies in the New World, each of which is adapted to a unique region and habitat. In breeding season and winter it is a bird of large treeless expanses, with breeding birds utilizing sandy beaches, shortgrass

prairies and airports, deserts, agricultural fields, and tundra. It is one of the few birds to breed in the large open arid expanses in much of the West, accounting for the relatively high percentage of birds found on public and BLM lands. In winter they may gather in large flocks of hundreds or thousands, especially in the Great Plains; these winter aggregations are surely supplemented by large numbers of Horned Larks from arctic nesting populations that move south to winter in the United States and Mexico. In the West, the Great Basin Desert has large populations of nesting Horned Lark, where they use sagebrush desert and adjacent grasslands. Wintering birds are widespread in the West as well, but tend to vacate the higher elevations and are more locally distributed and prefer agricultural areas and lower valleys (e.g., Mississippi Valley and Central Valley of California), where they may congregate in flocks of hundreds or thousands. Both the summer and winter maps (Fig. 3.4.4a) show accurate breeding and wintering distribution, which largely follows the regions of open grassland and agriculture in the country.

The overall U.S. breeding distribution of Horned Larks is 27% on public lands, relatively high for a grassland bird (Fig. 3.4.4b). The percentage of these public lands managed by BLM is also relatively high (69%), with BLM responsible for just under 20% of the total distribution (Table 3.0). In winter these percentages drop, as the birds use a higher proportion of agricultural lands; 13% of the winter distribution is on public land and 45% of those lands are BLM. The seasonal jurisdictional breakdown (Fig. 3.4.4d) shows that among federal and state agencies, BLM has the highest responsibility for this species year round. BLM lands supporting Horned Larks occur primarily in BCRs 9 and 10 during the breeding season, but across a wider set of BCRs in winter, including BCRs 16, 17, and 35. From 85% (winter) to 91% (breeding) of these BLM lands are managed for multiple use (GAP3).

The top ten BLM Field Offices encompass 62% of the U.S. breeding distribution and 81% of the winter distribution, with Northeastern States, Oklahoma, and Casper offices having the highest responsibility for Horned Larks in both seasons (Table 3.4.4a,b; Fig. 3.4.4c).

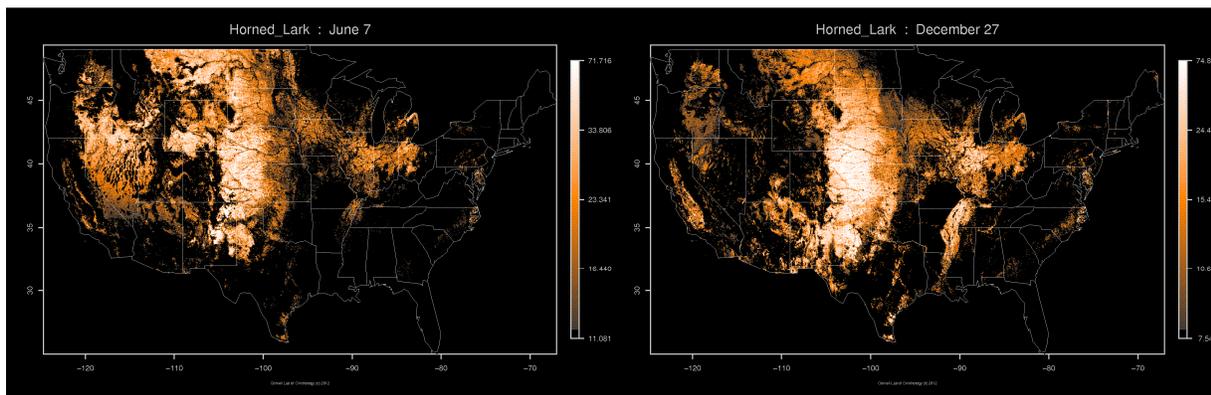


Fig. 3.4.4a. Distributional models for the Horned Lark.

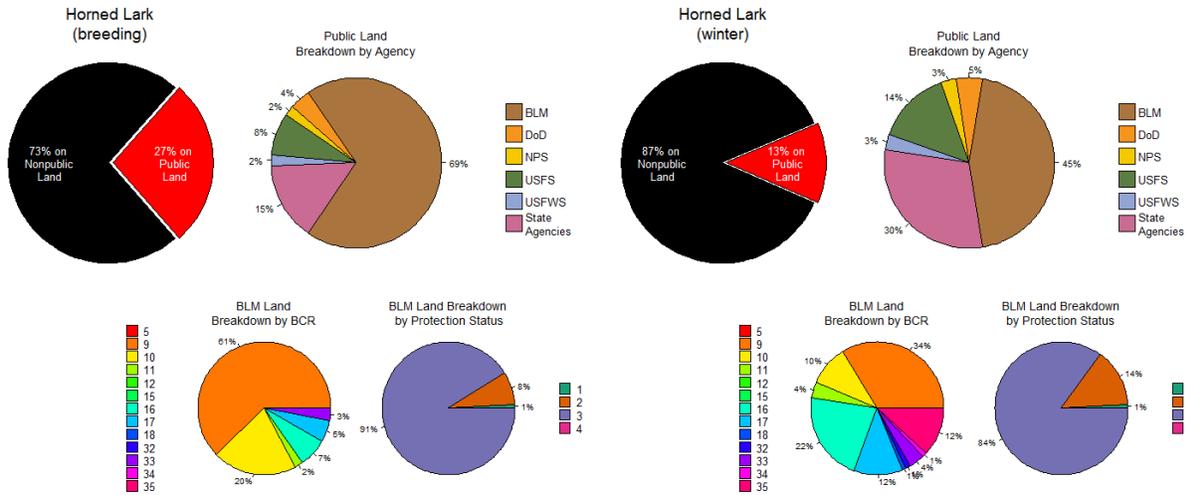


Fig. 3.4.4b. Jurisdictional breakdown for the Horned Lark.

Table 3.4.4a. Percent of breeding distribution within the top ten BLM Field Offices for the Horned Lark.

BLM Field Office	Percent of Distribution
Northeastern States	11.4
Oklahoma	11.3
Casper	9.2
Royal Gorge	6.6
South Dakota	6.5
North Dakota	5.6
Miles City	4.6
Rawlins	2.1
Havre	2.0
Roswell	2.0

Table 3.4.4b. Percent of winter distribution within the top ten BLM Field Offices for the Horned Lark.

BLM Field Office	Percent of Distribution
Oklahoma	21.9
Northeastern States	14.8
Casper	11.6
Royal Gorge	8.2
South Dakota	7.0
Southeastern States	4.8
Miles City	3.0
North Dakota	3.0
Roswell	2.8
Taos	1.8

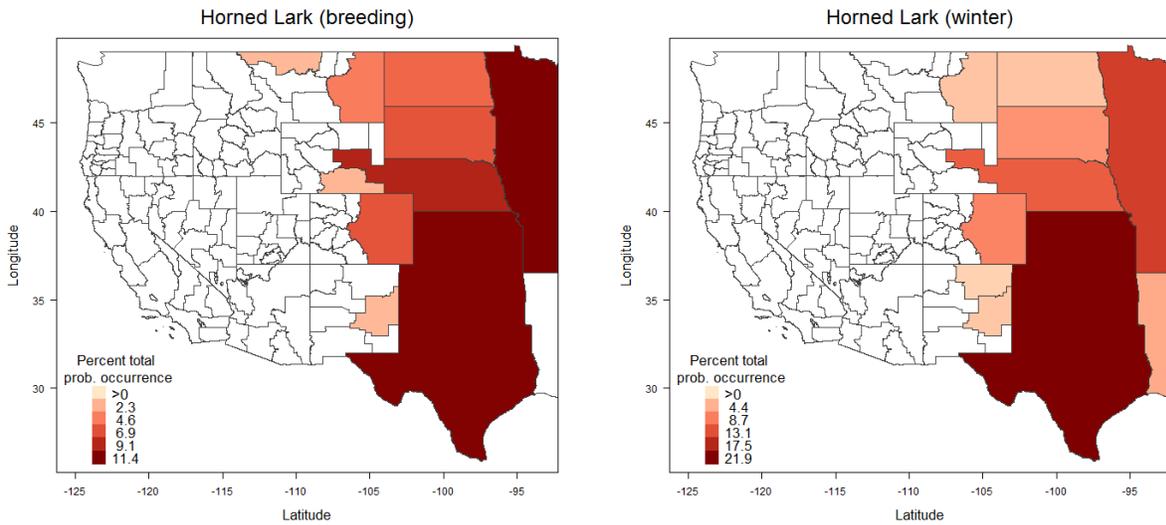


Fig. 3.4.4c. Ten most important BLM Field offices for the Horned Lark.

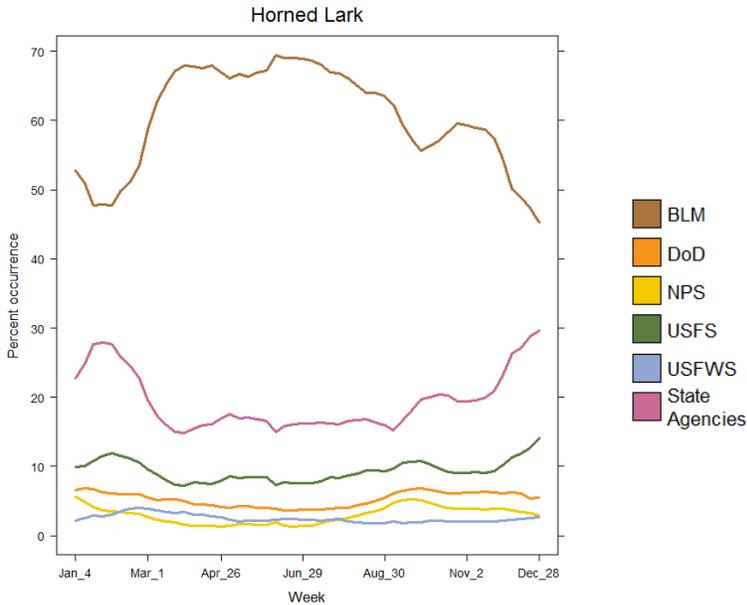


Fig. 3.4.4d. Seasonal jurisdictional breakdown by public agency for the Horned Lark.

Section 3.4.5: Sprague's Pipit

Sprague's Pipit is an uncommon breeder of rolling prairies of the northern Great Plains and southern Prairie Provinces. It breeds locally within the U.S. east of the Rocky Mountains from western Montana to central North Dakota and south to northern-central South Dakota (the modeled distribution for 7 June in Fig. 3.4.5a accurately defines the range except that it shows extrapolation into Idaho where the species does not occur). In mid-September they begin moving south through the Great Plains (largely east of Colorado) to wintering grounds in southern Arizona, New Mexico, Texas, and the Central Mexican Plateau. Due to its secretive habitats in dry grasslands and pastures, it is not a bird that is often detected and is a challenge for birdwatchers to detect. Sprague's Pipit is a steeply declining species that is on the PIF Watch List and the U.S. Fish and Wildlife Service BCC list.

Even among grassland birds, this species has among the lowest percentages (6%) of the breeding distribution on public lands, with only 7% of this public land managed by BLM (Fig. 3.4.5b); therefore BLM is responsible for less than 1% of the total distribution (Table 3.0). All of the BLM lands with Sprague's Pipits are in BCRs 11 and 16, and all are multiple use (GAP3) lands. Five BLM Field Offices account for 86% of the total breeding population, with North Dakota, Havre, and Miles City offices having the greatest responsibility.

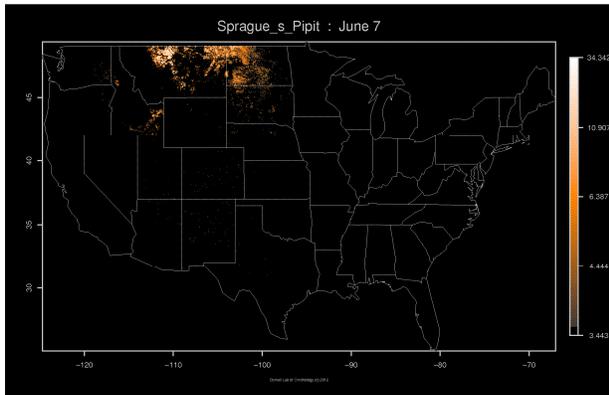


Fig. 3.4.5a. Distributional models for the Sprague's Pipit.

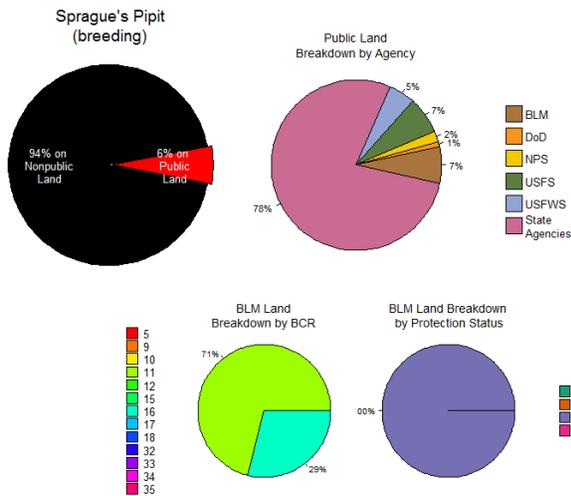


Fig. 3.4.5b. Jurisdictional breakdown for the Sprague's Pipit.

Table 3.4.5a. Percent of breeding distribution within the top five BLM Field Offices for the Sprague's Pipit.

BLM Field Office	Percent of Distribution
North Dakota	30.4
Havre	23.4
Miles City	18.0
Lewistown	10.1
Billings	5.0

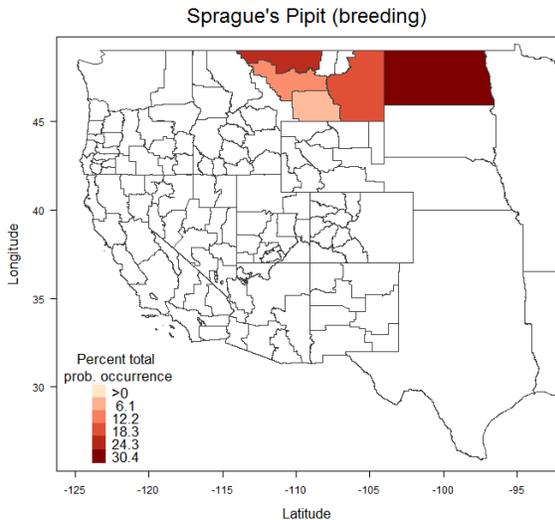


Fig. 3.4.5c. Five most important BLM Field Offices for the Sprague's Pipit.

Section 3.4.6: Chestnut-collared Longspur

Chestnut-collared Longspur is known for the bright colors of the breeding male, but in winter their plumage is much more muted and cryptic. Chestnut-collared Longspur breeds east of the Rocky Mountains in grasslands and prairies from w. Montana and ne. Colorado to w. Minnesota. It moves south in flocks in September and October and winters in taller grasslands and agricultural areas from southeastern California, southern Arizona, New Mexico, and west Texas south through the central Mexican Plateau. The summer map in Fig. 3.4.6a is very accurate, but the winter range over-extrapolates some, since the species does not winter regularly in northern Arizona and should be shown as somewhat more regular in parts of western Texas. Like many other birds of these habitats, it can be quite secretive and is best detected by walking through grasslands and flushing them, which makes this and other western grassland species a challenge for birders to detect. While detection rates are higher than many other secretive grassland birds (e.g., Sprague's Pipit), they are still quite low compared to many other species (e.g., Western Montane group, California Oak group) in this report.

Typical of most grassland birds, 14% of the breeding distribution is on public lands, with these lands split roughly equally among BLM (27%), U.S. Forest Service (31%) and state lands (36%); in winter a slightly higher percentage of the distribution is on public land (19%) with a third of those lands managed by BLM (Fig. 3.4.6b). BLM is responsible for 4% of the total breeding distribution, and 6% in winter (Table 3.0). BLM lands supporting Chestnut-collared Longspurs occur in BCRs 11 and 17 in the breeding season, and in BCRs 16, 34, and 35 in winter; the vast majority of these BLM lands (86%-92%) are managed for multiple use (GAP3).

Five BLM Field Offices encompass 88% of the breeding distribution and a completely different set of five Field Offices support 74% of the winter distribution. South Dakota, North Dakota, and Miles City offices have the greatest responsibility during breeding, whereas Oklahoma and Roswell offices have the greatest responsibility in winter (Fig. 3.4.6c).

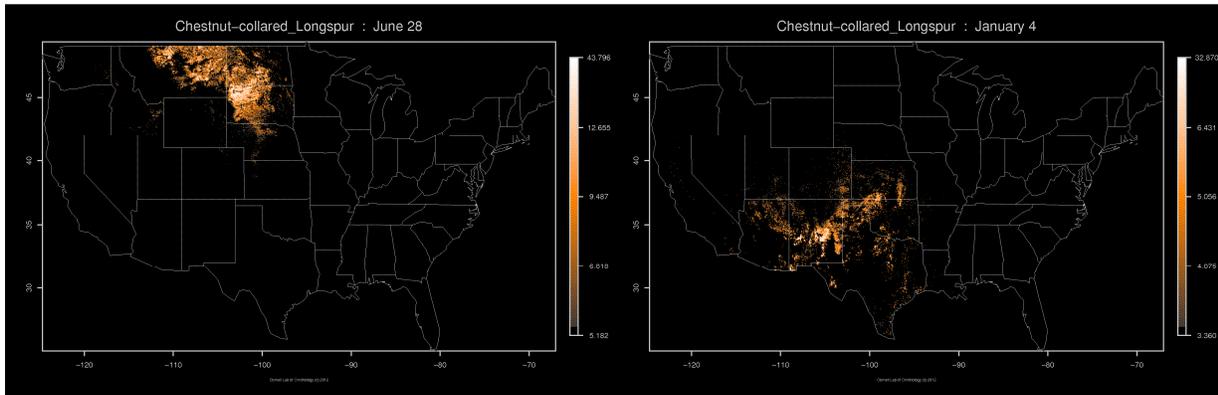


Fig. 3.4.6a. Distributional models for the Chestnut-collared Longspur.

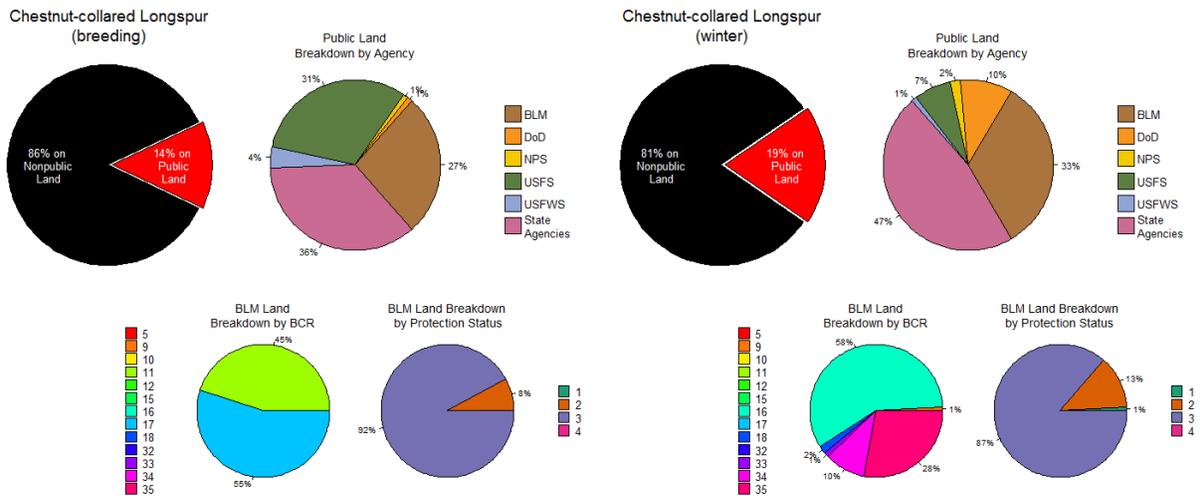


Fig. 3.4.6b. Jurisdictional breakdown for the Chestnut-collared Longspur.

Table 3.4.6a. Percent of breeding distribution within the top five BLM Field Offices for the Chestnut-collared Longspur.

BLM Field Office	Percent of Distribution
South Dakota	32.6
North Dakota	23.0
Miles City	19.6
Havre	7.7
Lewistown	3.7

Table 3.4.6b. Percent of winter distribution within the top five BLM Field Offices for the Chestnut-collared Longspur.

BLM Field Office	Percent of Distribution
Oklahoma	38.4
Roswell	17.2
Socorro	6.5
Las Cruces District Office	5.8
Rio Puerco	4.9

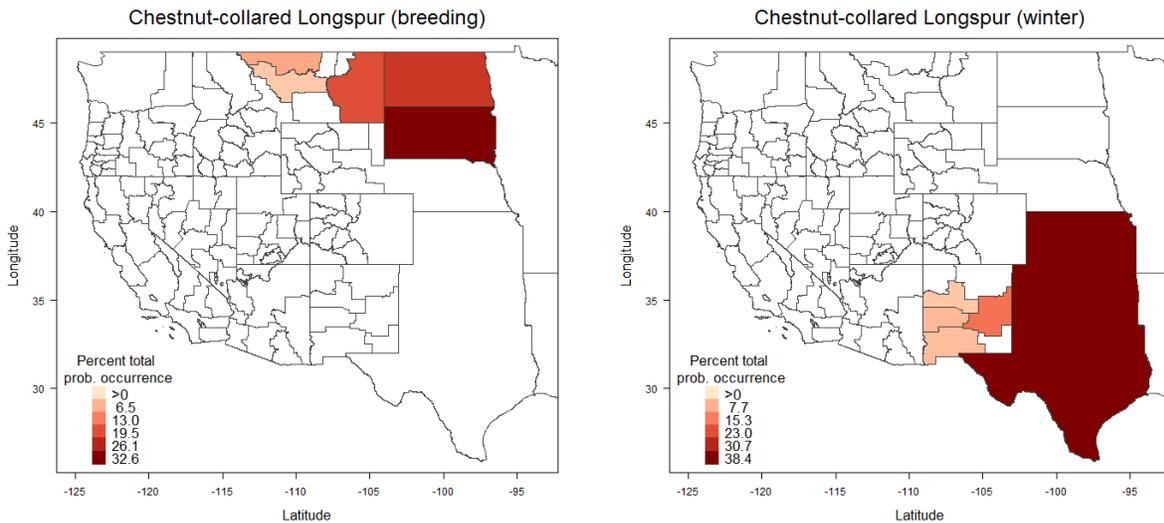


Fig. 3.4.6c. Five most important BLM Field Offices for the Chestnut-collared Longspur.

Section 3.4.7: Lark Bunting

Lark Bunting breeds east of the Rocky Mountains on the western Great Plains from north Texas to the southern Prairie Provinces of Canada and east to about the central Dakotas, central Nebraska, and central Kansas. It undertakes a molt migration, with birds moving to grasslands of southern Arizona and southern New Mexico in late July and August before migrating to wintering grounds. Most birds winter in the central Mexican Plateau, with the northern edge of the winter range in west Texas, southern New Mexico, and southeast Arizona. The models in Fig. 3.4.7a accurately show the breeding range and the core winter range, but over-extrapolates to the north in winter; the species does not regularly winter in northern Arizona or Kansas (except irregularly in the southwest corner). It returns north in April and May, with the males in striking black-and-white plumage. Lark Bunting is somewhat nomadic in breeding season, and

may respond to environmental conditions (dry or heavy rain years) by establishing colonies in new areas that might not otherwise be occupied. The edges of the breeding range are, therefore, quite dynamic.

As with many other grassland birds, only 17% of the breeding population is on public lands, whereas these lands support 29% of the U.S. winter distribution (Fig. 3.4.7b). The percentage of these public lands managed by BLM varies from 35% during breeding to 48% in winter; thus BLM is responsible for 6% of breeding and 14% of the wintering Lark Bunting distribution (Table 3.0). The seasonal jurisdictional breakdown (Fig. 3.4.7d) indicates that BLM and state lands share a roughly similar responsibility for this species throughout the year, while U.S. Forest Service grasslands are most important in summer. Similar to the previous species, most of the BLM lands supporting Lark Buntings are in BCRs 17 and 11 in the breeding season and BCRs 35, 33, and 16 in winter. Multiple use (GAP3) lands account for 92% of the breeding distribution and 87% in winter.

The top ten BLM Field Offices support 89% of the U.S. breeding distribution, with Miles City, South Dakota, and Casper showing the greatest responsibility for this species. In winter, ten Field Offices encompass 93% of the U.S. distribution, with Oklahoma and Las Cruces District offices having the greatest responsibility (Table 3.4.7a,b; Fig. 3.4.7c).

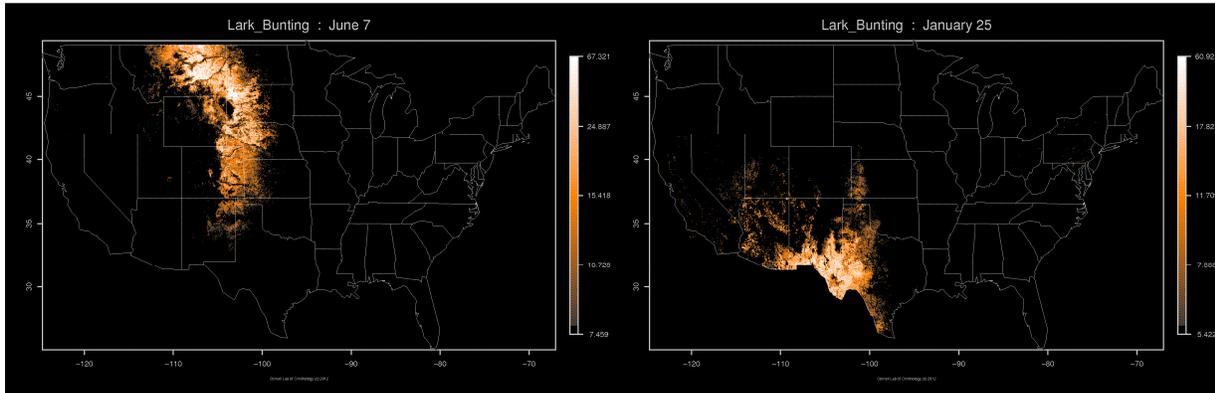


Fig. 3.4.7a. Distributional models for the Lark Bunting.

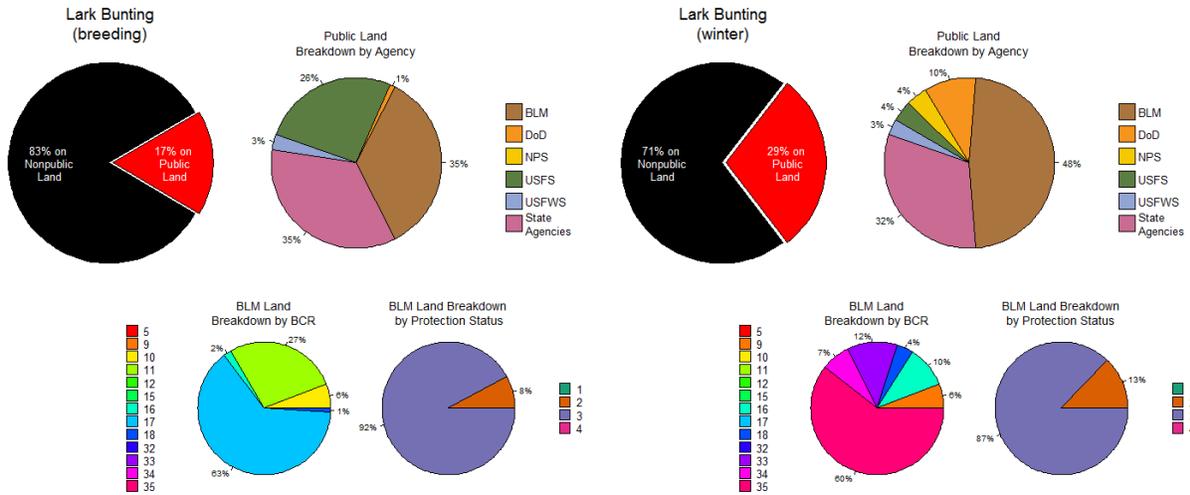


Fig. 3.4.7b. Jurisdictional breakdown for the Lark Bunting.

Table 3.4.7a. Percent of breeding distribution within the top ten BLM Field Offices for the Lark Bunting.

BLM Field Office	Percent of Distribution
Miles City	19.8
South Dakota	16.9
Casper	15.3
Royal Gorge	10.7
North Dakota	6.3
Oklahoma	5.2
Havre	4.6
Lewistown	3.5
Billings	3.5
Malta	3.1

Table 3.4.7b. Percent of winter distribution within the top ten BLM Field Offices for the Lark Bunting.

BLM Field Office	Percent of Distribution
Oklahoma	56.0
Las Cruces District Office	13.7
Carlsbad	5.2
Safford	4.9
Roswell	3.9
Hassayampa	2.8
Tucson	2.7
Lower Sonoran	1.2
Yuma	1.1
Socorro	1.1

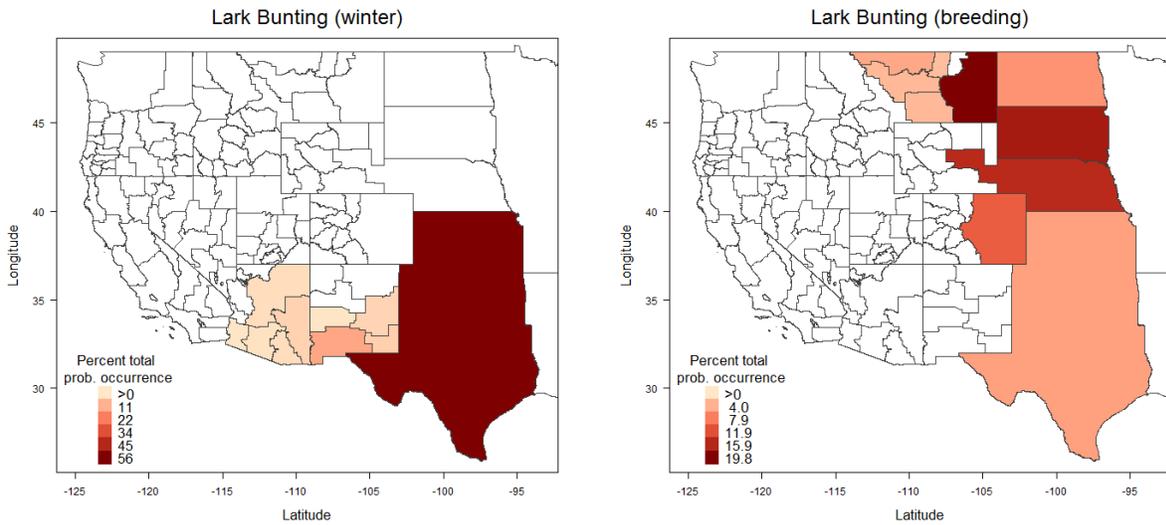


Fig. 3.4.7c. Ten most important BLM Field offices for the Lark Bunting.

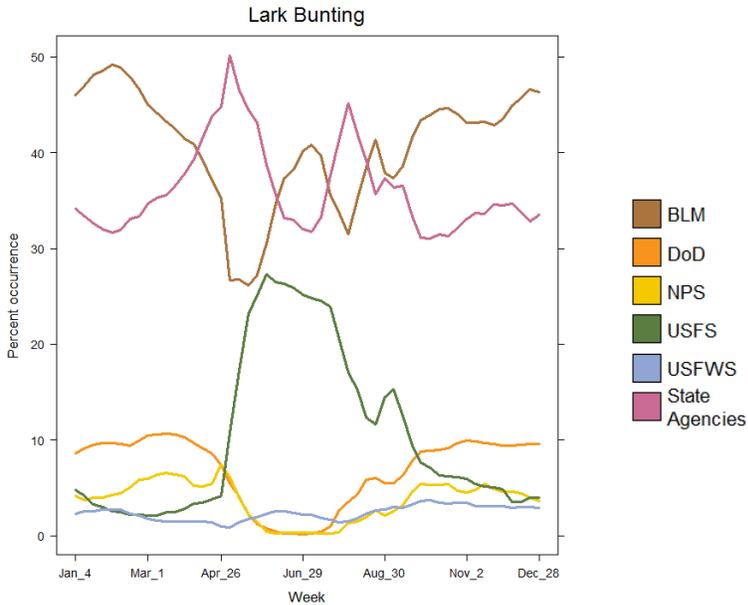


Fig. 3.4.7d. Seasonal jurisdictional breakdown by public agency for the Lark Bunting.

Section 3.4.8: Grasshopper Sparrow

Grasshopper Sparrow is one of the most widespread grassland birds in the United States, breeding literally from coast to coast and in every one of the Lower 48 states (except Nevada). It requires fairly open grasslands for breeding, using airports and agriculture (e.g., alfalfa fields) in some areas, but most prefers native prairies that are regularly burned. As shown on the model results (Fig. 3.4.8a), it is most common in the Great Plains and Midwest, with patchy occurrence along the East Coast and West Coast; it is largely absent from deserts and mountains. This species is easily detected in spring and summer when territorial birds sing their high-pitched insect-like song, but is much more challenging to detect in migration and winter. Outside the breeding season they are best found by walking through grasslands and flushing them, but they are difficult for many birders to identify in flight. In winter the species occurs across the southern tier of the U.S., but much of the population probably winters in the northern half of Mexico.

Only 6% of the breeding distribution occurs on public lands (Fig. 3.4.8b), and this public land is divided among BLM (21%), U.S. Forest Service (29%), and state-owned lands (37%). BLM is therefore responsible for only 1% of the Grasshopper Sparrow distribution (Table 3.0). As with other prairie grassland birds, the majority of BLM lands supporting breeding Grasshopper Sparrows are in BCRs 17 and 11, and the vast majority are multiple-use (GAP3) lands. The seasonal jurisdictional breakdown (Fig. 3.4.8d) indicates that BLM responsibility for this species is higher during the spring and fall migration seasons than during summer.

The top ten BLM Field Offices support 95% of the breeding distribution, with South Dakota, North Dakota, Oklahoma, and Northeastern States offices having the greatest responsibility for Grasshopper Sparrow (Table 3.4.8a; Fig. 3.4.8c).

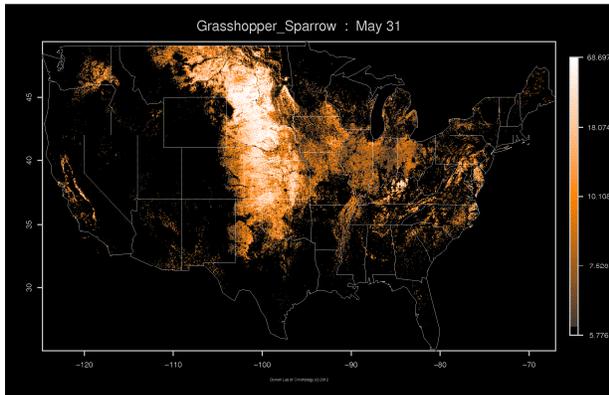


Fig. 3.4.8a. Distributional models for the Grasshopper Sparrow.

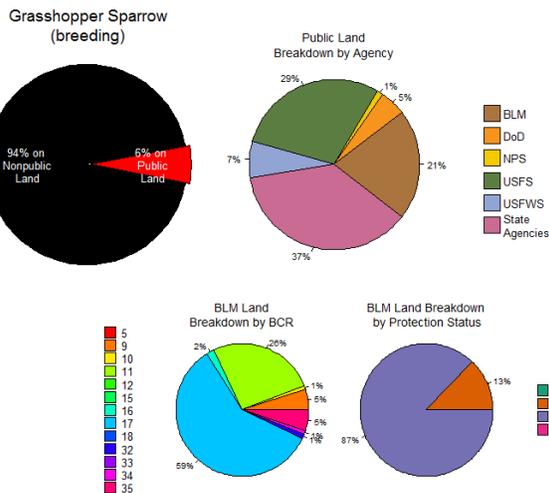


Fig. 3.4.8b. Jurisdictional breakdown for the Grasshopper Sparrow.

Table 3.4.8a. Percent of breeding distribution within the top ten BLM Field Offices for the Grasshopper Sparrow.

BLM Field Office	Percent of Distribution
South Dakota	20.5
Oklahoma	18.9
Casper	16.3
Northeastern States	15.4
North Dakota	9.7
Southeastern States	6.1
Miles City	5.2
Royal Gorge	2.0
Havre	0.7
Spokane Border	0.7

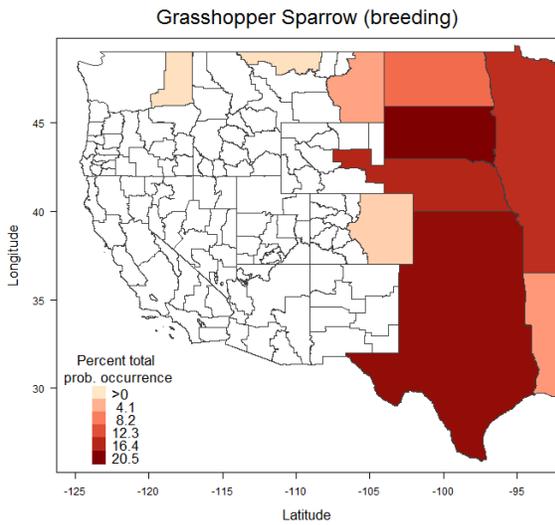


Fig. 3.4.8c. Ten most important BLM Field offices for the Grasshopper Sparrow.

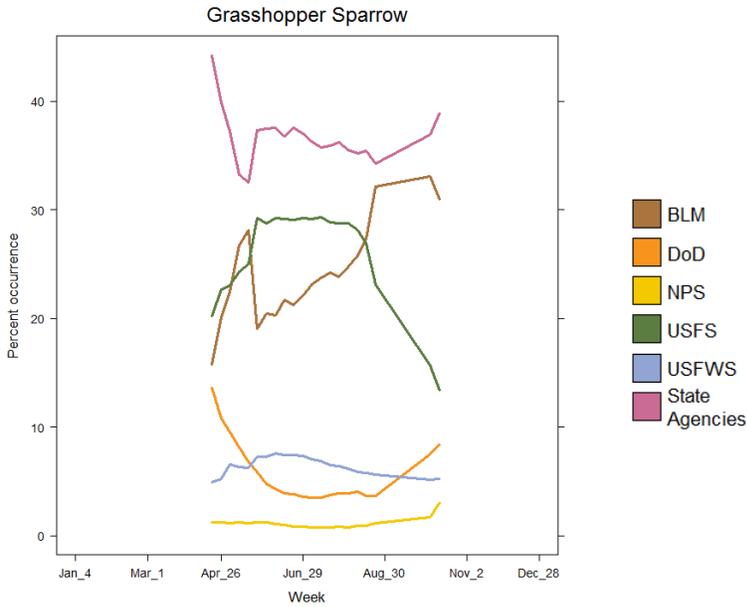


Fig. 3.4.8d. Seasonal jurisdictional breakdown by public agency for the Grasshopper Sparrow.

Section 3.5: Western Riparian species

Four species of Western Riparian bird species are included in this grouping. For Yellow-billed Cuckoo, Willow Flycatcher, and Yellow Warbler, we examined only distributions west of the 100th Meridian, although the full distribution models are illustrated in the maps. These results therefore differ from what was presented in the 2011 State of the Birds report. Bell’s Vireo was included in State of the Birds (2011) as an Aridlands species, but because it is restricted to riparian woodlands in much of its southwestern range, we included it with this grouping.

All of these species require woodlands (usually dominated by cottonwood and/or willow) and brushlands along permanent watercourses in the desert southwest, and this habitat is inherently scarce since flowing rivers are few. Each species in this grouping has unique populations and/or subspecies that are evolved for Southwestern riparian habitats and all of these are of conservations concern, since this habitat is obviously one of the most at-risk in the country. Although these widespread species have only a small percent of their total populations on BLM lands, these lands are very important for the western riparian portions of their range.

Table 3.5. The four Western Riparian species examined in the assessment with dates for which distributional estimates were used in the jurisdictional summary.

Species	Breeding	Winter
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	July 12	n/a
Willow Flycatcher (<i>Empidonax traillii</i>)	July 5	n/a
Bell's Vireo (<i>Vireo belli</i>)	June 21	n/a
Yellow Warbler (<i>Setophaga petechia</i>)	July 5	n/a

Section 3.5.1: Yellow-billed Cuckoo

The bulk of the Yellow-billed Cuckoo population is in the eastern United States, where it breeds in a variety of forest types. In the West, a separate population is sometimes recognized as the subspecies *occidentalis*, and is essentially restricted to large cottonwoods in riparian corridors in west Texas, southern New Mexico, southern Arizona, and southeastern California (as well as northwestern Mexico). The southwestern population has been the source of much conservation concern since riparian woodlands are highly threatened by overgrazing, water-use issues, and development. Because of the high occurrence values of the eastern birds and, especially, the patchy nature of riparian habitat, the distribution model (Fig. 3.5.1.a) makes it hard to see this southwestern population. Note, however, that Table 3.5.1a does show the signal from the southwestern field offices where this species occurs, but the 94% occurrence in the Oklahoma field office refers to the eastern population that reaches the western limit of its range in that area. Yellow-billed Cuckoos have complex movements that are only recently being understood, with geolocator results showing that some southwestern birds move to West Mexico after breeding and then move back north to breeding areas before migrating to wintering grounds in South America. The eastern population migrates south over the Atlantic and Gulf of Mexico in September and October and streams back north in April and May, taking a more westerly route. Interestingly, the western population has a much later spring migration than eastern birds, arriving a month or more later (usually early June) than birds at similar latitudes in the East.

Along with Willow Flycatcher, Yellow Warbler, and Vesper Sparrow, the analysis for Yellow-billed Cuckoo was restricted to the range from the 100th Meridian west.

Considering only birds west of the 100th Meridian, still only 3% of the breeding distribution is on public land (Fig. 3.5.1b). BLM does manage the largest proportion of public lands with cuckoos (37%), followed by state agencies at 32%. BLM lands supporting cuckoos are evenly distributed across BCRs 33, 34, and 35, and 85% of these lands are managed for multiple use (GAP3). Five BLM Field Offices account for 98% of the western breeding distribution, but as pointed out above, the Oklahoma Field Office includes part of the extensive eastern range of the species. Truly western Field Offices with responsibility for breeding Yellow-billed Cuckoos are the Carlsbad, Casper, Lower Sonoran and Tucson offices (Table 3.5.1a; Fig. 3.5.1c).

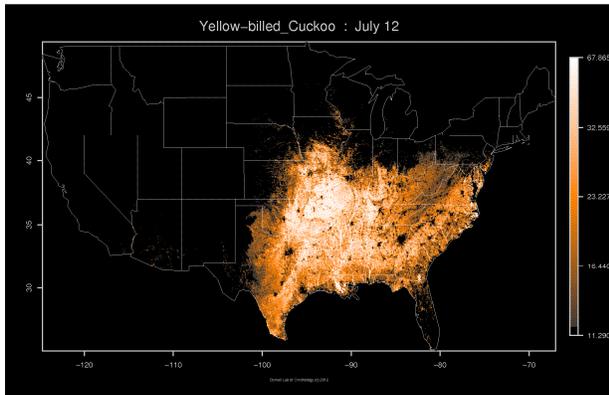


Fig. 3.5.1a. Distributional models for the Yellow-billed Cuckoo.

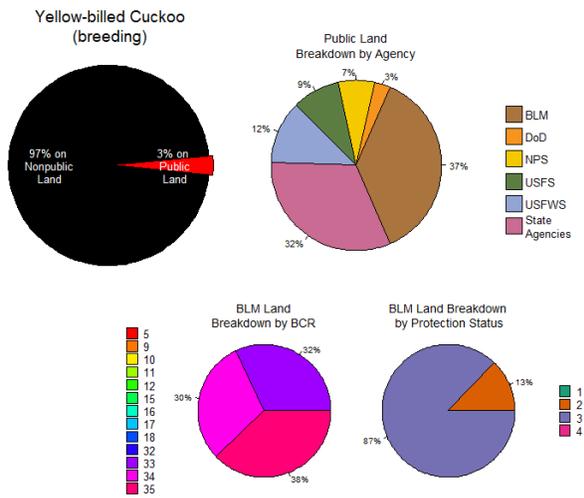


Fig. 3.5.1b. Jurisdictional breakdown for the Yellow-billed Cuckoo.

Table 3.5.1a. Percent of breeding distribution within the top ten BLM Field Offices for the Yellow-billed Cuckoo.

BLM Field Office	Percent of Distribution
Oklahoma	94.3
Lower Sonoran	1.1
Carlsbad	0.9
Tucson	0.8
Casper	0.6
Safford	0.4
Lake Havasu	0.4
Yuma	0.4
South Dakota	0.3
El Centro	0.2

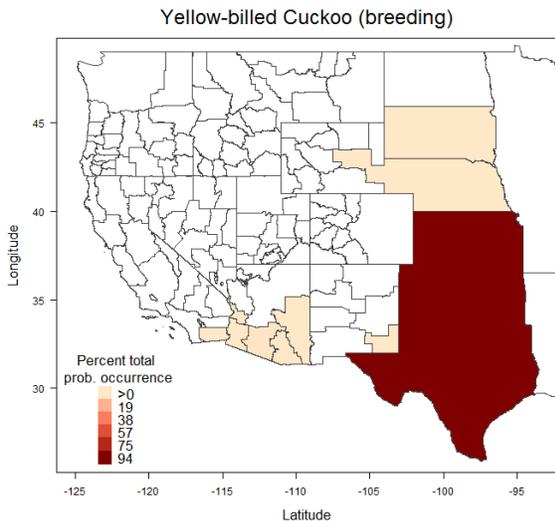


Fig. 3.5.1c. Ten most important BLM Field offices for the Yellow-billed Cuckoo.

Section 3.5.2: Willow Flycatcher

Willow Flycatcher is a widespread member of the *Empidonax* flycatcher complex, a group of small flycatchers that are all very similar visually but easily distinguished by song. Willow Flycatchers is one of a few *Empidonax* that do not breed in forests, instead preferring open brushy areas, scrubby fields, marshes, and riparian corridors. Several subspecies within Willow Flycatcher vary in appearance and breeding habitat, with the Endangered “Southwestern” Willow Flycatcher (*E. t. extimus*) being the most well known and the highest conservation priority of those populations. This small, pale subspecies is restricted to watercourses in the desert Southwest, and even with protection and management this form remains quite rare and at-risk. The other three subspecies also occur in the West, with nominate *E. t.*

traillii breeding across the northern Great Plains and *E. t. adastus* and *E. t. brewsteri* breeding in the Great Basin and Rocky Mountains and Sierra Nevada, Pacific Northwest, and southwestern Canada, respectively. Willow Flycatchers are notably late spring migrants and early fall migrants (later fall migrants in the West than the East), so their time in the United States and Canada is quite short compared to most other species. They spend the winter in Central America and northwestern South America. The model results in Fig. 3.5.2a are accurate for the breeding range of the species, but note that some of the fringe populations, including the “Southwestern” Willow Flycatcher, are barely visible because the high occurrence values in the core range swamp the signal for the very limited populations, such as in southeast Arizona.

Along with Yellow-billed Cuckoo, Yellow Warbler, and Vesper Sparrow, the analysis for Willow Flycatcher was restricted to the range from the 100th Meridian west.

Considering only birds in the western half of the U.S., 33% of the breeding population is on public lands, with 10% of that public land managed by BLM (Fig. 3.5.2b). As seen nicely in the seasonal jurisdictional breakdown (Fig. 3.5.2d), U.S. Forest Service lands are relatively more important during summer, but BLM lands spike in importance during the spring and fall migration periods when birds are heavily using riparian corridors in the southwestern U.S. This interesting pattern of alternating responsibility between USFS and BLM is seen in many other migratory western forest birds. A majority of BLM lands supporting Willow Flycatcher are in BCRs 10, 5, and 9, and 94% of these are multiple-use (GAP3) lands.

The top ten BLM Field Offices support 73% of the breeding Willow Flycatcher distribution, all along the northern U.S. border (Table 3.5.2a; Fig. 3.5.2c). Spokane-Wenatchee and Spokane Border offices have the greatest responsibility for this species in the West.

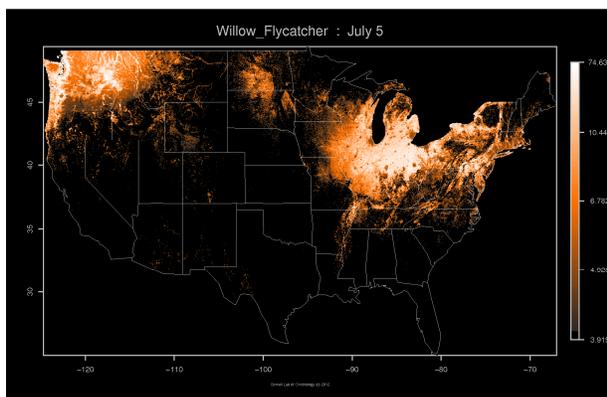


Fig. 3.5.2a. Distributional models for the Willow Flycatcher.

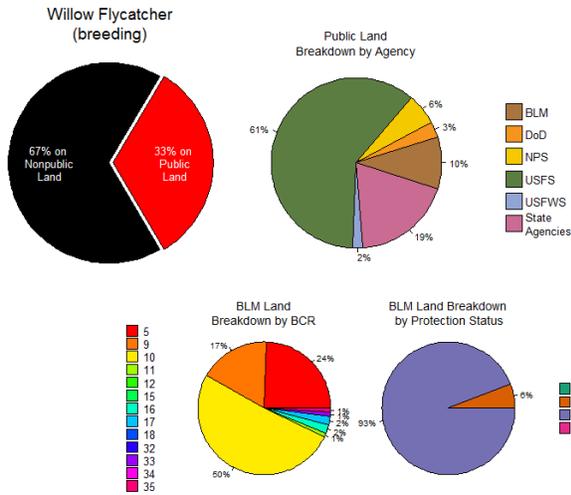


Fig. 3.5.2b. Jurisdictional breakdown for the Willow Flycatcher.

Table 3.5.2a. Percent of breeding distribution within the top ten BLM Field Offices for the Willow Flycatcher.

BLM Field Office	Percent of Distribution
Spokane Wenatchee	26.3
Spokane Border	11.8
Missoula	8.9
Cottonwood	4.9
North Dakota	4.7
Coeur d'Alene	4.4
Vale Baker	3.8
Havre	3.1
Salem Tillamook	2.6
Lewistown	2.4

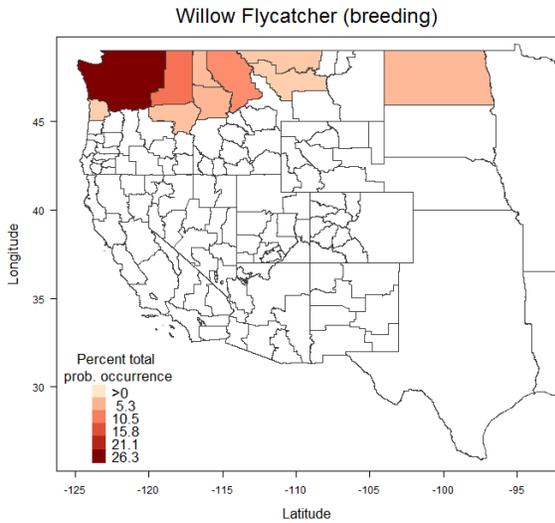


Fig. 3.5.2c. Ten most important BLM Field offices for the Willow Flycatcher.

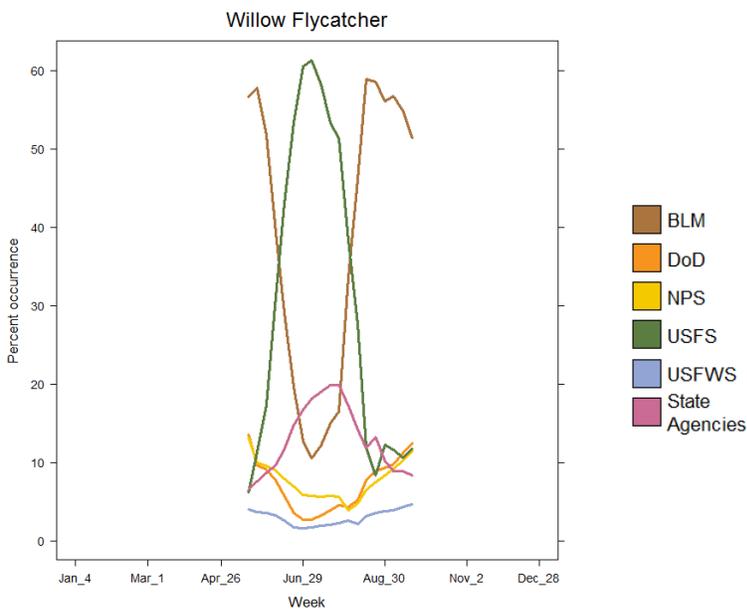


Fig. 3.5.2d. Seasonal jurisdictional breakdown by public agency for the Willow Flycatcher.

Section 3.5.3: Bell's Vireo

Bell's Vireo has three different populations, usually divided in to four different subspecies. The westernmost is the highly endangered "Least" Bell's Vireo (*Vireo belli pusillus*), which is restricted to heavily pressured riparian habitats of southwestern California and northern Baja California, but which has recovered significantly in recent years thanks to protection and conservation efforts. Another population (*V. b. arizonae*) breeds along riparian corridors in Arizona, southeastern California, southern Nevada, and

southwest New Mexico, as well as northern Mexico. The third population (including *V. b. medius* and *V. b. belli*) more prefers brushlands and thickets, occurring through much of Texas as well as most of the Great Plains, locally as far north as Minnesota and western Indiana. The range of the Bell's Vireo shows well in Fig. 3.5.3a, but there is some over-extrapolation in eastern California and Utah. All Bell's Vireos winter in western Mexico ("Least" Bell's winter mostly in Baja California, the others winter on the Pacific coast of mainland Mexico) and migrate primarily in September and March-April.

More consistent with other aridland species, 31% of the breeding Bell's Vireo distribution is on public land, and 44% of this public land is managed by BLM (Fig. 3.5.3b). The relatively high responsibility for this species on BLM lands is consistent throughout their stay within the U.S., as seen in the seasonal jurisdictional breakdown (Fig. 3.5.3d). A majority of BLM lands supporting Bell's Vireo is within BCR 33 and 35, and nearly a third of these lands are managed for greater biodiversity protection (GAP1 and 2).

The top ten BLM Field Offices support 81% of the breeding distribution, with the Oklahoma office with by far the greatest responsibility for the species because of the large distribution in Texas (Fig. 3.5.3c). The Lower Sonoran, Tucson, and Safford Field Offices support 15% of the total population, and a vast majority of the southwestern population of the species.

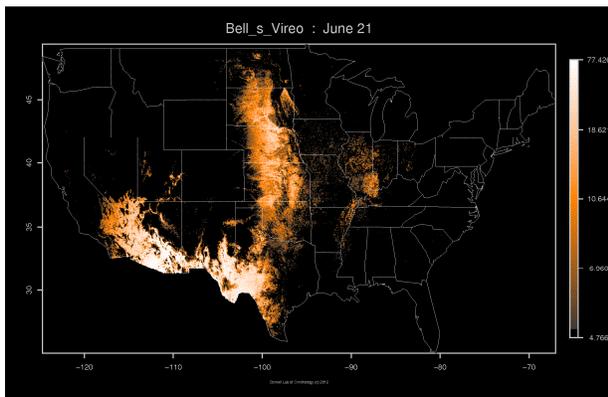


Fig. 3.5.3a. Distributional models for the Bell's Vireo.

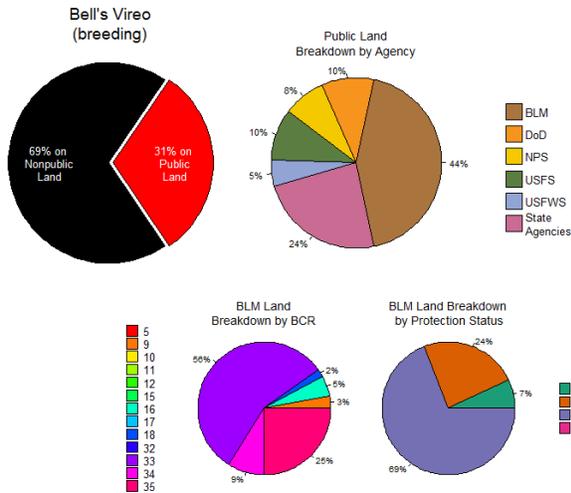


Fig. 3.5.3b. Jurisdictional breakdown for the Bell's Vireo.

Table 3.5.3a. Percent of breeding distribution within the top ten BLM Field Offices for the Bell's Vireo.

BLM Field Office	Percent of Distribution
Oklahoma	37.5
Casper	9.2
South Dakota	7.1
Lower Sonoran	5.5
Safford	4.6
Tucson	4.5
Las Cruces District Office	4.5
Northeastern States	3.7
Hassayampa	2.8
Carlsbad	2.2

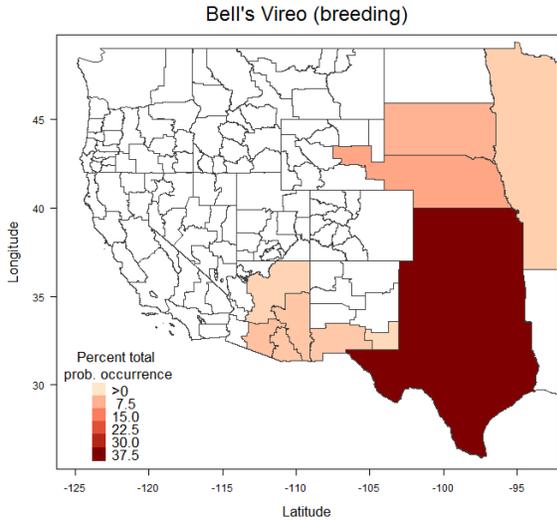


Fig. 3.5.3c. Ten most important BLM Field offices for the Bell's Vireo.

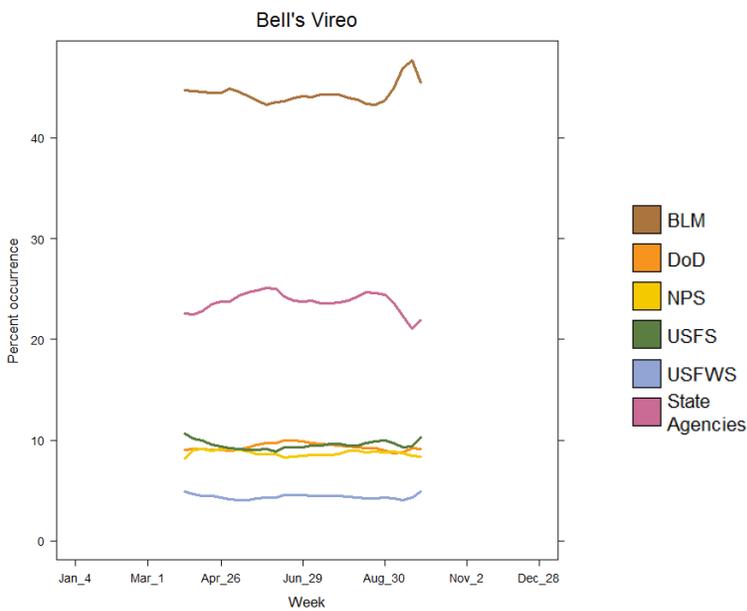


Fig. 3.5.3d. Seasonal jurisdictional breakdown by public agency for the Bell's Vireo.

Section 3.5.4: Yellow Warbler

Yellow Warbler is the most widespread species of warbler (family Parulidae), occurring from the Atlantic to the Pacific coasts and with some breeding in mangroves as far south as northern South America and the Galapagos Islands and others breeding in willow swales as far north as the Brooks Range of Alaska! There are a lot of described subspecies within that broad range, but in the West these break down as three populations: Great Plains and Rocky Mountains breeders (*S. p. aestiva*), Pacific coast and Pacific

Northwest (*S. p. marcomi*), and the very bright southwestern desert birds (*S. p. sonorana*). Each population has distinctive migration timing, with the southwestern birds perhaps being most distinct since they arrive up to a month earlier than other birds and begin breeding along riparian watercourses in Arizona and adjacent states. As with a number of other desert riparian specialists, this population is of conservation concern since that habitat is so threatened by water use, grazing, and development. (Note that this population, which appears on the map in Fig. 3.5.4a, is so rare relative to the others that it does not show prominently in the results in Table 3.5.4a.) At least two other subspecies, which breed in Canada and Alaska, can occur as passage migrants through the West. Yellow Warblers winter broadly through Mexico and Central America and are one of the more common migrant warblers continent-wide in July-September in fall and April-May in spring.

Along with Yellow-billed Cuckoo, Willow Flycatcher, and Vesper Sparrow, the analysis for Yellow Warbler was restricted to the range from the 100th Meridian west.

Roughly 44% of the western Yellow Warbler distribution in the U.S. is on public lands, and 41% of these public lands are managed by BLM; an additional 40% is on U.S. Forest Service land (Fig. 3.5.4b). As seen in the seasonal jurisdictional breakdown, however, the relative importance of BLM lands is much higher during the spring and fall migration periods (Fig. 3.5.4d), when large numbers of Yellow Warblers are migrating through riparian corridors in the southwest U.S. A majority of BLM lands that support breeding Yellow Warblers are in BCRs 9, 10, and 16, and 91% of these lands are managed for multiple use (GAP3).

As noted above, the top ten BLM Field Offices for Yellow Warbler are all in the northern part of the range, and these account for 42% of the total distribution (Table 3.5.4a; Fig. 3.5.4c). No Field Office stands out as having a high responsibility for the species, but Field Offices in the southwest (e.g., Tucson, Lower Sonoran) are responsible for the bulk of the southwestern desert subspecies *sonorana*.

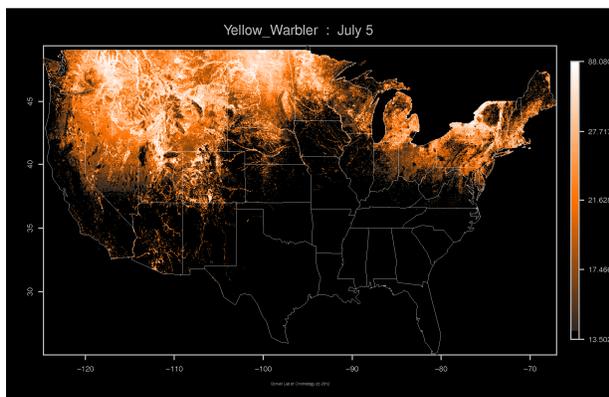


Fig. 3.5.4a. Distributional models for the Yellow Warbler.

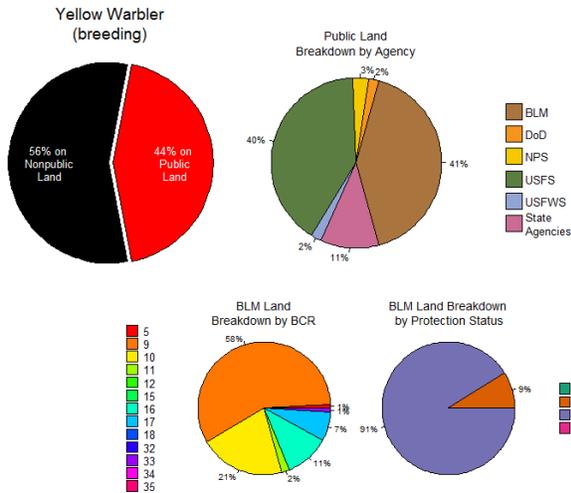


Fig. 3.5.4b. Jurisdictional breakdown for the Yellow Warbler.

Table 3.5.4a. Percent of breeding distribution within the top ten BLM Field Offices for the Yellow Warbler.

BLM Field Office	Percent of Distribution
North Dakota	6.8
Miles City	5.8
Spokane Wenatchee	4.9
South Dakota	4.2
Missoula	3.9
Spokane Border	3.6
Salt Lake	3.0
Lewistown	2.9
Billings	2.8
Casper	2.7

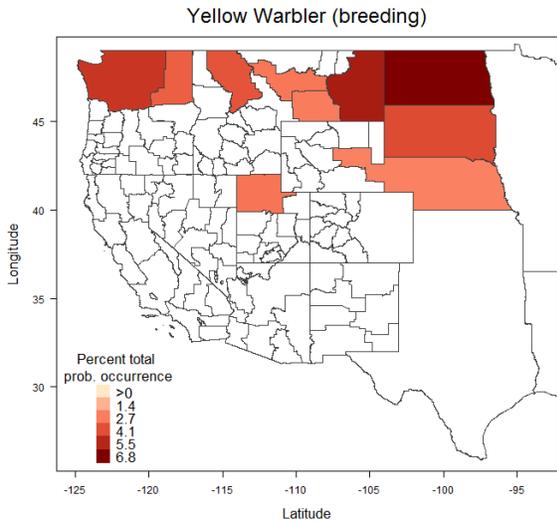


Fig. 3.5.4c. Ten most important BLM Field offices for the Yellow Warbler.

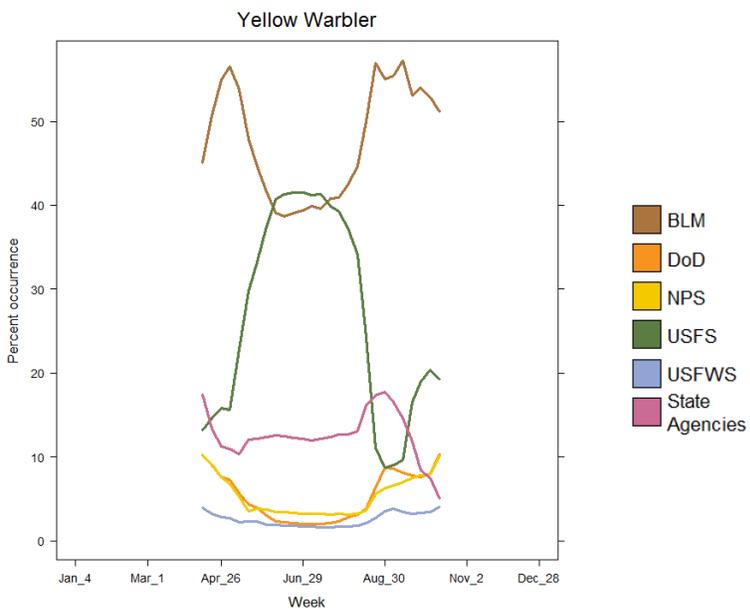


Fig. 3.5.4d. Seasonal jurisdictional breakdown by public agency for the Yellow Warbler.

Section 3.6: Pinyon-Juniper Woodland species

We include three Pinyon-Juniper Woodland bird species (Table 3.6), all of these species were included as Western Forests obligates in State of the Birds 2011. These three Pinyon-Juniper Woodland species have high percentages of their distributions on public lands and BLM has a high responsibility for their breeding distributions.

The pinyon-juniper forest is a characteristic of hilly country and dry mountain slopes in the West and has a distinctive avian community. These three species are three of the most emblematic and are almost entirely restricted to this habitat. Two are resident, while one (Gray Vireo), is migratory and winters in different arid habitats in Mexico and the extreme southwestern United States.

Table 3.6. The three Pinyon-Juniper Woodland species examined in the assessment with dates for which distributional estimates were used in the jurisdictional summary. Note that in this case Gray Vireo is migratory while the other two species are resident; the breeding dates selected for Pinyon Jay and Juniper Titmouse are considered the best representation of the year-round range.

Species	Breeding	Winter
Gray Vireo (<i>Vireo vicinior</i>)	May 24	n/a
Pinyon Jay (<i>Gymnorhinus cyanocephalus</i>)	May 3	n/a
Juniper Titmouse (<i>Baeolophus ridgwayi</i>)	June 21	n/a

Section 3.6.1: Gray Vireo

Gray Vireo is an uncommon and sparsely distributed species, breeding primarily in pinyon-juniper habitat. Its breeding range extends from southern California to central Nevada, Utah, and Colorado, south through western New Mexico, and in west Texas east to the western Edwards Plateau. Its migrations are short and poorly known. Because of the species' rarity and poor data coverage in the core of its range, the model in Fig. 3.6.1a does over-extrapolate beyond the known range. The species does not occur into northern Utah, Wyoming and Idaho. However, the core areas of occurrence in Utah, Arizona, New Mexico, Colorado, and Texas are shown fairly well. In winter, Gray Vireo has a very close association with Elephant Trees (*Bursera microphylla*) and, with a few exceptions, its winter range closely follows the distribution of that tree in Baja California, coastal Sonora, and southernmost California and Arizona.

A majority of the Gray Vireo breeding distribution (61%) is on public lands, and 67% of these public lands are managed by BLM (Fig. 3.61b); BLM is therefore responsible for 43% of Gray Vireo breeding distribution. BLM lands that support Gray Vireos are mostly in BCRs 16, 10, and 9, and a significant portion of these lands (24%) are managed for higher biodiversity protection (GAP1 and 2). The top five BLM Field Offices encompass 33% of the total breeding population, with Hassayampa, Oklahoma, Las Cruces, Monticello and Vernal Field Offices having relatively high responsibility for the species (Table 3.6.1a; Fig. 3.6.1c).

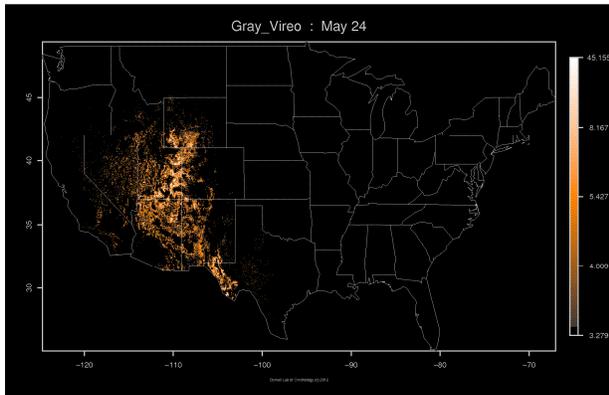


Fig. 3.6.1a. Distributional models for the Gray Vireo.

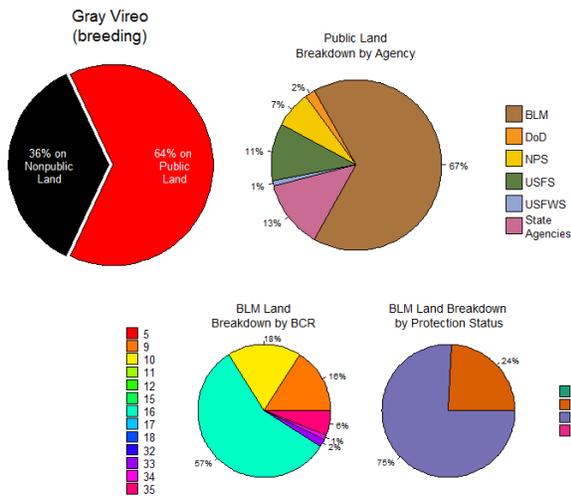


Fig. 3.6.1b. Jurisdictional breakdown for the Gray Vireo.

Table 3.6.1a. Percent of breeding distribution within the top five BLM Field Offices for the Gray Vireo.

BLM Field Office	Percent of Distribution
Hassayampa	11.7
Oklahoma	7.3
Las Cruces District Office	4.7
Monticello	4.5
Vernal	4.1

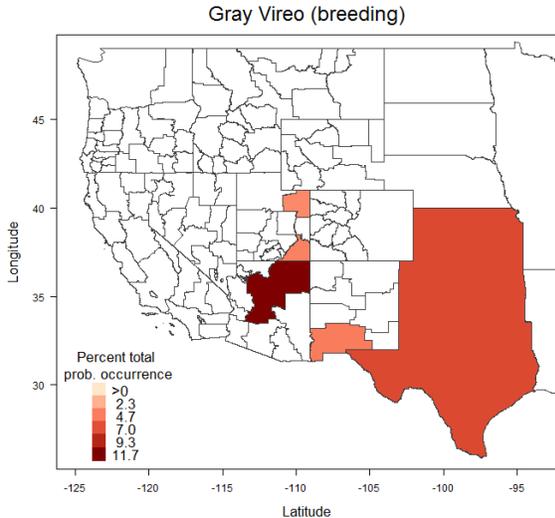


Fig. 3.6.1c. Five most important BLM Field offices for the Gray Vireo.

Section 3.6.2: Pinyon Jay

Pinyon Jay is a somewhat nomadic species of pinyon-juniper woodlands in the Great Basin desert and surrounding areas, traveling in noisy and raucous groups in search of pinyon cone crops that form the species' primary food source (along with Yellow Pine in some areas, such as California). It is largely resident, but local failures of the pinyon crop may force the birds to lowlands or mountains and hills outside of the normal area of occurrence. The breeding range extends from the forested mountains of northernmost Baja California, along the dry east slope of the Sierra Nevada and other California ranges, throughout the Great Basin to southern Idaho and Montana, and south to southern New Mexico and central Arizona. The map of model results (Fig. 3.6.2a) is quite accurate, although it is not a regular species in central Idaho, where the model appears to have over-extrapolated slightly.

Pinyon Jays have among the highest proportion of any species' distribution on public lands (77%), and more than two-thirds of those lands are managed by BLM (Fig. 3.6.2b); overall, BLM is responsible for more than half the breeding distribution of this species (Table 3.0). A majority of BLM lands supporting Pinyon Jay are in BCRs 9, 16, and 10, and 86% of those lands are managed for multiple use (GAP3).

As with other species with wide distributions, the top ten BLM Field Offices encompass 52% of the total distribution, with Hassayampa, Tonopah, and Wells offices having relatively higher responsibility for the species (Table 3.6.2a; Fig. 3.6.2c).

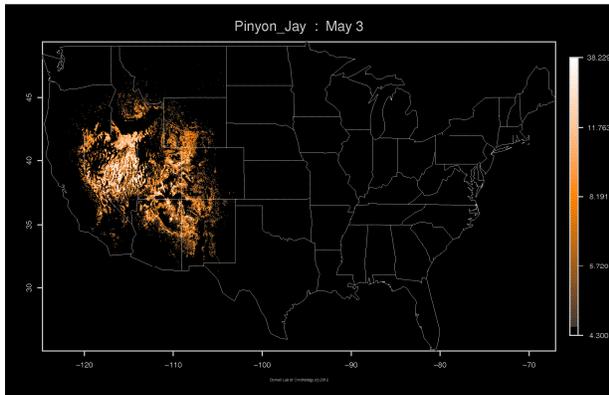


Fig. 3.6.2a. Distributional models for the Pinyon Jay.

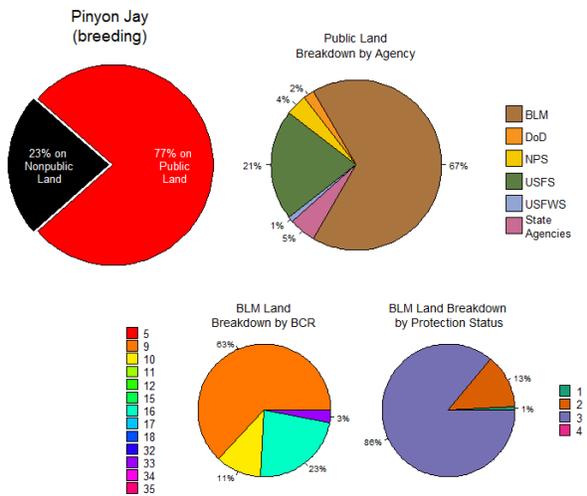


Fig. 3.6.2b. Jurisdictional breakdown for the Pinyon Jay.

Table 3.6.2a. Percent of breeding distribution within the top ten BLM Field Offices for the Pinyon Jay.

BLM Field Office	Percent of Distribution
Hassayampa	6.6
Wells	5.3
Tonopah	4.9
Mount Lewis	4.5
Egan	3.9
Schell	3.6
Tuscarora	3.1
Farmington	2.6
Rio Puerco	2.6
Vernal	2.5

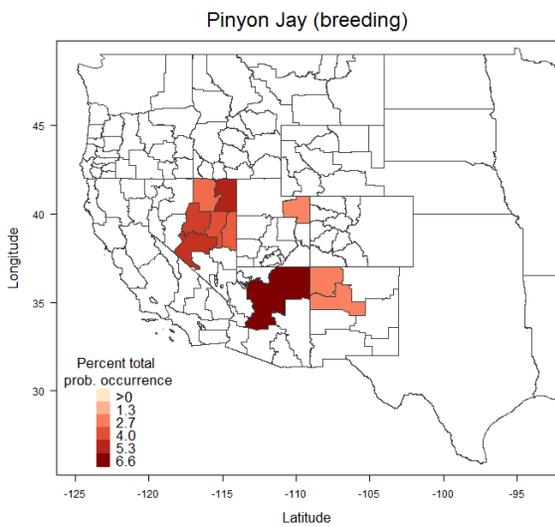


Fig. 3.6.2c. Ten most important BLM Field offices for the Pinyon Jay.

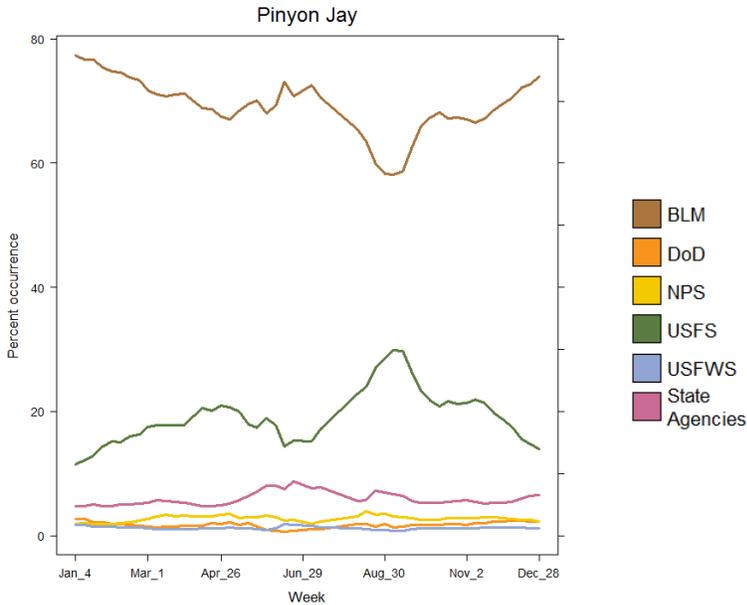


Fig. 3.6.2d. Seasonal jurisdictional breakdown by public agency for the Pinyon Jay.

Section 3.6.3: Juniper Titmouse

Formerly considered a single species, the Plain Titmouse was split in 1996 into Oak Titmouse—occurring west of the Sierra Nevada Range—and Juniper Titmouse from the east slope of the Sierra Nevada to the eastern Rocky Mountains. This core distribution largely follows the dry pinyon-juniper habitat of mountains in and around the Great Basin Desert, especially Nevada, Utah, northeastern Arizona, western New Mexico, and western Colorado. The model results in Fig. 3.6.3a very closely approximate the known range (especially in Arizona and New Mexico) and show just how restricted it is in Nevada to the ridgelines with pinyon-juniper habitat. The main area where the model over-extrapolates is Wyoming, since Juniper Titmice are restricted to the extreme southwest of that state and do not occur as far north as they are mapped.

As with the other pinyon-juniper specialists, a majority of the Juniper Titmouse distribution (60%) is on public lands, and 65% of those public lands are managed by BLM (Fig. 3.6.3b). Similarly, most of these BLM lands supporting Juniper Titmouse are in BCRs 16, 10, and 9, and 82% of these lands are managed for multiple use (GAP3). The seasonal jurisdictional breakdown (Fig. 3.6.3d) indicates that BLM responsibility for this species is highest during the summer months and lower in winter, when responsibility is shared roughly equally with U.S. Forest Service.

The top ten BLM Field Offices support 57% of the Juniper Titmouse distribution, with Farmington, Hassayampa, and Rio Puerco offices having relatively higher responsibility for this species (Table 3.6.3a; Fig. 3.6.3c).

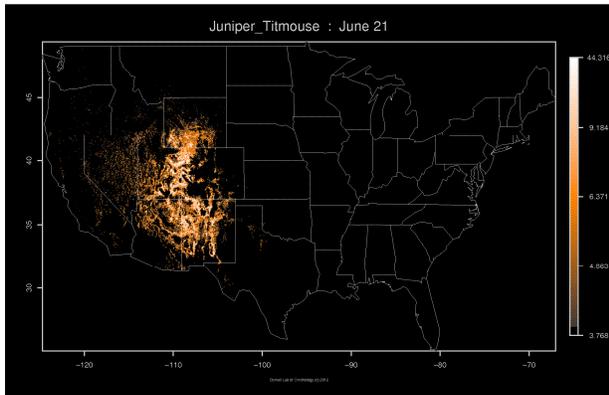


Fig. 3.6.3a. Distributional models for the Juniper Titmouse.

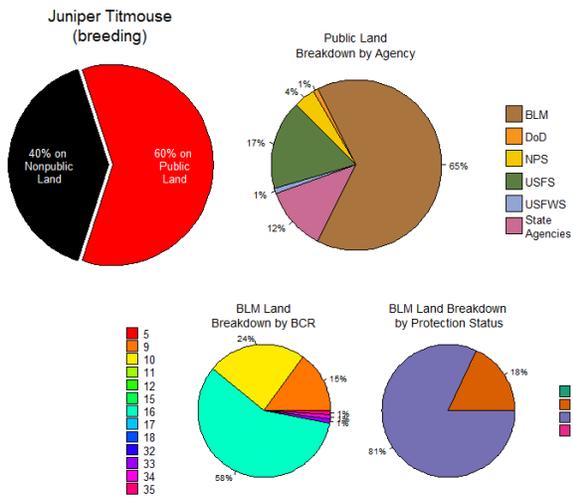


Fig. 3.6.3b. Jurisdictional breakdown for the Juniper Titmouse.

Table 3.6.3a. Percent of breeding distribution within the top ten BLM Field Offices for the Juniper Titmouse.

BLM Field Office	Percent of Distribution
Hassayampa	8.5
Rio Puerco	7.1
Farmington	6.2
Taos	6.1
Rawlins	5.2
Socorro	4.8
Vernal	4.2
Rock Springs	4.1
Safford	3.5
Monticello	3.2

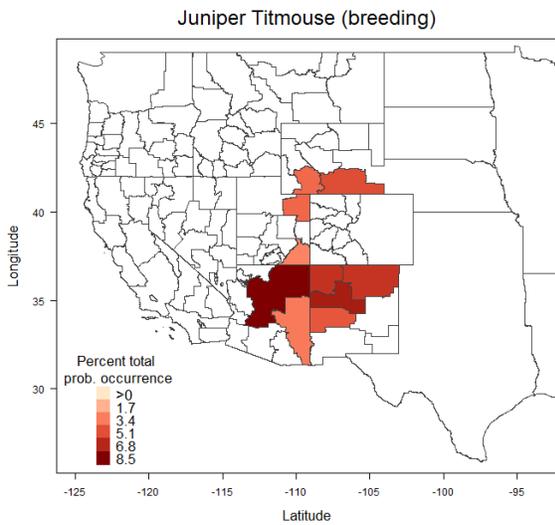


Fig. 3.6.3c. Ten most important BLM Field offices for the Juniper Titmouse.

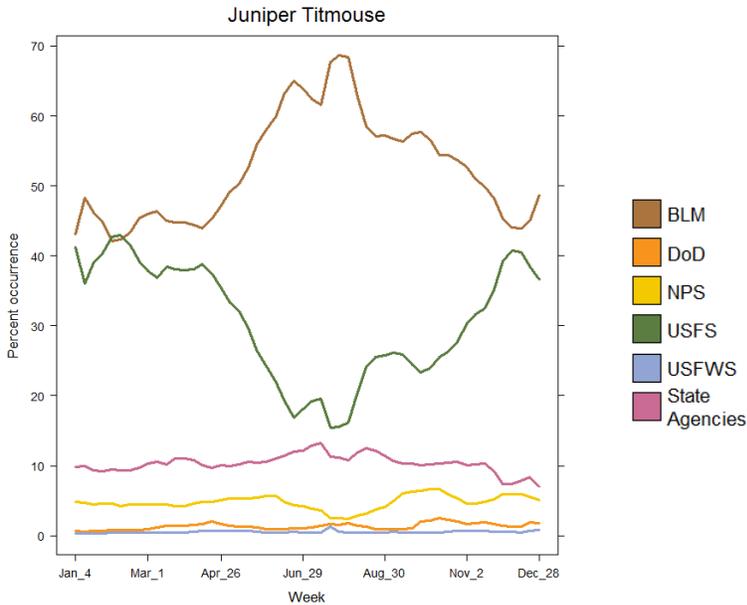


Fig. 3.6.3d. Seasonal jurisdictional breakdown by public agency for the Juniper Titmouse.

Section 3.7: Western Montane Forest species

We include ten species of Western Montane Forest birds and all of these species except for Olive-sided Flycatcher were included in the 2011 State of the Birds report as Western Forest obligate species; within the western U.S., Olive-sided Flycatcher is a western forest obligate.

This grouping includes species from across the diverse forests of the western mountains and northern Pacific Coast. Many of these species are residents of evergreen conifer forests, but some use brushy slopes or stream valleys. While some species occur throughout the West in montane forest (e.g., Olive-sided Flycatcher and Black-throated Gray Warbler), others are quite restricted in range, such as Grace’s Warbler (Southwest only) or White-headed Woodpecker (Sierra Nevada and Cascades, primarily). All but one (White-headed Woodpecker) of these species are migratory to some degree, reflecting the harsh conditions of this habitat in the winter months.

All of these species show a very high dependence on public land, although the bulk of the distribution for most is on U.S. Forest Service land at higher elevations. BLM lands are nonetheless very important for these species as well, especially during migration and winter seasons when birds use lower elevation forests and riparian corridors.

Table 3.7. The ten Western Montane Forest species examined in the assessment with dates for which distributional estimates were used in the jurisdictional summary.

Species	Breeding	Winter
Rufous Hummingbird (<i>Selasphorus rufus</i>)	June 7	n/a
Calliope Hummingbird (<i>Selasphorus calliope</i>)	June 28	n/a
Lewis's Woodpecker (<i>Melanerpes lewis</i>)	May 17	n/a
Williamson's Sapsucker (<i>Sphyrapicus thyroideus</i>)	July 5	December 27
White-headed Woodpecker (<i>Picoides albolarvatus</i>)	March 15	n/a
Olive-sided Flycatcher (<i>Contopus cooperi</i>)	June 14	n/a
Virginia's Warbler (<i>Oreothlypis virginiae</i>)	May 31	n/a
Grace's Warbler (<i>Setophaga graciae</i>)	July 19	n/a
Black-throated Gray Warbler (<i>Setophaga nigrescens</i>)	July 5	n/a
Cassin's Finch (<i>Haemorhous cassinii</i>)	June 14	December 20

Section 3.7.1: Rufous Hummingbird

Although the Rufous Hummingbird is restricted to the Pacific Northwest and coastal British Columbia and Alaska as a breeder (it breeds farther north than any other hummingbird), it is a very common and widespread species as a migrant and one of the most widely known hummingbirds in the western U.S. The map in Fig. 3.7.1.a gives an excellent approximation of its breeding range, although the mapped range extends a bit too far south: Rufous Hummingbird does not breed in northern California. It is an early migrant in spring and departs early in summer, with migration in February and March and southbound males already on the move again by late June. Interestingly, the species historically wintered only in the mountains of West Mexico, but since the 1980s has been undergoing a recent change in migratory and wintering habits. Plantings of flowering plants along the Gulf Coast and year-round hummingbird feeding have allowed this species (and several other hummingbirds) to colonize the Gulf Coast and southeastern United States. Thousands now winter in those regions and show signs of continued expansion. The evolutionary implications of this new migratory behavior are likely significant and demonstrate just how rapidly species distributions and migration pathways can shift.

Just under half (47%) of the breeding distribution of Rufous Hummingbird is on public land, with a majority of that on U.S. Forest Service land; only 5% of the public lands supporting this species are

managed by BLM (Fig. 3.7.1b). This pattern changes through the season, however, as indicated on the seasonal jurisdictional breakdown (Fig. 3.7.1d), with BLM lands relatively more important than USFS lands during the early fall migration period. BLM lands supporting breeding Rufous Hummingbirds are distributed in BCRs 5 and 10, and 96% of these lands are managed for multiple use (GAP3).

The top ten BLM Field Offices encompass 87% of the total breeding range, with Spokane-Wenatchee office having by far the greatest responsibility for the species (Table 3.7.1a; Fig. 3.7.1c).

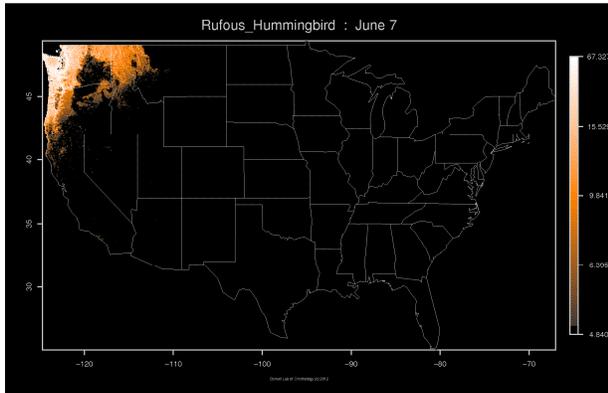


Fig. 3.7.1a. Distributional models for the Rufous Hummingbird.

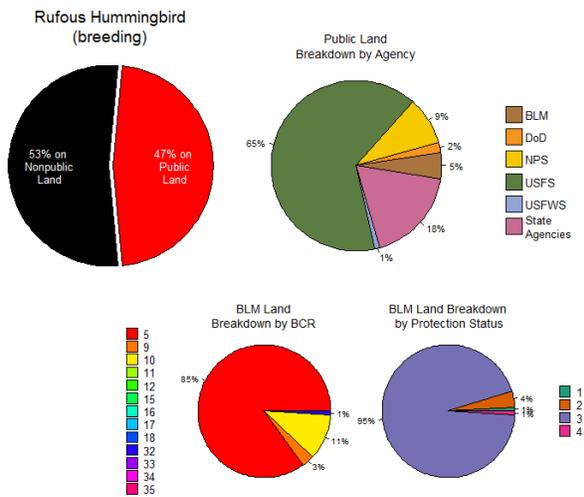


Fig. 3.7.1b. Jurisdictional breakdown for the Rufous Hummingbird.

Table 3.7.1a. Percent of breeding distribution within the top ten BLM Field Offices for the Rufous Hummingbird.

BLM Field Office	Percent of Distribution
Spokane Wenatchee	47.8
Missoula	8.5
Spokane Border	6.1
Salem Tillamook	4.9
Coeur d'Alene	4.8
Cottonwood	3.8
Salem Cascades	3.2
Salem Mary's Peak	2.5
Vale Baker	2.2
Prineville Deschutes	2.0

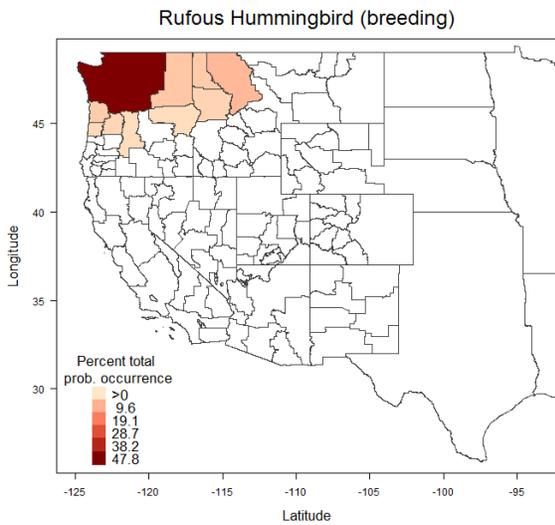


Fig. 3.7.1c. Ten most important BLM Field offices for the Rufous Hummingbird.

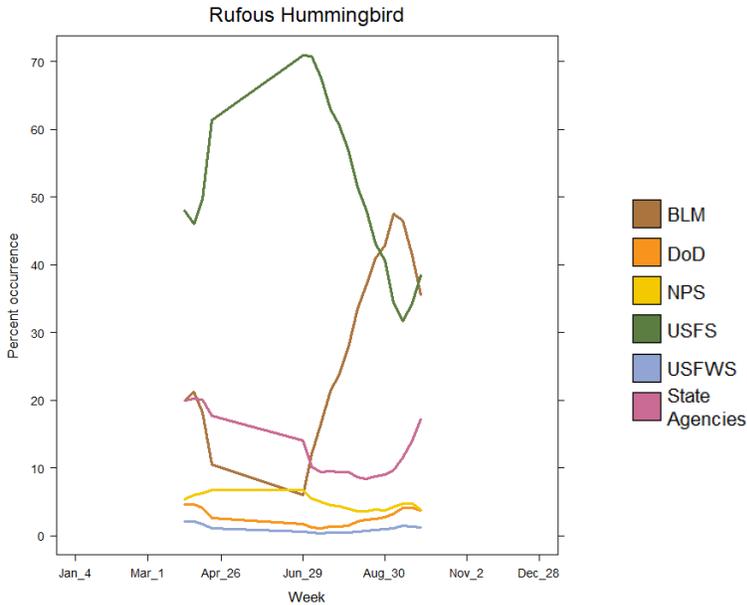


Fig. 3.7.1d. Seasonal jurisdictional breakdown by public agency for the Rufous Hummingbird.

Section 3.7.2: Calliope Hummingbird

Calliope Hummingbird is the smallest bird breeding in the United States. It overlaps with Rufous Hummingbird, but it prefers the drier mountains where it breeds in the lush stream valleys; Rufous Hummingbirds dominate the wetter coastal forests or north or west facing slopes. The range of Calliope Hummingbird extends farther south, breeding down the spine of the Sierra Nevada into southern California (Fig. 3.7.2a is very accurate in this regard). Fall migration begins in July and August, and bird push northward in April and early May. Like Rufous Hummingbird, this species winters in the mountains of West Mexico and is increasingly wintering along the Gulf coast and in the southeastern United States. However, unlike Rufous, this species is much less common as a winterer in the United States and the population-level impact at this time is likely much less significant.

The status of Calliope Hummingbird on BLM land is very similar to that of Rufous Hummingbird, with 60% of the breeding distribution on public lands and only 7% of those lands managed by BLM (Fig. 3.7.2b). Also as in Rufous Hummingbird, BLM lands become relatively more important for Calliope Hummingbirds during the fall migration season, when more birds are using lowland and especially riparian areas (see seasonal jurisdictional breakdown; Fig. 3.7.2d). A majority of BLM lands with breeding Calliope Hummingbirds are in BCRs 9 and 10, an 89% of these lands are managed for multiple use (GAP3).

The top 10 BLM Field Offices support 78% of the breeding distribution for this species, with Spokane-Wenatchee, Missoula, and Spokane Border offices having the greatest responsibility for breeding Calliope Hummingbirds (Table 3.7.2a; Fig. 3.7.2c).

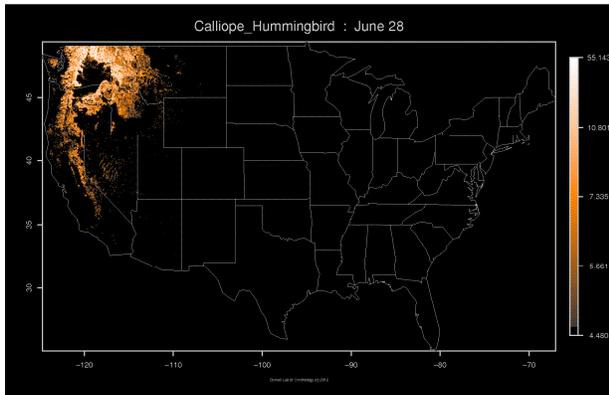


Fig. 3.7.2a. Distributional models for the Calliope Hummingbird.

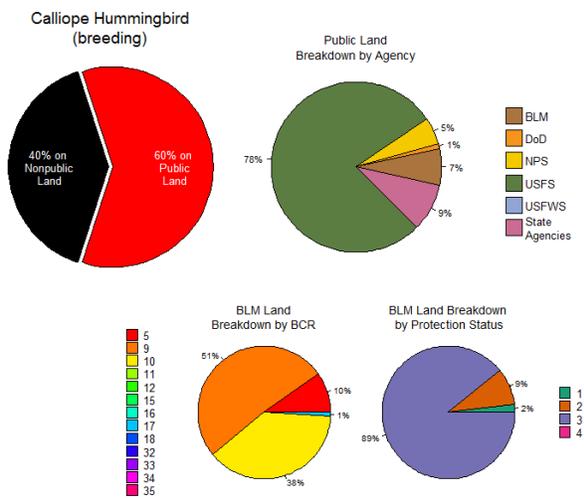


Fig. 3.7.2b. Jurisdictional breakdown for the Calliope Hummingbird.

Table 3.7.2a. Percent of breeding distribution within the top ten BLM Field Offices for the Calliope Hummingbird.

BLM Field Office	Percent of Distribution
Spokane Wenatchee	22.5
Missoula	11.7
Spokane Border	9.7
Cottonwood	7.4
Coeur d'Alene	6.5
Vale Baker	5.8
Prineville Central Oregon	5.2
Four Rivers	4.0
Prineville Deschutes	3.3
Eagle Lake	2.0

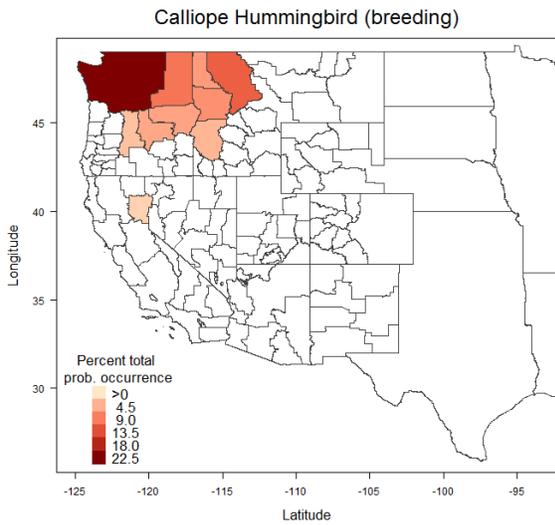


Fig. 3.7.2c. Ten most important BLM Field offices for the Calliope Hummingbird.

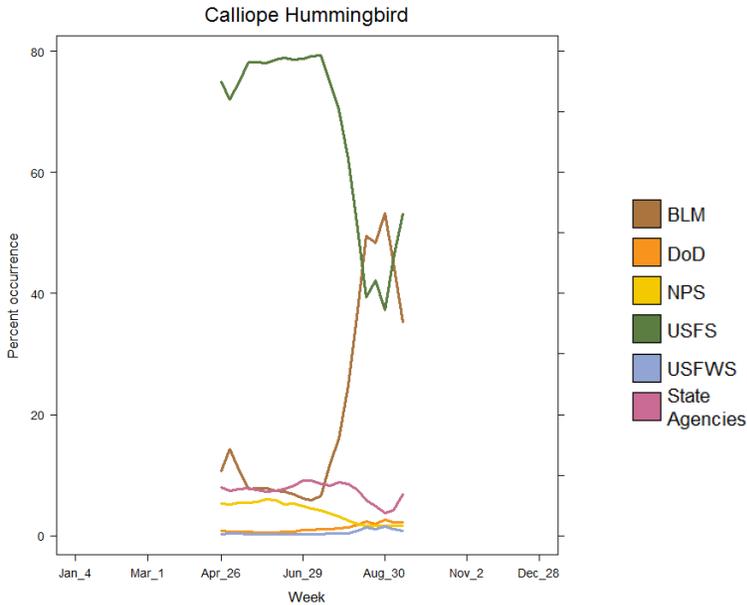


Fig. 3.7.2d. Seasonal jurisdictional breakdown by public agency for the Calliope Hummingbird.

Section 3.7.3: Lewis's Woodpecker

Lewis's Woodpecker is a bizarrely colorful and distinctive species of oak forests, open pine woodlands, and cottonwood groves. It breeds from the western Great Plains to the rim of the Central Valley of California and from northern Arizona and New Mexico to southern British Columbia. The more northerly populations are migratory, and in southern portions of the range the species occurs only in winter. Throughout its range it is somewhat local and colonial, and its movements in winter are somewhat irregular and presumably influenced by variation in the crops of acorns and other food sources. The map in Fig. 3.7.3a shows many of the important areas of occurrence and highlights the patchy nature of the species' distribution; field guide range maps may show a much more extensive range, but much of that area (e.g., deserts grasslands of Wyoming) is largely unsuitable for the species, so in some respects, the model results give a more accurate picture of the species' range.

Just over half of the breeding distribution of Lewis's Woodpecker is on public land, and just under half of those public lands are managed by BLM (Fig. 3.7.3b); overall, BLM is responsible for 25% of the breeding distribution of this species, among the highest responsibility for any western forest bird (Table 3.0). Most of the BLM land supporting Lewis's Woodpecker is in BCR 9, with some in BCRs 10 and 16. Roughly 86% of these BLM lands are managed for multiple use (GAP3).

Because of its wide distribution, the top ten BLM Field Offices support half of the breeding distribution, with responsibility for this species spread fairly evenly across Field Offices in the Pacific Northwest and southern Rocky Mountain regions (Table 3.7.3a; Fig 3.7.3c).

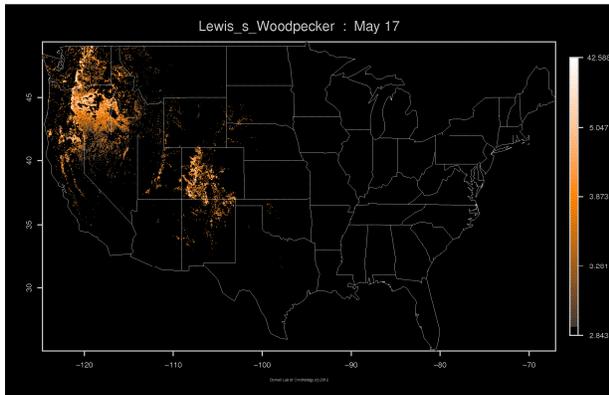


Fig. 3.7.3a. Distributional models for the Lewis's Woodpecker.

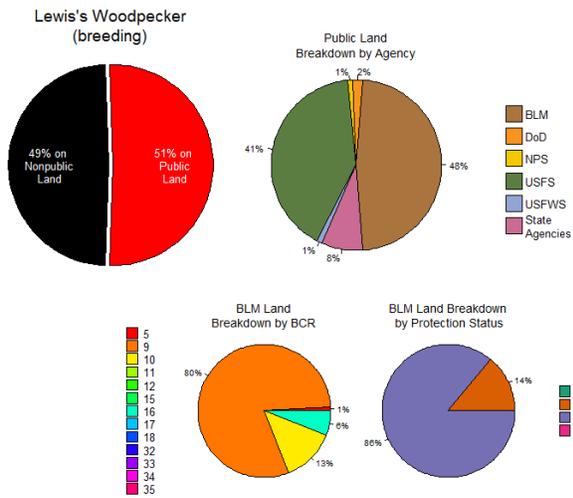


Fig. 3.7.3b. Jurisdictional breakdown for the Lewis's Woodpecker.

Table 3.7.3a. Percent of breeding distribution within the top ten BLM Field Offices for the Lewis's Woodpecker.

BLM Field Office	Percent of Distribution
Spokane Wenatchee	10.4
Prineville Central Oregon	6.4
Prineville Deschutes	5.5
Vale Baker	4.7
Lakeview District Lakeview	4.6
Taos	4.4
Four Rivers	4.2
Vale Malheur	3.7
Burns Three Rivers	3.5
Royal Gorge	3.3

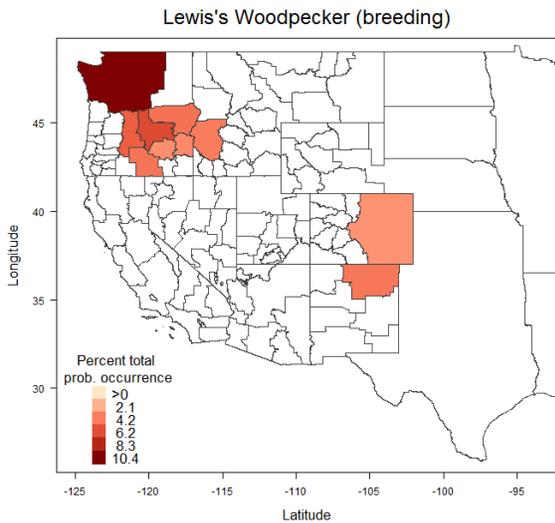


Fig. 3.7.3c. Ten most important BLM Field offices for the Lewis's Woodpecker.

Section 3.7.4: Williamson's Sapsucker

Williamson's Sapsucker is an uncommon but striking woodpecker of the mountain forests in the West. Males and females are completely different in appearance and were thought for many years to represent different species. Williamson's Sapsucker prefers to breed in pine forests, particularly Ponderosa or Jeffrey Pines, but may be found in lower densities in other evergreen forests. The breeding range of Williamson's Sapsucker extends just barely beyond the U.S. borders, being found into northernmost Baja California and southernmost British Columbia. Its U.S. range is shown extremely well by the model results in Fig. 3.7.4a, which includes most of the montane pine forest north of central Arizona and central New Mexico (with the exception of the Black Hills, where the species does not occur). In winter,

Williamson's Sapsuckers vacate most of their breeding range in the Rocky Mountains, Pacific Northwest, and Great Basin, with most birds moving to West Mexico. The U.S. winter range also is shown well by the model, with most leaving the Rockies and some remaining in the Sierra Nevada. While it may move somewhat downslope in winter, Williamson's Sapsuckers mostly remain in the mountains where their favored species of pines can be found. Many depart for western Mexico and they become more widespread in Arizona and New Mexico.

Williamson's Sapsucker has one of the highest percentages of its breeding distribution on public lands of any bird (87%), with a slightly lower percentage (78%) in winter (Fig. 3.7.4b) when many winter south of the U.S. In both seasons, BLM manages 11%-12% of these public lands, with the vast majority occurring on U.S. Forest Service land. This pattern is also evident in the seasonal jurisdictional breakdown (Fig. 3.7.4d), with a slightly relative importance of BLM lands in late fall and winter. BLM lands that support breeding Williamson's Sapsuckers are in BCRs 9, 16, and 10, and additional lands in BCRs 34 and 35 are used in winter.

The top 10 BLM Field Offices encompass 37% of the breeding distribution, with Bakersfield and Mother Lode offices having relatively greater responsibility. In winter, a different ten Field Offices support 69% of the distribution, with Safford and Socorro offices having the greatest responsibility for the species (Table 3.7.4a; Fig. 3.7.4c).

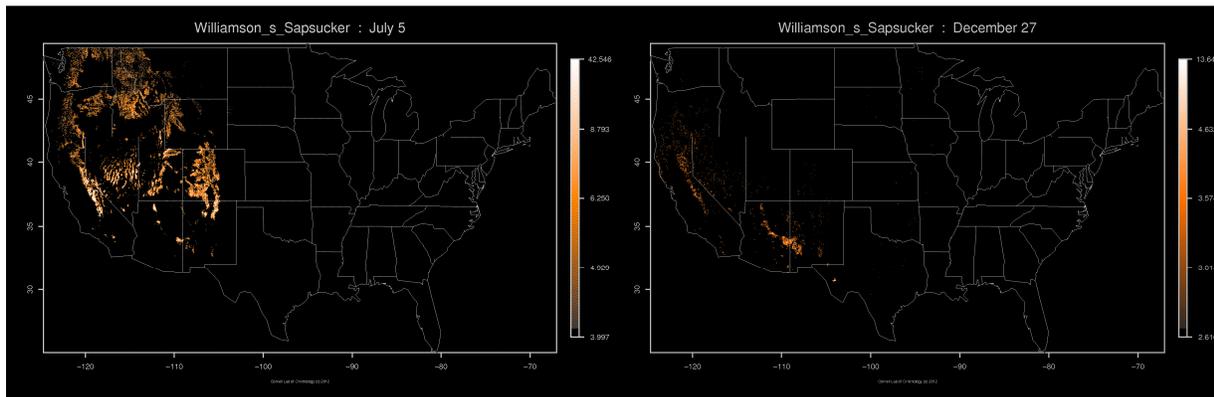


Fig. 3.7.4a. Distributional models for the Williamson's Sapsucker.

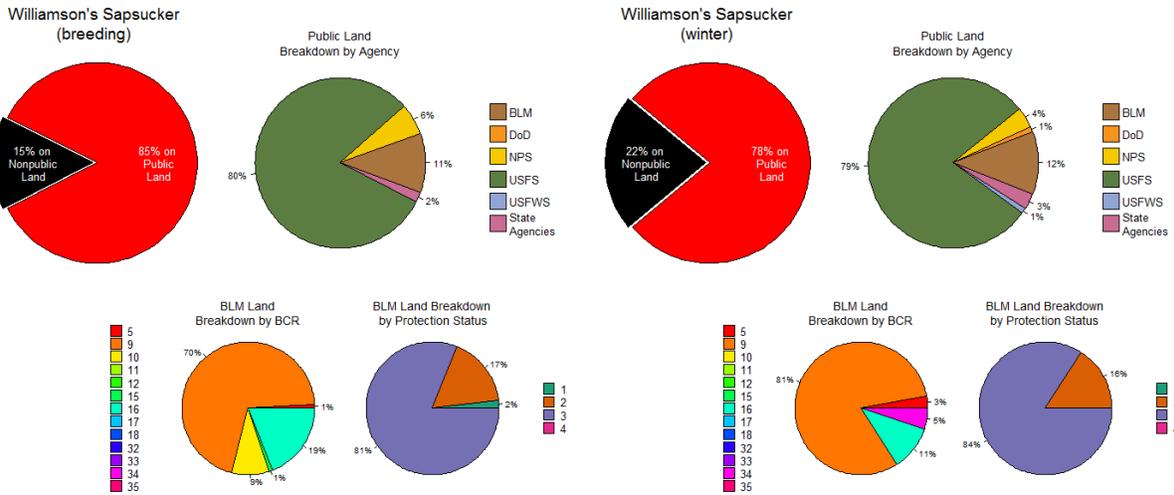


Fig. 3.7.4b. Jurisdictional breakdown for the Williamson's Sapsucker.

Table 3.7.4a. Percent of breeding distribution within the top ten BLM Field Offices for the Williamson's Sapsucker.

BLM Field Office	Percent of Distribution
Bakersfield	6.2
Mother Lode	4.6
Spokane Wenatchee	4.2
Royal Gorge	4.0
Taos	3.7
Missoula	3.6
San Luis Valley	3.0
Four Rivers	2.6
Tonopah	2.5
Bishop	2.4

Table 3.7.4b. Percent of winter distribution within the top ten BLM Field Offices for the Williamson's Sapsucker.

BLM Field Office	Percent of Distribution
Safford	14.9
Socorro	12.3
Hassayampa	8.5
Mother Lode	6.6
Bakersfield	6.0
Las Cruces District Office	5.9
Eagle Lake	5.7
Redding	4.2
Tonopah	2.8
Lakeview District Lakeview	2.3

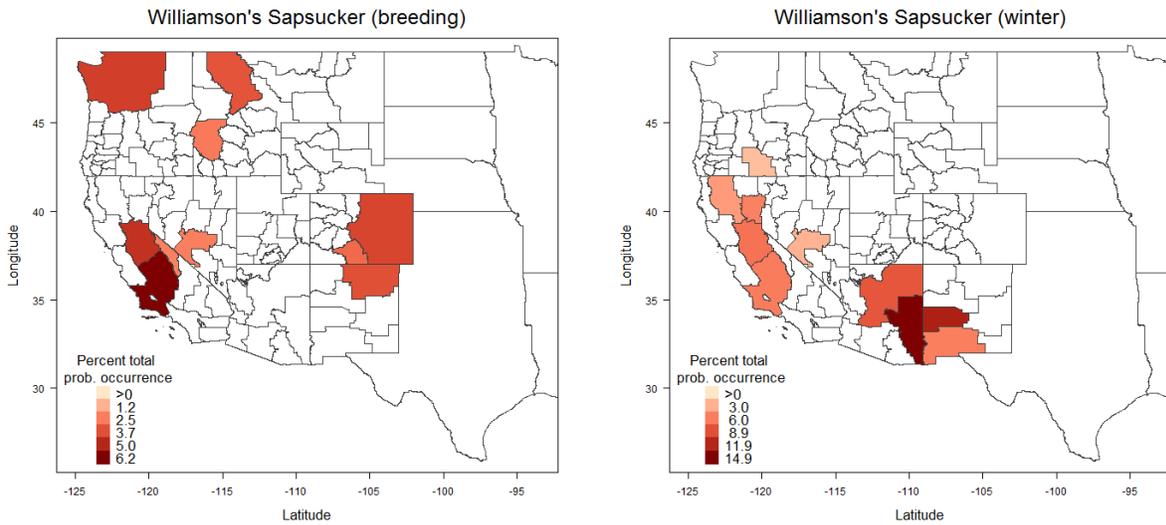


Fig. 3.7.4c. Ten most important BLM Field offices for the Williamson's Sapsucker.

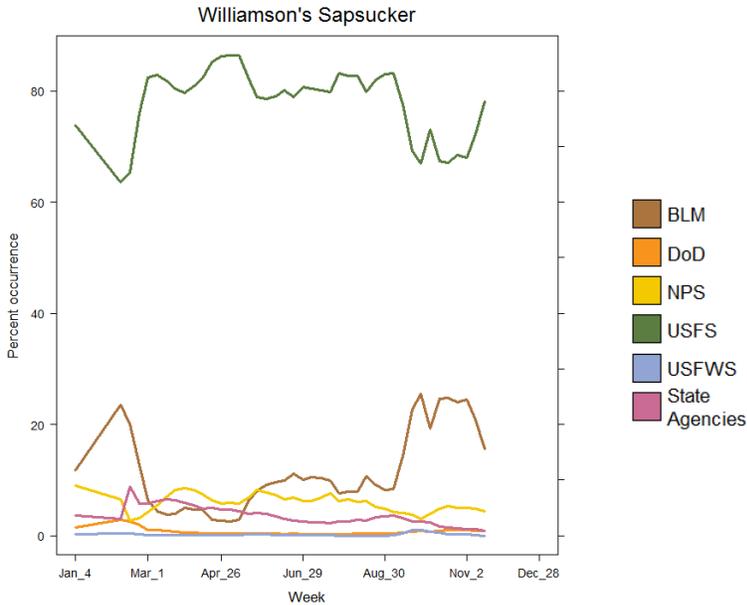


Fig. 3.7.4d. Seasonal jurisdictional breakdown by public agency for the Williamson's Sapsucker.

Section 3.7.5: White-headed Woodpecker

White-headed Woodpecker is a distinctive species of the West Coast states, occurring from the San Bernardino and San Jacinto Mountains of southern California north along the Sierra Nevada to the mountains of eastern Oregon, eastern Washington, and extreme western Idaho. Due to data sparsity, the model in Fig. 3.7.5a incorrectly predicts the presence of the species in Nevada: in that state White-headed Woodpeckers can only be found in the Sierra Nevada pine forests near Lake Tahoe. False positives like this appear in some cases with our models, especially in regions where few birdwatchers visit and submit data to eBird.

White-headed Woodpecker also has among the highest percentages of its breeding (and year-round) range on public lands (81%), with the vast majority on U.S. Forest Service lands; 10% of the public lands supporting this species are managed by BLM (Fig. 3.7.5b). As this species does not migrate, the pattern is consistent throughout the year, as seen in the seasonal jurisdictional breakdown (Fig. 3.7.5d). Most of the BLM lands with White-headed Woodpecker are in BCR 9, and compared with most species, a slightly higher proportion (21%) of these BLM lands are managed for greater biodiversity protections (GAP 1 and 2) – most likely in wilderness areas.

The top ten BLM Field Offices encompass 64% of the total breeding distribution, with Spokane-Wenatchee, Bakersfield, and Eagle Lake offices having relatively higher responsibility for this species (Table 3.7.5a; Fig. 3.7.5c).

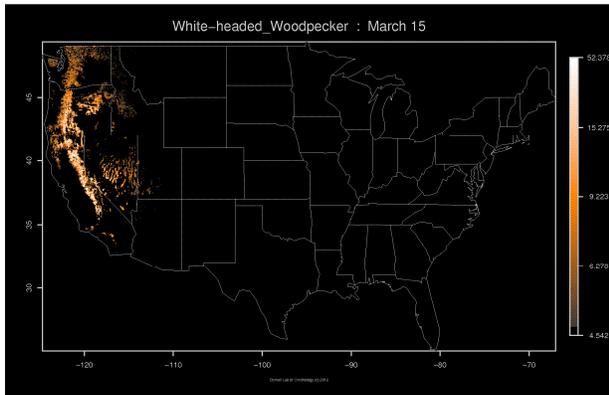


Fig. 3.7.5a. Distributional models for the White-headed Woodpecker.

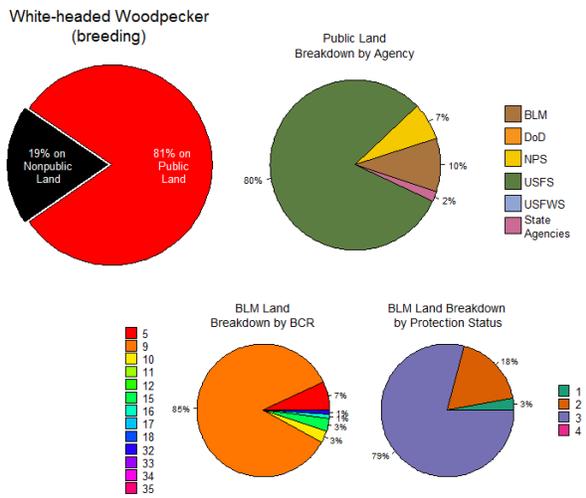


Fig. 3.7.5b. Jurisdictional breakdown for the White-headed Woodpecker.

Table 3.7.5a. Percent of breeding distribution within the top ten BLM Field Offices for the White-headed Woodpecker.

BLM Field Office	Percent of Distribution
Spokane Wenatchee	11.9
Bakersfield	8.5
Eagle Lake	8.4
Mother Lode	8.3
Redding	7.2
Prineville Central Oregon	5.4
Prineville Deschutes	5.3
Lakeview Klamath Falls	4.4
Lakeview District Lakeview	3.6
Tonopah	3.0

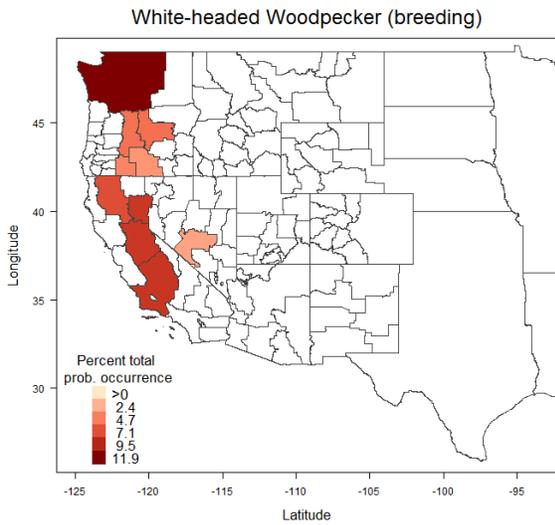


Fig. 3.7.5c. Ten most important BLM Field offices for the White-headed Woodpecker.

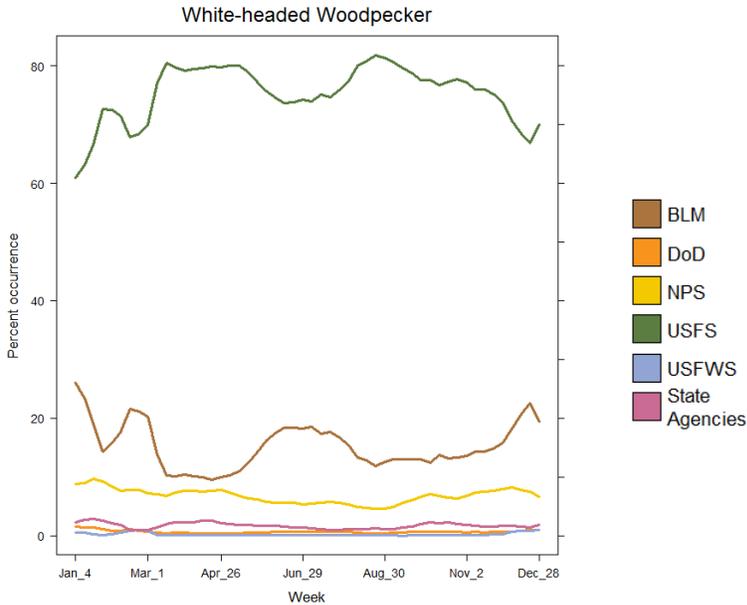


Fig. 3.7.5d. Seasonal jurisdictional breakdown by public agency for the White-headed Woodpecker.

Section 3.7.6: Olive-sided Flycatcher

Olive-sided Flycatcher is known for its distinctive song and its habit of perching prominently on exposed snags in forest openings. It is a long-distance migrant that is of conservation concern because of steep population declines. This species is on the Partners in Flight Watch List and the U.S. Fish and Wildlife Service list of Birds of Conservation Concern. Olive-sided Flycatchers breed in coniferous forests, preferring forest clearings and especially bogs and meadow edges. Much of the population breeds in the boreal forest of Canada and Alaska. Southern populations in the Appalachians, Northeast and Great Lakes have declined greatly in recent years. It is an uncommon breeder throughout the West in evergreen forests, including mountain forests in the Rocky Mountains, Sierra Nevada, and Cascades as well as coastal evergreen forests from California north to Alaska; the southernmost breeding birds are in the mountains of northern Baja California. The map in Fig. 3.7.6a shows the western breeding areas very well but the boreal breeders—which reach their southern limit in the northern U.S. from Minnesota east—are shown much less strongly since those birds are more rare and local even within suitable habitat. Olive-sided Flycatcher winters mostly in South America, but at least some birds winter in Mexico and central America.

Within the lower 48 U.S. States, 70% of the breeding distribution of Olive-sided Flycatcher is on public lands, with 16% of these lands managed by BLM (Fig. 3.7.6b). As in several other western migratory birds, this species shows spike in relative importance of BLM lands during the narrow spring and fall migration periods, corresponding with their use of lowland riparian corridors (seasonal jurisdictional breakdown; Fig. 3.7.6d). BLM lands with breeding Olive-sided Flycatchers are mostly in BCR 9, but are spread across several western BCRs; 89% of these BLM lands are managed for multiple use (GAP3).

Because of its widespread range, the purview of the top ten BLM Field Offices encompasses 44% of the breeding distribution, with Spokane-Wenatchee and Missoula Field Offices showing relatively higher responsibility for Olive-sided Flycatcher (Table 3.7.6a; Fig. 3.7.6c).

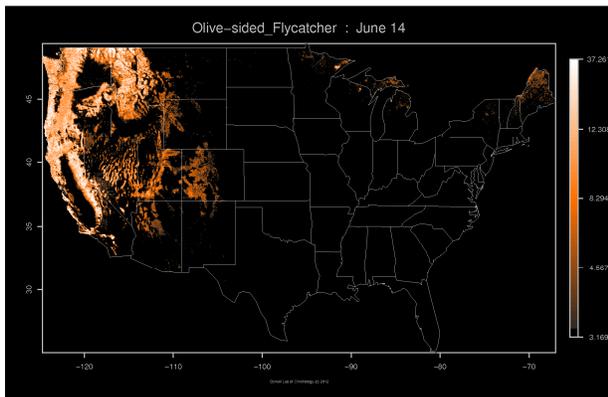


Fig. 3.7.6a. Distributional models for the Olive-sided Flycatcher.

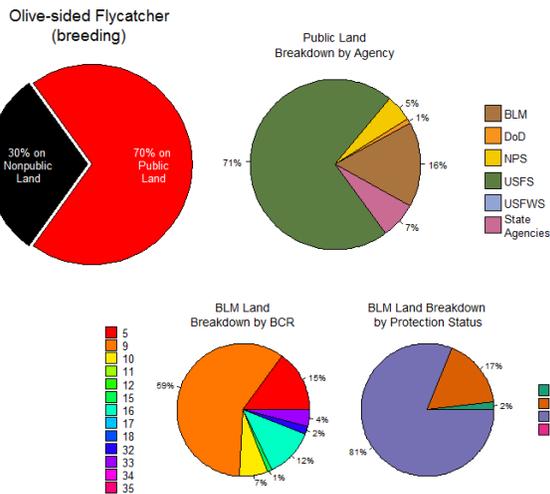


Fig. 3.7.6b. Jurisdictional breakdown for the Olive-sided Flycatcher.

Table 3.7.6a. Percent of breeding distribution within the top ten BLM Field Offices for the Olive-sided Flycatcher.

BLM Field Office	Percent of Distribution
Spokane Wenatchee	12.5
Missoula	6.9
Redding	4.2
Cottonwood	3.7
Bakersfield	3.6
Mother Lode	3.0
Coeur d'Alene	2.7
Spokane Border	2.6
Arcata	2.4
Northeastern States	2.3

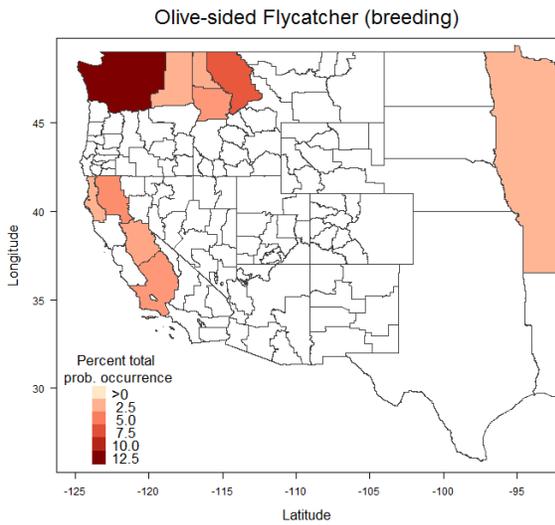


Fig. 3.7.6c. Ten most important BLM Field offices for the Olive-sided Flycatcher.

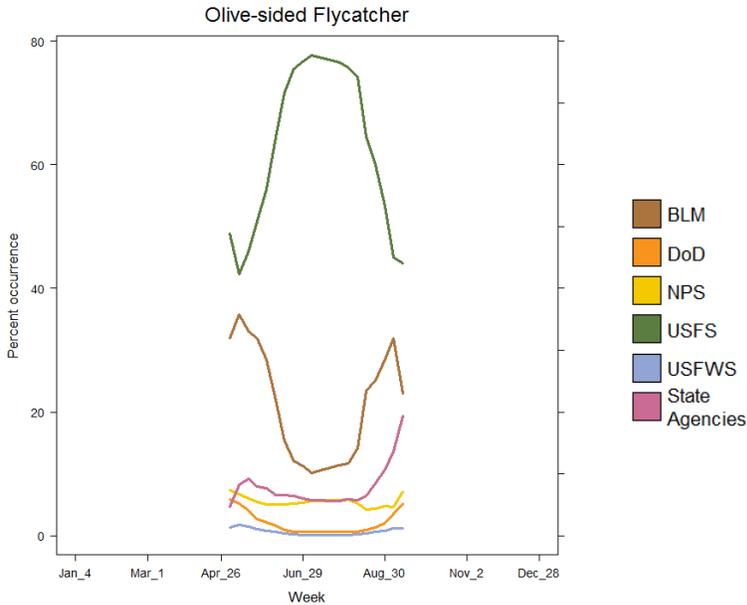


Fig. 3.7.6d. Seasonal jurisdictional breakdown by public agency for the Olive-sided Flycatcher.

Section 3.7.7: Virginia's Warbler

A somewhat cryptic and enigmatic breeder of western mountains, the Virginia's Warbler can be found breeding in appropriate habitat on dry hillsides in brush, tall scrub, and riparian thickets throughout much of the southern Rockies and Great Basin. The breeding range is shown quite well in Fig. 3.7.7a, but some of the very local populations (such as the ones in the Black Hills, where restricted to a very narrow zone in the western portions of the hills) show some over-extrapolation. It migrates south in August and September to winter in thorn forest along the Pacific coast of Mexico, heading back north in April and May.

Public lands support 64% of the breeding distribution of Virginia's Warblers, with 29% of these lands managed by BLM (Fig. 3.7.7b). The seasonal jurisdictional breakdown (Fig. 3.7.7d) shows a fairly constant relative importance of BLM lands through the summer season, with relatively greater importance of U.S. Forest Service lands during most of that period. BLM lands supporting Virginia's Warblers occur mostly in BCRs 16, 9, and 10, with a slightly higher than average proportion of these BLM lands (22%) being managed for greater biodiversity protection (GAP 1 and 2).

The top ten BLM Field Offices support 60% of the total breeding distribution, with Taos and Hassayampa among the offices with relatively higher responsibility for the species (Table 3.7.7a; Fig. 3.7.7c).

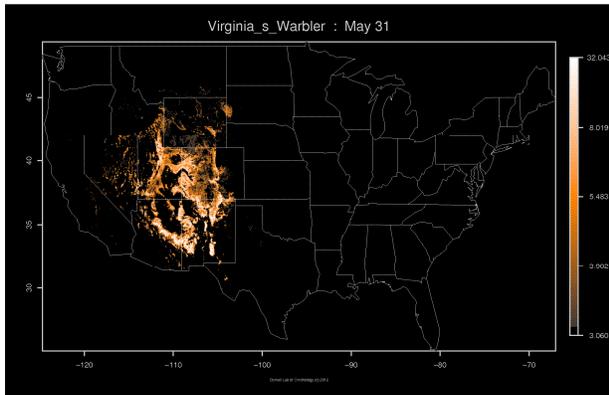


Fig. 3.7.7a. Distributional models for the Virginia's Warbler.

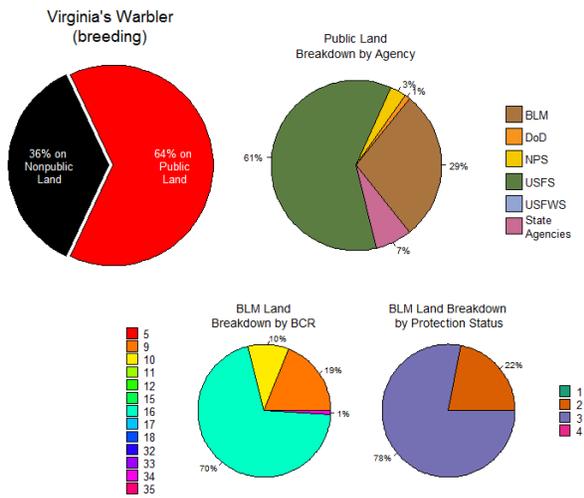


Fig. 3.7.7b. Jurisdictional breakdown for the Virginia's Warbler.

Table 3.7.7a. Percent of breeding distribution within the top ten BLM Field Offices for the Virginia's Warbler.

BLM Field Office	Percent of Distribution
Taos	8.8
Hassayampa	7.8
Safford	6.3
Royal Gorge	6.2
Rio Puerco	5.6
Socorro	5.6
Salt Lake	5.0
Tres Rios	3.9
Las Cruces District Office	3.9
Farmington	2.9

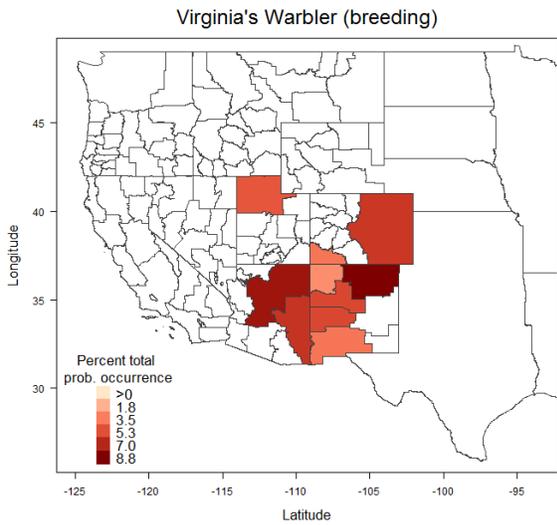


Fig. 3.7.7c. Ten most important BLM Field offices for the Virginia's Warbler.

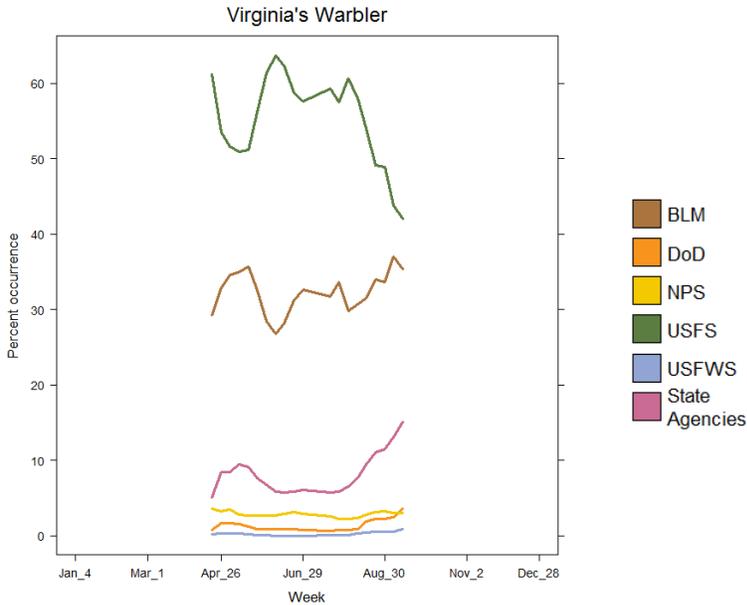


Fig. 3.7.7d. Seasonal jurisdictional breakdown by public agency for the Virginia's Warbler.

Section 3.7.8: Black-throated Gray Warbler

Black-throated Gray Warbler is interesting in that it occurs in two distinctly different coniferous habitats in the West. Great Basin birds breed in dense pinyon-juniper habitats in northern Sonora (Mexico), Arizona, New Mexico, western Colorado, western Wyoming, southern Idaho, southeastern Oregon, Nevada, and Utah. The remaining birds breed in the Sierra Nevada in dry spruce-fir-pine forest and along the Pacific coast in lush douglas-fir, redwoods, oaks, and cypress, occurring north along the Pacific slope to Vancouver Island and central coastal British Columbia. These two populations are described as different subspecies, but are only subtly different in plumage and size and are not field-identifiable. The map (Fig. 3.7.8a) shows that the model accurately depicts the species' range. This species winters widely in the southern Baja California peninsula and West Mexico and sparingly in south Texas, southern California, and southern Arizona. Spring migration is mostly from mid-March to mid-May and fall migration from late August through October.

Similar to other western forest birds of lower elevations, 68% of Black-throated Gray Warbler breeding distribution is on public land, with 37% of those lands managed by BLM (Fig. 3.7.8b). The seasonal jurisdictional breakdown (Fig. 3.7.8d) shows that BLM lands are relatively more important, and U.S. Forest Service Lands relatively less important, during the spring and fall migration periods when birds are using lowland riparian corridors. BLM lands supporting breeding Black-throated Gray Warblers are distributed in BCRs 9, 16, 5, and 10, and 81% of these lands are managed for multiple use (GAP3).

Because of its large range, 46% of the breeding distribution is within the top ten BLM Field Offices, and responsibility is fairly evenly shared among Redding, Safford, Arcata, and Hassayampa offices among others (Table 3.7.8a; Fig. 3.7.8c).

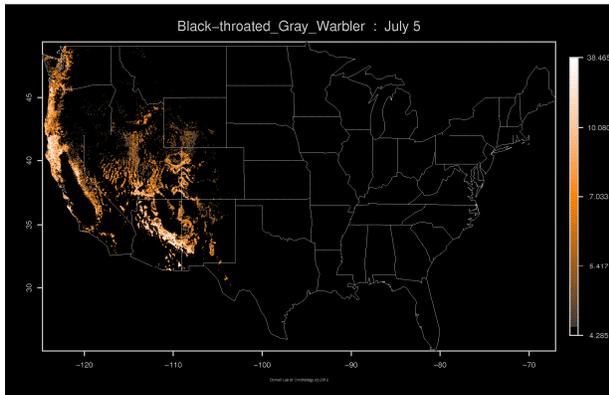


Fig. 3.7.8a. Distributional models for the Black-throated Gray Warbler.

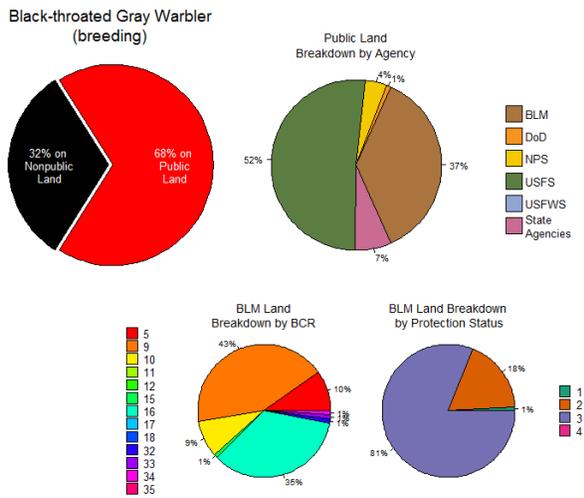


Fig. 3.7.8b. Jurisdictional breakdown for the Black-throated Gray Warbler.

Table 3.7.8a. Percent of breeding distribution within the top ten BLM Field Offices for the Black-throated Gray Warbler.

BLM Field Office	Percent of Distribution
Safford	7.3
Redding	6.6
Hassayampa	6.3
Arcata	5.8
Spokane Wenatchee	5.0
Mother Lode	3.6
Bakersfield	3.3
Socorro	2.9
Ukiah	2.6
Schell	2.2

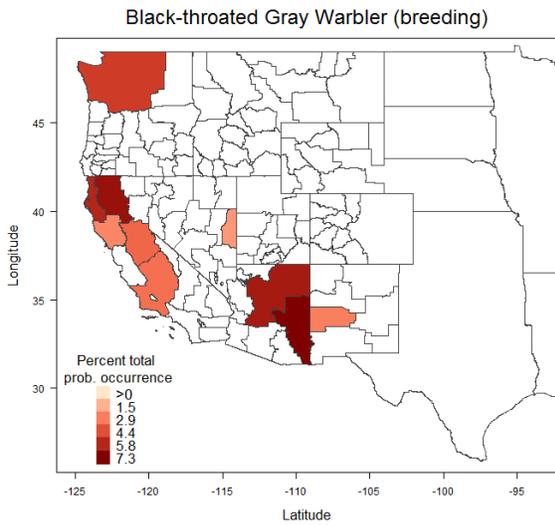


Fig. 3.7.8c. Ten most important BLM Field offices for the Black-throated Gray Warbler.

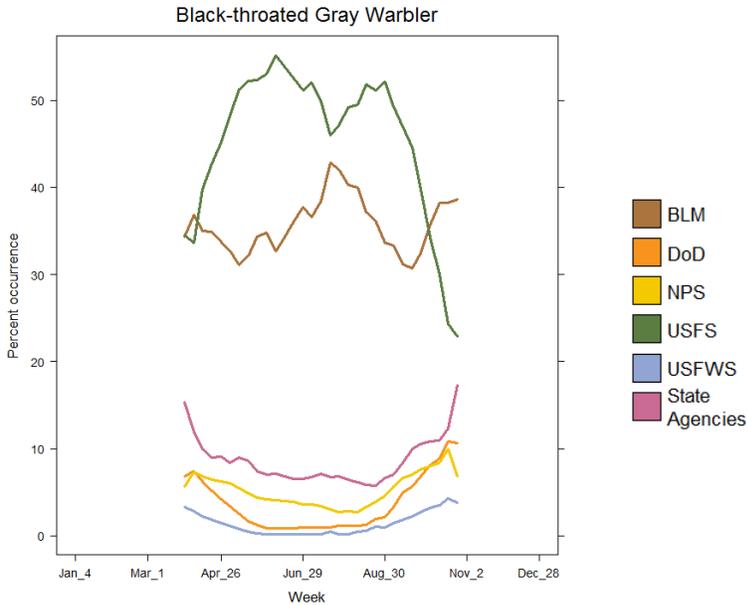


Fig. 3.7.8d. Seasonal jurisdictional breakdown by public agency for the Black-throated Gray Warbler.

Section 3.7.9: Cassin's Finch

A quintessential bird of coniferous forests of the montane West, Cassin's Finch is very similar visually to Purple Finch (*Haemorhous purpureus*) and House Finch (*Haemorhous mexicanus*) and can be the subject of identification problems where the species overlap. It generally breeds from northern Baja California, southern California, northern Arizona and northern New Mexico north to northern Montana and southern British Columbia, shown well in Fig. 3.7.9a. As with most finches, its winter distribution is somewhat irruptive, governed by fluctuations in food sources during the breeding season and winter months. Its seasonal distribution is complex, and while many birds remain in or near breeding areas, it generally moves downslope and south in winter, with the northernmost birds in Montana and British Columbia withdrawing to the south, some birds reaching lowlands in the Intermountain West, and the southernmost birds occurring irruptively to northern Mexico. With the caveat that the range may vary from year-to-year, the modeled winter results in Fig. 3.7.9a are quite accurate.

As with other western coniferous forest birds, a very high percentage of the breeding distribution (78%) and the winter distribution (73%) is on public land (Fig. 3.7.9b). The proportion of those public lands that are BLM is 20% for breeding, and increases to 30% in winter. Looking across the entire year, the seasonal jurisdictional breakdown (Fig. 3.7.9d) indicates that BLM lands are relatively more important through winter and least important in late summer, most likely reflecting elevational movements by Cassin's Finches. BLM lands supporting both breeding and wintering Cassin's Finches are mostly in BCRs 9, 16, and 10, and 83% to 87% of these lands are managed for multiple use (GAP 3).

The top ten BLM Field Offices with highest responsibility for Cassin's Finch are nearly completely different between breeding and winter seasons, but these encompass 40% of the breeding distribution and

38% of the winter distribution of the species. Missoula and Spokane Wenatchee offices are relatively most important for breeding, and Royal Gorge and Taos offices are relatively most important in winter (Table 3.7.9a; Fig. 3.7.9c).

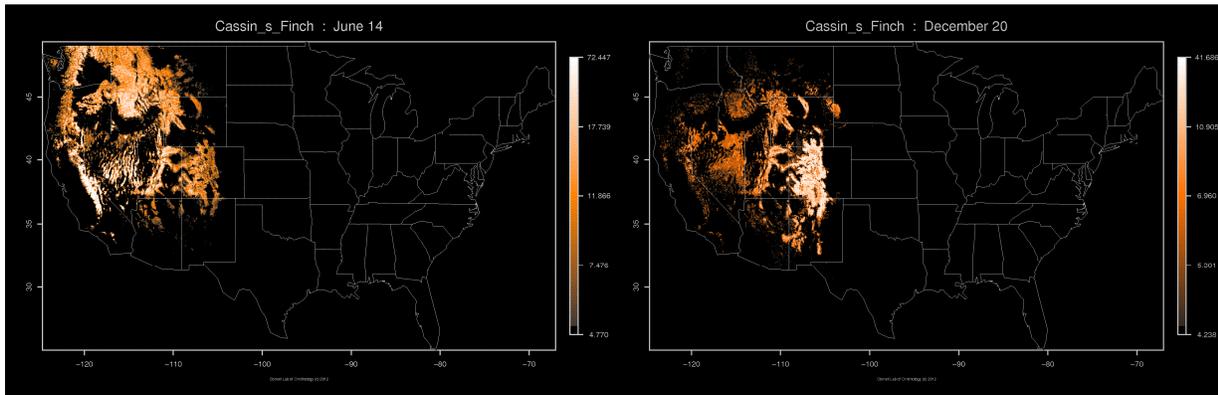


Fig. 3.7.9a. Distributional models for the Cassin's Finch.

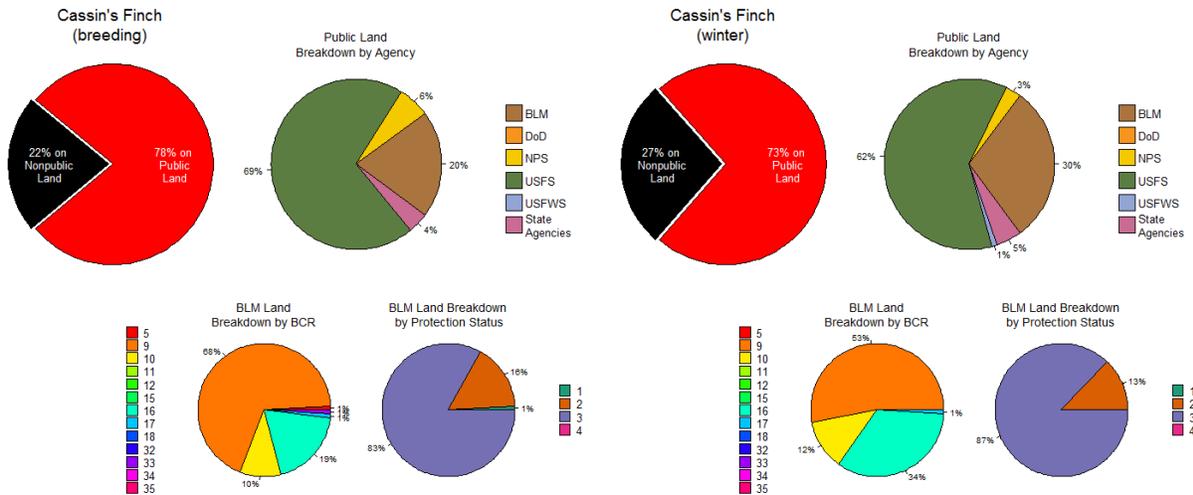


Fig. 3.7.9b. Jurisdictional breakdown for the Cassin's Finch.

Table 3.7.9a. Percent of breeding distribution within the top ten BLM Field Offices for the Cassin's Finch.

BLM Field Office	Percent of Distribution
Spokane Wenatchee	6.2
Missoula	6.0
Cottonwood	3.5
Bakersfield	3.3
Four Rivers	3.0
Mother Lode	2.8
Butte	2.8
Salt Lake	2.6
Mount Lewis	2.3
Spokane Border	2.1

Table 3.7.9b. Percent of winter distribution within the top ten BLM Field Offices for the Cassin's Finch.

BLM Field Office	Percent of Distribution
Royal Gorge	7.2
Taos	5.2
San Luis Valley	4.2
Rawlins	3.6
Kremmling	3.4
Colorado River Valley	3.1
Tres Rios	3.1
Salt Lake	2.8
Gunnison	2.7
Uncompahgre	2.5

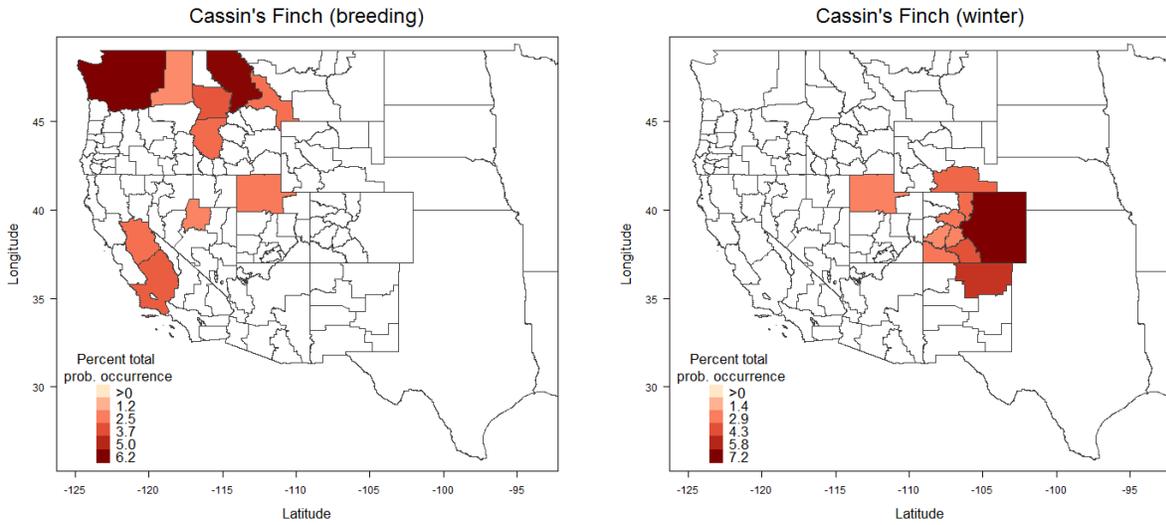


Fig. 3.7.9c. Ten most important BLM Field offices for the Cassin's Finch.

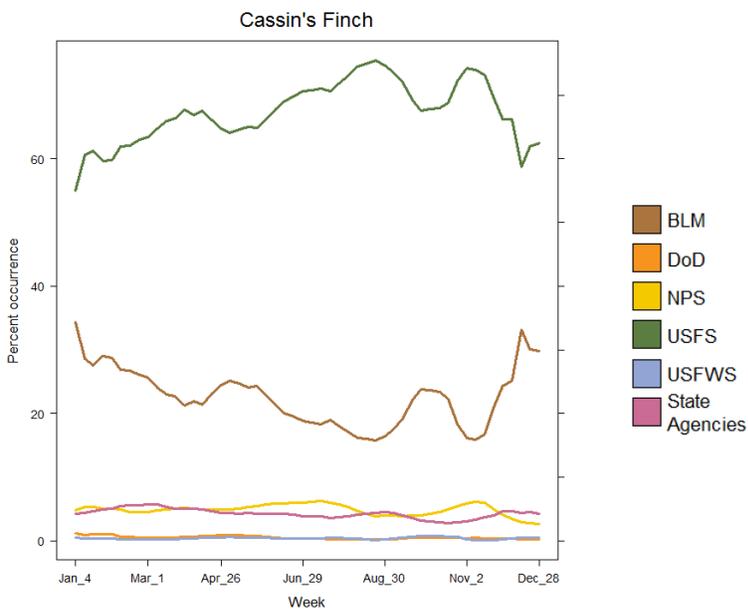


Fig. 3.7.9d. Seasonal jurisdictional breakdown by public agency for the Cassin's Finch.

Section 3.8: Pine-Oak Forest species

A suite of obligate species of pine-oak forests were among the BLM birds of conservation concern, but most of these did not have adequate data in eBird to allow accurate modeling. The results for Grace’s Warbler probably are indicative of the status of most of these other species, however.

Table 3.8. Grace’s Warbler dates for which distributional estimates were used in the jurisdictional summary.

Species	Breeding	Winter
Grace’s Warbler (<i>Setophaga graciae</i>)	July 19	n/a

Section 3.8.1: Grace's Warbler

Grace’s Warbler is one of a suite of southwestern pine-oak breeders with its range centered on the northern Sierra Madre Occidental of Mexico (Chihuahua and Sonora) and Arizona, where it breeds in suitable habitat almost statewide. The northern limit is southern Utah and southwestern Colorado. It is widespread in western New Mexico as well, with local populations in the Guadalupe and Davis Mountains of western Texas. Although the model did struggle somewhat with defining this species’ range throughout the summer, the selected map shown in Fig. 3.8.1a gives a very accurate representation, and the results correlate well with the species main areas of occurrence. The species’ migration is not well-defined through the U.S. as the species jumps south to winter in the Sierra Madre Occidental of West Mexico, generally south of its breeding range.

A high proportion of breeding Grace’s Warbler distribution (74%) is on public land, with the vast majority of that land managed by U.S. Forest Service; only 6% of these public lands are BLM (Fig. 3.8.1b). The vast majority of BLM lands with Grace’s Warbler are in BCR 16, and one-third of those lands are managed with greater biodiversity protections (GAP 1 and 2).

Five BLM Field Offices account for 81% of the breeding distribution, with Safford, Socorro, and Hassayampa having relatively higher responsibility for the species (Table 3.8.1a; Fig. 3.8.1c).

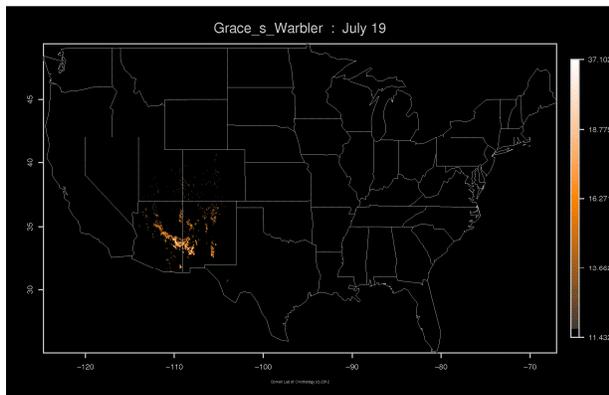


Fig. 3.8.1a. Distributional models for the Grace's Warbler.

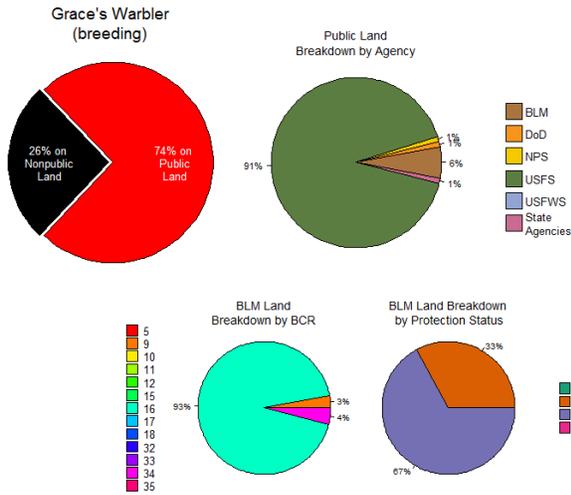


Fig. 3.8.1b. Jurisdictional breakdown for the Grace's Warbler.

Table 3.8.1a. Percent of breeding distribution within the top five BLM Field Offices for the Grace's Warbler.

BLM Field Office	Percent of Distribution
Safford	29.1
Socorro	18.0
Hassayampa	15.5
Las Cruces District Office	11.3
Rio Puerco	7.4

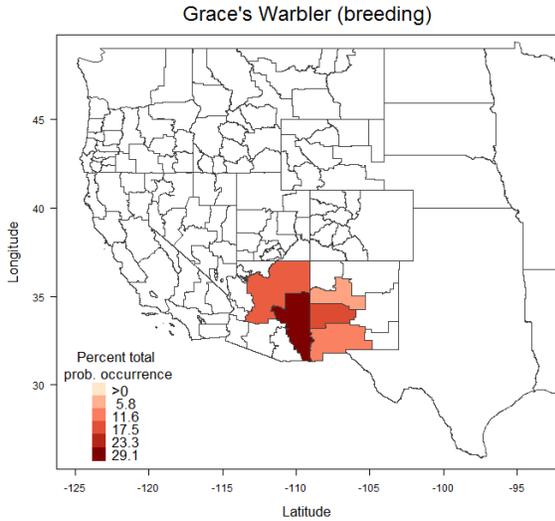


Fig. 3.8.1c. Five most important BLM Field Offices for the Grace's Warbler.

Section 3.9: California Oak Woodland species

We include two species of California Oak Woodland specialists, which were included as Western Forests obligates in the 2011 State of the Birds report.

Of these, Yellow-billed Magpie is more strictly an oak specialist and has a very restricted range, primarily in the oak hills around the margins of the Central Valley. Lawrence's Goldfinch is a bit less tied to oaks, but still has a breeding range almost entirely restricted to California (a few breed in northern Baja California); in winter it ranges more widely.

Table 3.9. The two California Oak Woodland species examined in the assessment with dates for which distributional estimates were used in the jurisdictional summary.

Species	Breeding	Winter
Yellow-billed Magpie (<i>Pica nuttalli</i>)	August 9	n/a
Lawrence's Goldfinch (<i>Spinus lawrencei</i>)	July 12	n/a

Section 3.9.1: Yellow-billed Magpie

Yellow-billed Magpie is one of three single state endemics in North America (Island and Florida Scrub-Jays are the others), being entirely restricted to California. Within California, the Yellow-billed Magpie most prefers the oak grasslands that ring the Central Valley, and is most common in some of the renowned wine country of the state. For such a range-restricted species, the model defines this range

extremely well, as seen in Fig. 3.9.1a. Largely avoiding the coast, its southern limit is Santa Barbara County and its northernmost stronghold north of Redding at the extreme northern end of the valley. Yellow-billed Magpies are non-migratory and have contracted their overall range as their habitat has given way to agriculture (including wineries) and suburbanization.

Very little of the Yellow-billed Magpie distribution is on public land (5%) and very little of that public land is managed by BLM (4%) – so BLM has a very low overall responsibility for this species (Fig. 3.9.1b; Table 3.0). The small amount of BLM land with Yellow-billed Magpies is within BCR 32 and all of it is managed for multiple use (GAP 3). Five BLM Field Offices cover 95% of the breeding (and year-round) distribution, with Bakersfield and Mother Lode field offices having the greatest share of the responsibility for this species (Fig. 3.9.1c).

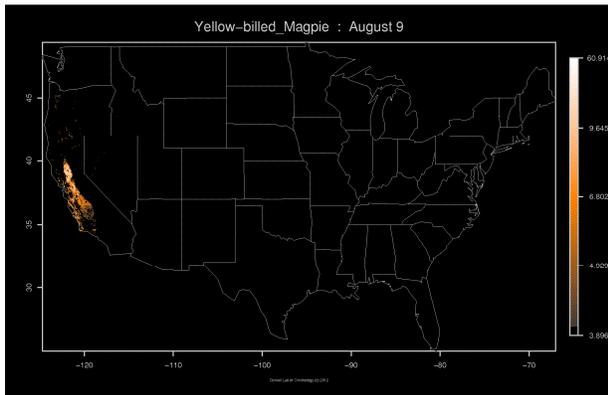


Fig. 3.9.1a. Distributional models for the Yellow-billed Magpie.

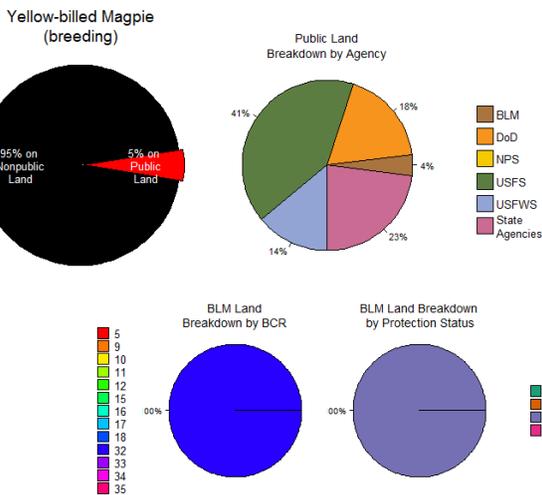


Fig. 3.9.1b. Jurisdictional breakdown for the Yellow-billed Magpie.

Table 3.9.1a. Percent of breeding distribution within the top five BLM Field Offices for the Yellow-billed Magpie.

BLM Field Office	Percent of Distribution
Bakersfield	28.6
Mother Lode	23.4
Hollister	19.4
Ukiah	19.0
Redding	5.0

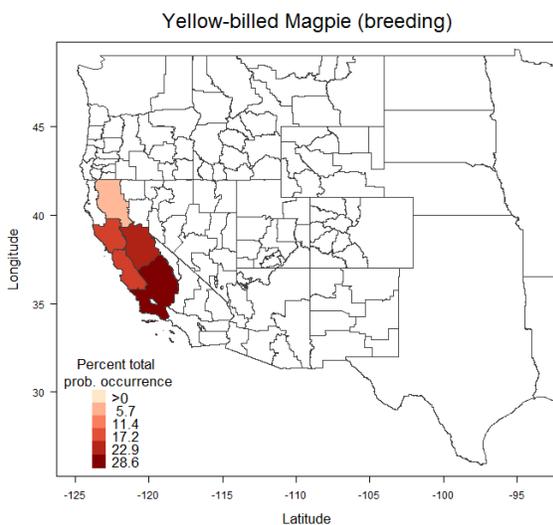


Fig. 3.9.1c. Five most important BLM Field Offices for the Yellow-billed Magpie.

Section 3.9.2: Lawrence's Goldfinch

Essentially restricted to the Californias (California and northern Baja California) as a breeder, Lawrence's Goldfinch is a striking bird with enigmatic movements. Breeding occurs largely west of the Sierra Nevada along the middle-elevation slopes and riparian watercourses around the Central Valley and in the Coast Range, as well as on the slopes of southern California and northern Baja California, shown well in Fig. 3.9.2a. It may withdraw from some breeding areas in winter and is more apt to occur in lowlands during that season, and may also stage irruptive movements east to Arizona, northern Sonora (Mexico), and occasionally farther east to New Mexico and very rarely, west Texas.

Roughly half of the breeding distribution of Lawrence's Goldfinch is on public land, and 15% of that public land is managed by BLM (Fig. 3.9.2b). The seasonal jurisdictional breakdown indicates that BLM lands are relatively more important during winter and spring, with U.S. Forest Service lands being more important in summer (Fig. 3.9.2d). Most of the BLM lands with Lawrence's Goldfinch are in BCR 32; the

lands shown in BCRs 9 and 33 may be the result of over-extrapolation by our model. A relatively large proportion (37%) of this BLM land is managed for higher biodiversity protections (GAP 1 and 2).

The top ten BLM Field Offices support 93% of the distribution of Lawrence's Goldfinch, with Bakersfield, Palm Springs/South Coast, and Hollister having the greatest stewardship responsibility (Table 3.9.2a; Fig. 3.9.2c).

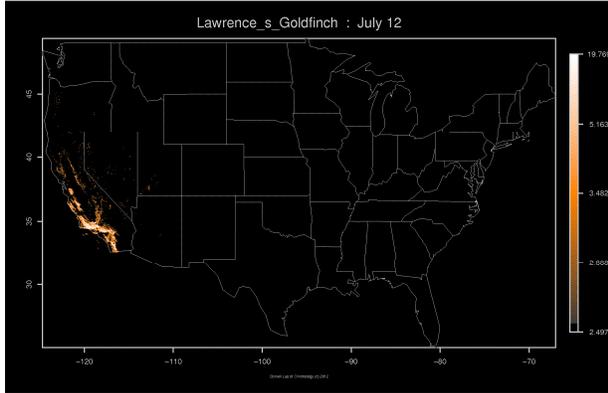


Fig. 3.9.2a. Distributional models for the Lawrence's Goldfinch.

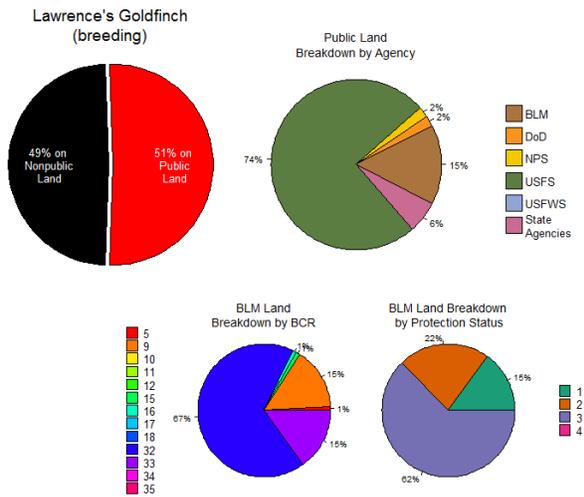


Fig. 3.9.2b. Jurisdictional breakdown for the Lawrence's Goldfinch.

Table 3.9.2a. Percent of breeding distribution within the top ten BLM Field Offices for the Lawrence's Goldfinch.

BLM Field Office	Percent of Distribution
Bakersfield	30.6
Palm Springs/S. Coast	29.2
Hollister	14.9
El Centro	4.4
Ridgecrest	4.3
Mother Lode	3.5
Barstow	3.2
Ukiah	2.4
Bishop	1.1
Redding	1.1

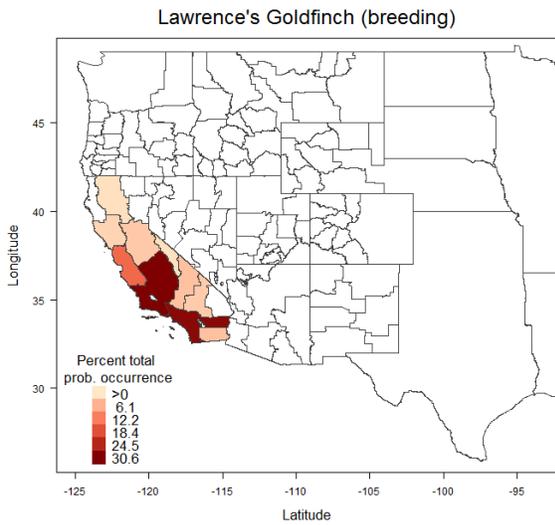


Fig. 3.9.2c. Ten most important BLM Field offices for the Lawrence's Goldfinch.

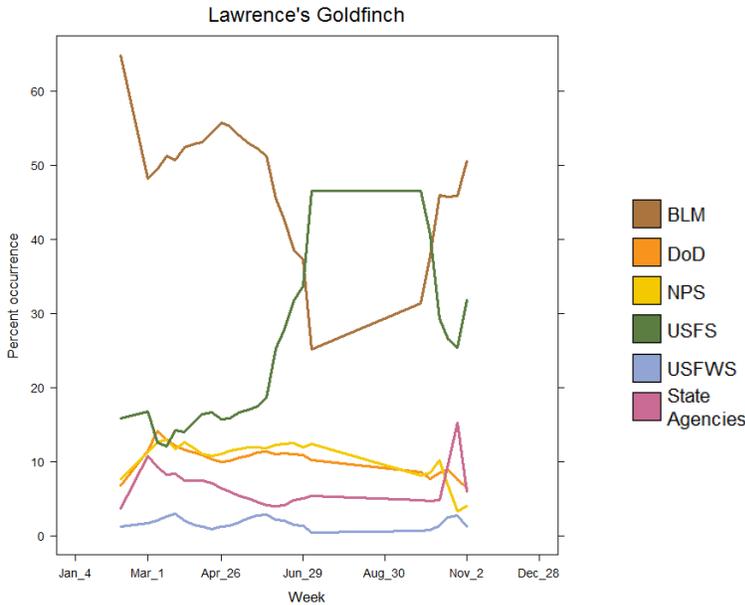


Fig. 3.9.2d. Seasonal jurisdictional breakdown by public agency for the Lawrence's Goldfinch.

Section 3.10: Alpine species

We include two species of alpine bird species (Table 3.10), both of which were included as Arctic-Alpine obligates in the 2011 State of the Birds report.

The Arctic tundra of the Western United States is one of the more unique and imperiled habitats, with a host of endemic animal and plant species, and others that extend into Canada but reach their southern limit in the U.S. in these habitats. Of those, two endemic breeding birds are entirely restricted to this habitat: Black Rosy-Finch and Brown-capped Rosy-Finch. Formerly lumped as a single species, these birds are now treated as separate species and breed in alpine areas within the Great Basin (including the Uintas) and southern Rocky Mountains, respectively. Both winter downslope and in other areas, and it is possible to encounter missed flocks of both species along with Gray-crowned Rosy-Finch in some areas. With the threat of climate change looming large, the long-term survival of species endemic to alpine tundra (especially the southernmost and most restricted areas of tundra) is very much in question.

Table 3.10. The two alpine species examined in the assessment with dates for which distributional estimates were used in the jurisdictional summary.

Species	Breeding	Winter
Black Rosy-Finch (<i>Leucosticte atrata</i>)	June 28	December 27
Brown-capped Rosy-Finch (<i>Leucosticte australis</i>)	June 7	December 6

Section 3.10.1: Black Rosy-Finch

One of few species with its entire distribution limited to the Lower 48 United States, Black Rosy-Finch is limited to the higher mountains of the northern Great Basin Desert. The entire population nests in the limited alpine tundra of northern Nevada, eastern Oregon, southern Idaho, extreme southern Montana, western Wyoming, and northern Utah. Some of the breeding range, notably in northern Nevada and extreme eastern Oregon, is missed by the modeled breeding range in Fig. 3.10.1a. Its winter distribution is slightly more extensive and moves a bit downslope, where it may visit bird feeders. However, while the modeled results capture the core areas well, Black Rosy-Finch is not expected so widely in Utah and Nevada in winter and does not regularly reach California, so there is some over-extrapolation evident. Like other alpine species, its future is uncertain as global warming threatens loss of alpine habitat.

Because most alpine habitat in the lower 48 states is in public ownership, at least 84% of the breeding distribution of Black Rosy-Finch is on public land, with 20% of the public lands within the breeding range managed by BLM (Fig. 3.10.1b). In winter nearly the entire distribution is on public land, and nearly all of that is U.S. Forest Service land. The seasonal jurisdictional breakdown for this species (Fig. 3.10.1d) indicates that this pattern of occurrence on public lands is consistent throughout the year. The small amount of BLM land supporting Black Rosy-Finches is all within BCRs 9, 16, and 10, with a higher percentage in BCR 9 during the breeding season, and in BCR 10 in winter. In summer 89% of the BLM lands are multiple use (GAP 3), but in winter, 38% of the land is managed for biodiversity protection (GAP 1 and 2).

Five BLM Field Offices cover 71% of the breeding range, with Cody, Lander, and Pinedale having the greatest responsibility. In winter, a different five Field Offices cover 49% of the distribution, with San Luis Valley and Royal Gorge having the greatest responsibility at that season (Table 3.10.1a; Fig. 3.10.1c).

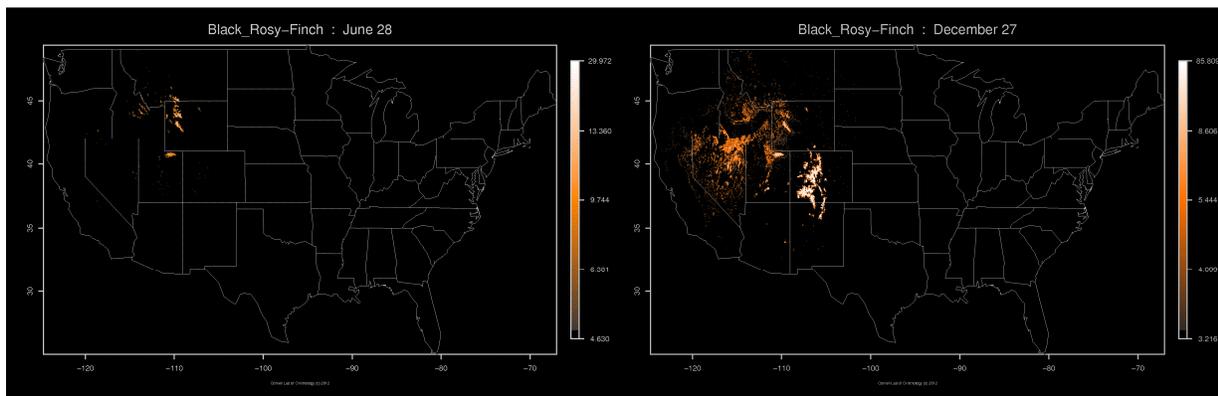


Fig. 3.10.1a. Distributional models for the Black Rosy-Finch.

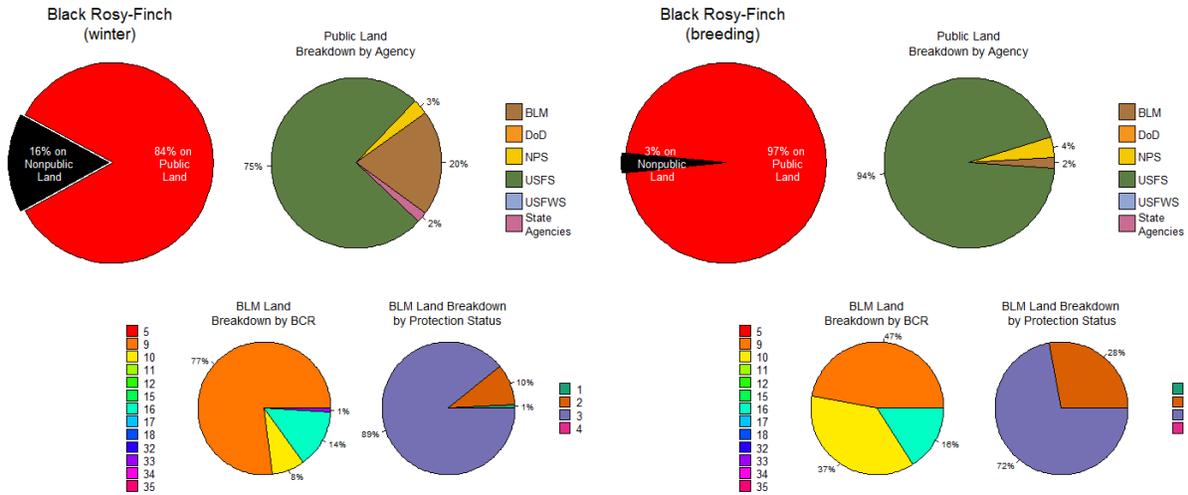


Fig. 3.10.1b. Jurisdictional breakdown for the Black Rosy-Finch.

Table 3.10.1a. Percent of breeding distribution within the top five BLM Field Offices for the Black Rosy-Finch.

BLM Field Office	Percent of Distribution
Cody	23.2
Pinedale	15.8
Lander	15.6
Vernal	9.1
Salt Lake	6.6

Table 3.10.1b. Percent of winter distribution within the top five BLM Field Offices for the Black Rosy-Finch.

BLM Field Office	Percent of Distribution
San Luis Valley	14.1
Royal Gorge	12.6
Gunnison	9.1
Tres Rios	7.0
Taos	6.1

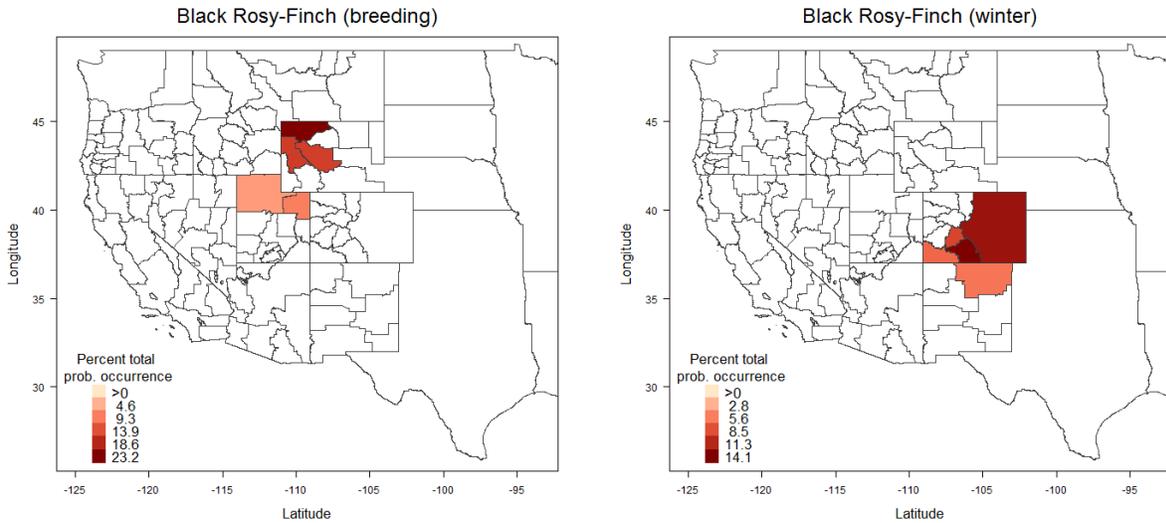


Fig. 3.10.1c. Five most important BLM Field Offices for the Black Rosy-Finch.

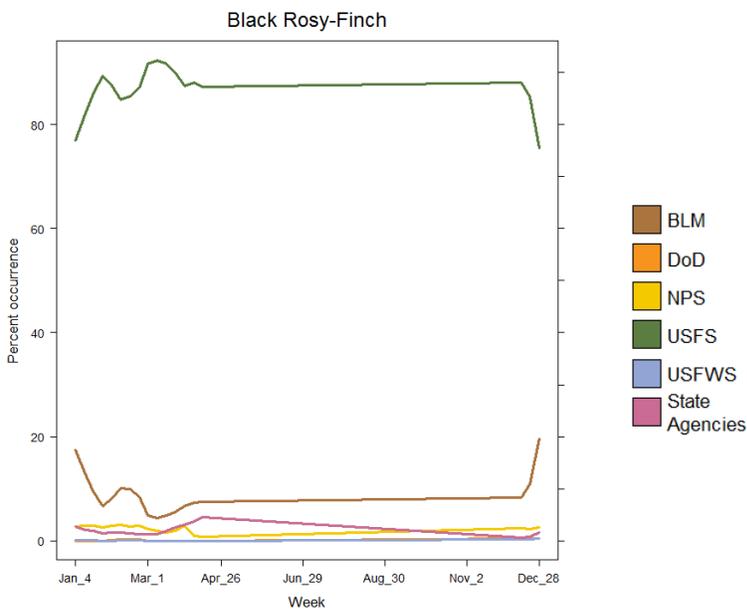


Fig. 3.10.1d. Seasonal jurisdictional breakdown by public agency for the Black Rosy-Finch.

Section 3.10.2: Brown-capped Rosy-Finch

Like the Black Rosy-Finch, this is another of the few species with its entire distribution limited to the Lower 48 United States, Brown-capped Rosy-Finch is an alpine specialist restricted to the Rocky Mountains of Colorado and New Mexico. Breeding exclusively on alpine tundra of the higher Rockies, it expands its range a bit southward and downslope in winter. With the exception of the faint breeding season signal in Utah, the model accurately portrays the summer and winter distributions in Fig. 3.10.2a.

Although populations do not seem to be declining currently, trends for this species are not well known. A warming climate is sure to put this species at risk as alpine tundra moves upslope and may ultimately disappear.

In contrast to the Black Rosy-Finch, a slightly higher percentage of the breeding distribution of Brown-capped Rosy-Finch (93%) is on public land, versus 88% in winter (Fig. 3.10.2b). These are the highest percentages on public land of any species analyzed for this report. Only a small amount of this public land is managed by BLM, however – 6% in summer and 4% in winter. This pattern is consistent throughout the year, as shown in the seasonal jurisdictional breakdown in Fig. 3.10.2d. The small amount of BLM land with this species is all within BCR 16, and more of this land is managed for biodiversity protection (GAP 1 and 2) in the breeding season (79%) than during winter (41%).

Five BLM Field Offices encompass 84% of the breeding distribution of Brown-capped Rosy-Finch, with Royal Gorge and Kremmling having the greatest responsibility for this species. In winter, five different Field Offices cover 74% of the distribution, and in this season, San Luis Valley and Royal Gorge have the highest responsibility for this species (Table 3.10.2a; Fig. 3.10.2c).

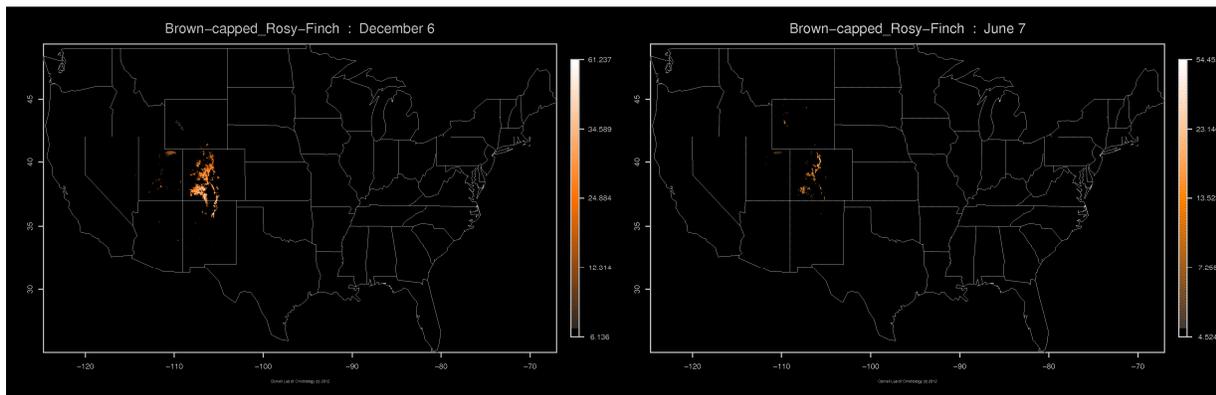


Fig. 3.10.2a. Distributional models for the Brown-capped Rosy-Finch.

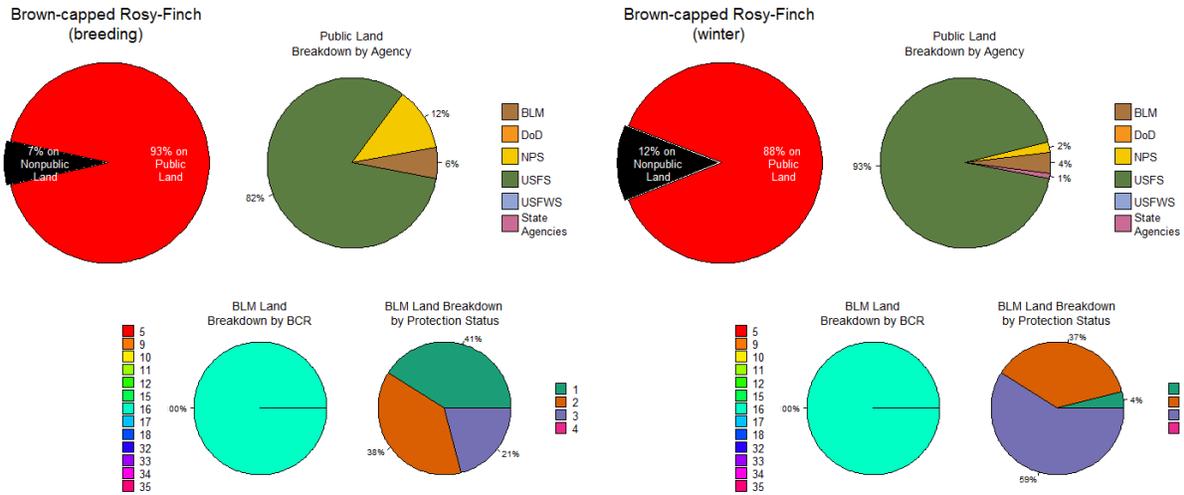


Fig. 3.10.2b. Jurisdictional breakdown for the Brown-capped Rosy-Finch.

Table 3.10.2a. Percent of breeding distribution within the top five BLM Field Offices for the Brown-capped Rosy-Finch.

BLM Field Office	Percent of Distribution
Royal Gorge	29.0
Kremmling	26.0
San Luis Valley	10.7
Gunnison	10.5
Colorado River Valley	7.8

Table 3.10.2b. Percent of winter distribution within the top five BLM Field Offices for the Brown-capped Rosy-Finch.

BLM Field Office	Percent of Distribution
San Luis Valley	21.9
Royal Gorge	18.8
Gunnison	12.7
Tres Rios	11.3
Taos	8.5

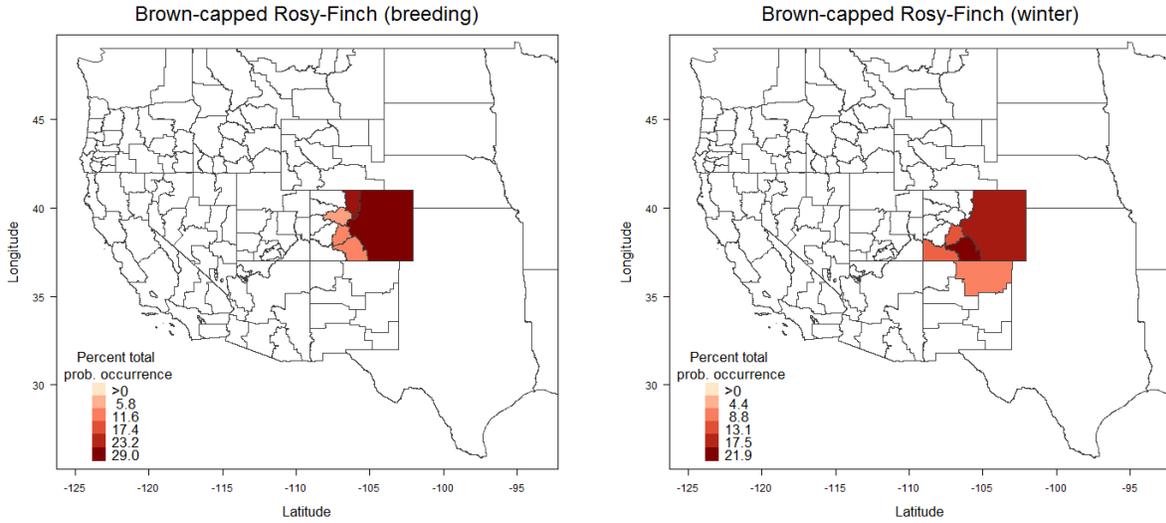


Fig. 3.10.2c. Five most important BLM Field Offices for the Brown-capped Rosy-Finch.

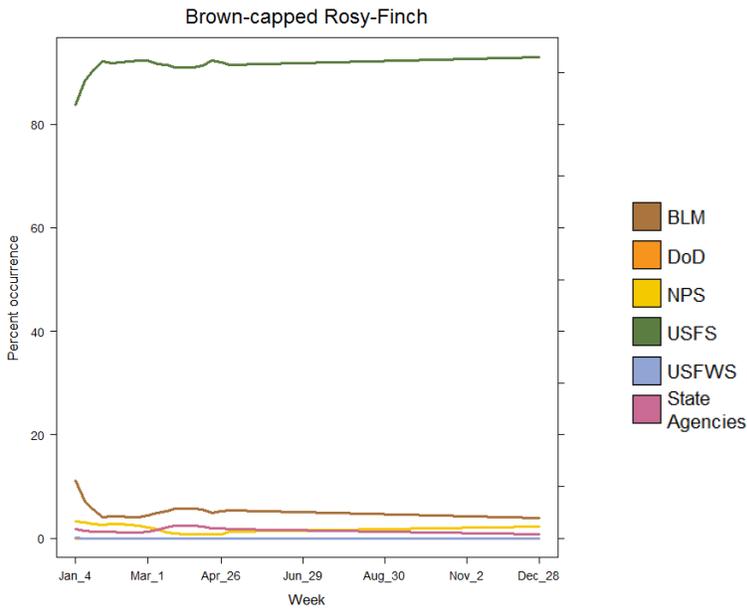


Fig. 3.10.2d. Seasonal jurisdictional breakdown by public agency for the Brown-capped Rosy-Finch.

Section 3.11: Miscellaneous species

The Bald Eagle was not included among the habitat obligates in State of the Birds 2011 because it is a habitat generalist, but we include it here because of interest in this species by federal agencies.

Table 3.11. Bald Eagle dates for which distributional estimates were used in the jurisdictional summary.

Species	Breeding	Winter
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	May 10	December 27

Section 3.11.1: Bald Eagle

One of the great success stories of the Endangered Species Act, the Bald Eagle has rebounded from historical low populations reached in the 1950s, 1960s and 1970s as a result of DDT contamination. The species can now be found breeding widely, and is a common breeder in much of Alaska and the Canadian taiga. In the lower 48 states it is common in estuaries of the East Coast, around the Great Lakes, along the Mississippi River, in the northern Rocky Mountains, and throughout the Pacific Northwest south to northern California. Localized breeding is now known from every U.S. state (except Hawaii) and the model results for 10 May appear quite accurate (Fig. 3.11.1a).

In winter, most Bald Eagles in Alaska and Canada (except those on the Atlantic and Pacific coasts and around the Great Lakes) migrate south, and wintering birds can be found virtually throughout the Lower 48 states (See Fig. 3.11.1a). Although many wintering birds are found around lakes or along rivers, where they prey on fish, a significant number of birds also move to high desert and grasslands in the western Great Plains and Great Basin Desert, where they may take advantage of carrion or prey on rabbits and other similar-sized mammals. BLM landholdings are particularly important for these desert wintering eagles.

The proportion of Bald Eagle distribution on public lands is very similar during the breeding season (28%) and in winter (27%). Only 3% of public lands supporting breeding eagles are managed by BLM, whereas in winter BLM makes up 15% of the public land distribution (Fig. 3.11.1b). The seasonal jurisdictional breakdown in Fig. 3.11.1d shows a complex pattern with BLM lands relatively more important in winter, U.S. Forest Service lands are important for most of the year, and state-owned lands are most important in late summer. BLM lands that support Bald Eagles occur in a variety of BCRs, mostly in BCRs 5 and 9 for breeding and in BCRs 9, 10, and 17 in winter.

BLM Field Offices with the greatest responsibilities for Bald Eagles in both seasons include Northeastern States, Southeastern States, and Spokane Wenatchee offices; the top 10 Field Offices support 87% of the breeding season distribution and 74% of the winter distribution (Table 3.11.1a; Fig. 3.11.1c).

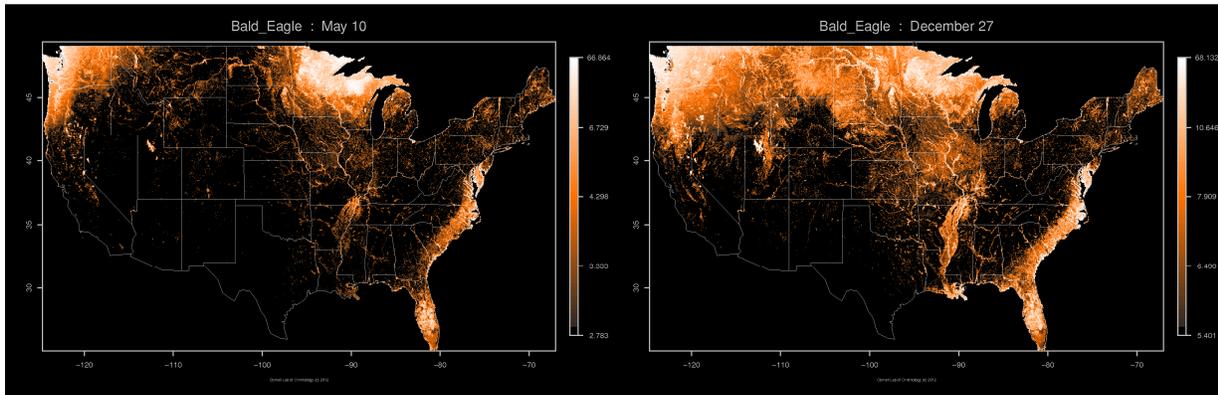


Fig. 3.11.1a. Distributional models for the Bald Eagle.

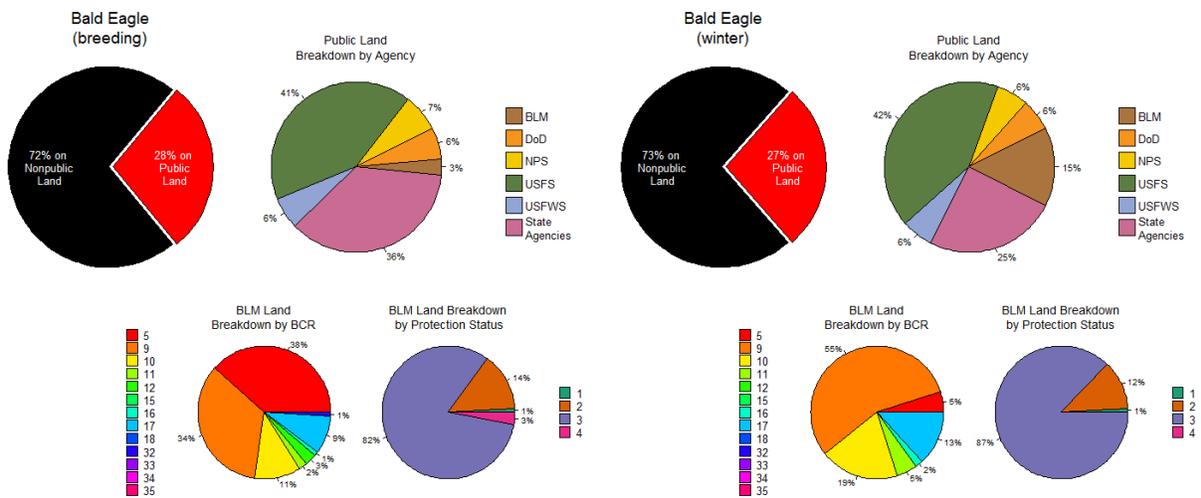


Fig. 3.11.1b. Jurisdictional breakdown for the Bald Eagle.

Table 3.11.1a. Percent of breeding distribution within the top ten BLM Field Offices for the Bald Eagle.

BLM Field Office	Percent of Distribution
Northeastern States	47.8
Southeastern States	14.9
Spokane Wenatchee	11.1
North Dakota	3.4
Spokane Border	2.6
Missoula	1.8
South Dakota	1.8
Salem Tillamook	0.9
Coeur d'Alene	0.9
Salem Cascades	0.9

Table 3.11.1b. Percent of winter distribution within the top ten BLM Field Offices for the Bald Eagle.

BLM Field Office	Percent of Distribution
Northeastern States	30.0
Southeastern States	14.0
Spokane Wenatchee	6.6
North Dakota	6.4
South Dakota	5.5
Miles City	3.1
Oklahoma	2.6
Casper	2.4
Spokane Border	2.1
Missoula	1.9

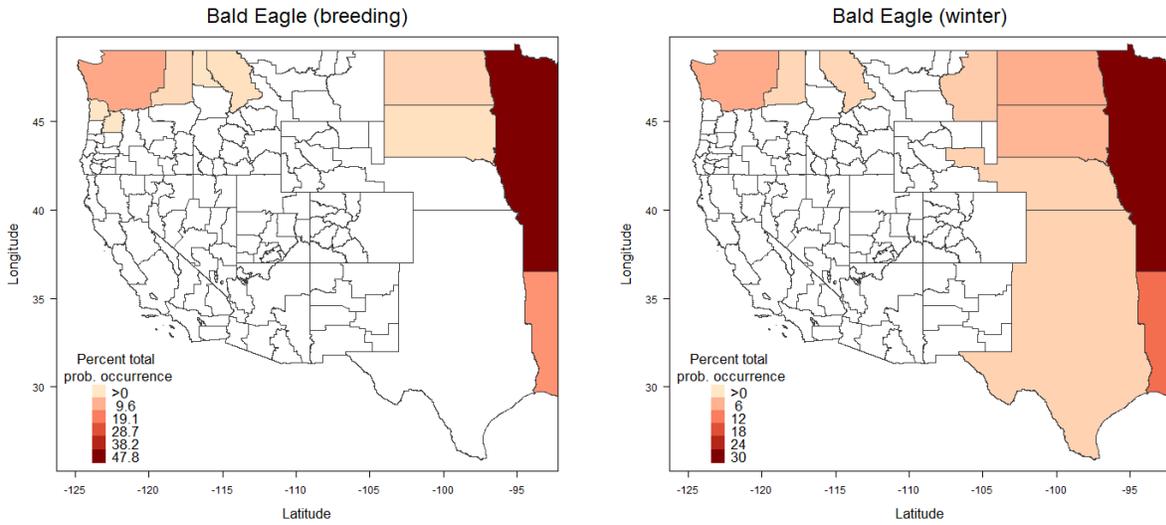


Fig. 3.11.1c. Ten most important BLM Field offices for the Bald Eagle.

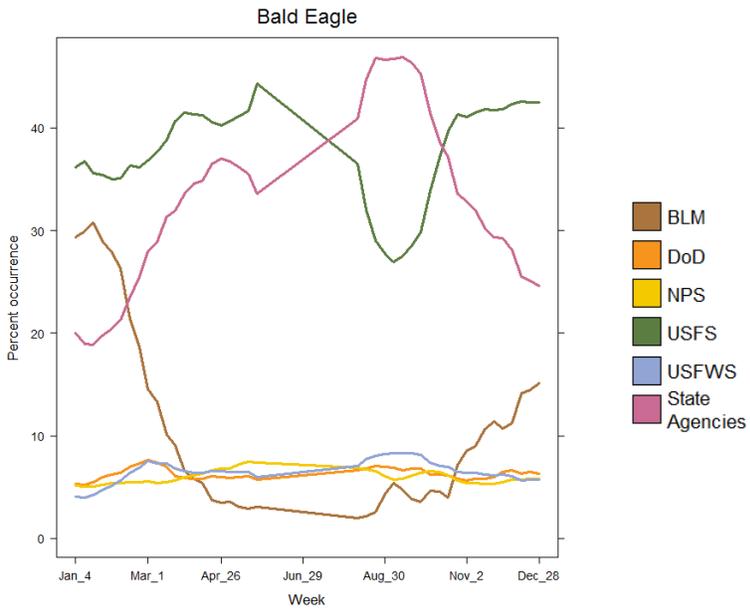


Fig. 3.11.1d. Seasonal jurisdictional breakdown by public agency for the Bald Eagle.

SECTION 4: CONCLUSIONS and NEXT STEPS

Detailed spatial analysis for these 47 species dependent on terrestrial habitats throughout the western U.S. highlights the major responsibility that BLM has for the management and long-term conservation of these species. This is especially true for the set of sagebrush-obligate species that are endemic to the Great Basin of the western U.S., a suite of desert-scrub species in the Southwest, pinyon-juniper specialists, and a few other species such as Golden Eagle. The summary presented in this report goes well beyond the initial material presented in the 2011 State of the Birds Report on Public Lands. Besides showing which species have greatest dependence on public lands and BLM lands overall, we are able to “step-down” these results to inform BLM managers as to where within Bird Conservation Regions and individual BLM Field Offices that the greatest stewardship responsibilities and opportunities exist for conserving these species. In addition to the species included in this report, other birds of conservation concern, especially some aquatic species, show high reliance on public lands and BLM in particular – available eBird data for these species were not adequate to model their distributions and compute seasonal jurisdiction.

An added feature of the modeling for this report is the year-round jurisdictional breakdowns for many species, in addition to models of breeding and winter distributions. For sagebrush-breeding species that are migratory, for example, our results document the seasonal variation in distribution and degree of dependence on BLM and other public lands. In particular, the stewardship responsibility of BLM lands for these species remains high year-round, even though they shift their distribution between two distinct BLM regions. Whereas northern deserts (BCR 9 and 10, in particular) are primarily responsible for the breeding population (and have very high BLM holdings), the significant BLM holdings in BCR 33, 34, and 35 are important for those same species in winter. This pattern is repeated for Brewer’s Sparrow, Sage Thrasher, Sage Sparrow, Green-tailed Towhee, and Loggerhead Shrike. Furthermore, the BLM lands in the southwestern deserts that support wintering sagebrush birds also support a high percentage of the year-round distributions of another suite of desert-scrub bird species. Therefore, greater cooperation among Field Offices in different parts of the birds’ annual cycle can benefit a large number of BLM birds of conservation concern, for which BLM also has a high stewardship responsibility.

Another interesting seasonal pattern was shown by a number of western forest and riparian species, which tend to be associated with higher elevation coniferous forests, mostly on U.S. Forest Service lands, for breeding, but then showed distinct spikes in the importance of BLM lands during the spring and fall migration seasons when birds use lowland riparian corridors throughout the West. Olive-sided Flycatcher and Yellow Warbler are two species that show this pattern particularly well.

Our initial analysis for a suite of sagebrush birds served as a model for how information on other suites of species with high dependence on public lands can be “stepped down” from national to regional levels within agencies. This approach worked well for additional suites of BLM birds of conservation concern that had adequate data in eBird. By including eBird data through 2011, we were able to model some additional species that were not available for the 2011 State of the Birds Report. After establishing the greatest opportunities for conservation and the places and times when conservation can be most effective (as presented in this report), the next task is to integrate these results with the myriad of continental, regional, and state-level bird conservation plans developed by Partners in Flight and other conservation

groups. For example, specific habitat requirements and management guidelines exist for sagebrush birds in several bird conservation plans. The State of the Birds working group of NABCI, along with Partners in Flight national and regional working groups are committed to developing additional linkages between these stepped-down State of the Birds results and the bird conservation plans, in order to assist agencies in improving land management for the long-term benefit of these bird populations.

Under the existing scope of work between BLM and Cornell Lab of Ornithology, we have completed the modeling, mapping, and jurisdictional analysis for 47 terrestrial bird species of interest to BLM (list originally provided by Geoff Walsh), with particular attention to suites of species, such as sagebrush, desert-scrub, western forest, and grassland birds, that have high levels of distribution on BLM lands. Equivalent modeling efforts for aquatic bird species is proving more challenging, due to difficulties in working with consistent hydrographic data layers, and was beyond the scope of the current project. If additional resources exist for future work, some next steps in applying this modeling and analysis to BLM migratory bird management could include: (1) additional modeling for aquatic and range-restricted species on the BLM list of Birds of Conservation Concern that were not possible in the current report; (2) focused modeling of birds during the migratory periods to help identify migration corridors and stopover sites that are of particular importance to BLM – these areas are likely different from those identified during the breeding and winter periods; (3) modeling focused on the abundance of birds, especially flocking species, in addition to distributional (presence-absence) modeling, in order to identify potential impacts of management activities on populations of birds of conservation concern; and (4) collaborations with GIS specialists and other scientists at BLM to allow BLM to use the eBird data and modeling results even more fully to address specific questions of importance to the agency.

As always, we welcome feedback from BLM on how these analyses or presentation of results can be made more useful.

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APPENDIX

SECTION 3: RESULTS

Following the same organization of habitat categories, species and seasons in Section 3 of the main technical report, here we present our results based on the percent of species' distributions estimated *within BLM lands* for 93 BLM Field Offices. In a similar fashion as in Section 3, these results are summarized in tables and maps by BLM Field Office for the top 10 or top 5 Field Offices.

In interpreting the maps and tables in this Appendix, it is important to keep in mind that the lands highlighted using this methodology do not always correspond with the core of a species' distribution. For species that have a high percentage of their overall distribution on BLM lands (e.g. Brewer's Sparrow), the top Field Offices *within BLM lands* will usually be within the core of the range and should be similar to those illustrated in the main report. For species with low overall percent of distribution on BLM lands, however, the Field Offices identified in this Appendix may be near the periphery of a species' distribution. For example, the ten most important BLM Field Offices for the White-headed Woodpecker (Section 3.7.5) shows evidence of model over-extrapolation within Nevada BLM lands and illustrates areas where this species may not even occur. One particular difference in these results that is worth noting is the depiction of bird distributions within the Oklahoma Field Office; because this area is very large it often shows up among the top Field Offices in the Main Report for species with breeding or wintering distributions in Texas. Looking only at BLM lands, however, the Oklahoma Field Office does not show up in the Appendix results, because few if any BLM lands exist within this large area.

By interpreting the Field Office maps in the Appendix along with those in the Main Report, BLM managers can see the greatest opportunities for conservation of high-stewardship species, as well as opportunities for conservation of high-concern species that may have only a small amount of their overall distribution on BLM land.

Section 3.1: Sagebrush species

Section 3.1.1: Greater Sage-Grouse

Table. 3.1.1a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Greater Sage-Grouse.

BLM Field Office	Percent of Distribution
Humboldt River	8.4
Lakeview District Lakeview	6.6
Vale Jordan	5.4
Wells	4.5
Burns Three Rivers	4.4
Vale Malheur	4.3
Rock Springs	4.0
Tuscarora	3.6
Mount Lewis	3.2
Rawlins	3.2

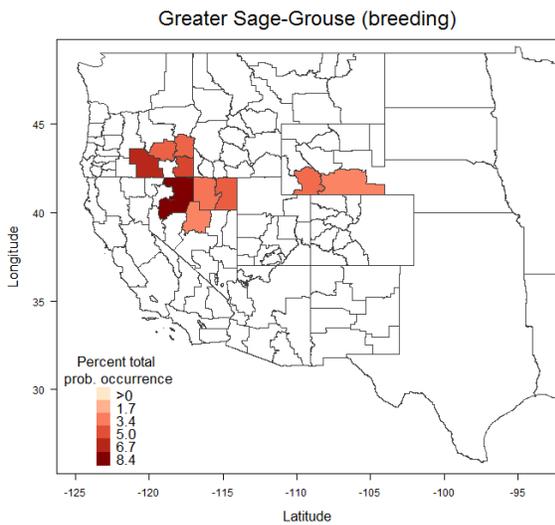


Fig. 3.1.1c. Ten most important BLM Field offices for the Greater Sage-Grouse on BLM lands.

Section 3.1.2: Sage Thrasher

Table. 3.1.2a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Sage Thrasher.

BLM Field Office	Percent of Distribution
Humboldt River	7.0
Rock Springs	6.1
Lakeview District Lakeview	5.8
Rawlins	5.0
Wells	4.6
Vale Jordan	4.0
Tuscarora	3.7
Tonopah	3.6
Mount Lewis	3.3
Burns Three Rivers	2.9

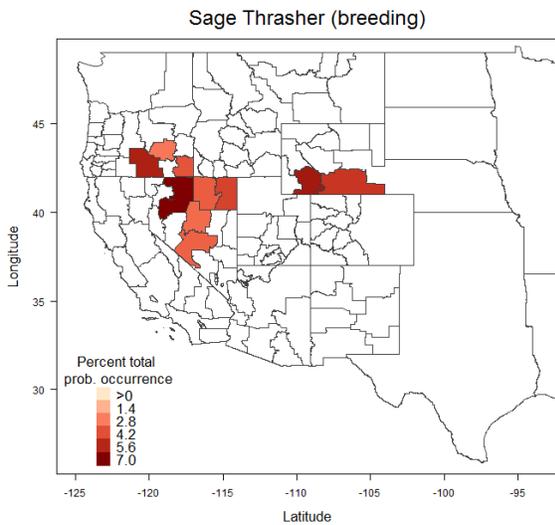


Fig. 3.1.2c. Ten most important BLM Field offices for the Sage Thrasher on BLM lands.

Section 3.1.3: Green-tailed Towhee

Table. 3.1.3a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Green-tailed Towhee.

BLM Field Office	Percent of Distribution
Mount Lewis	7.0
Wells	5.6
Tonopah	5.5
Egan	5.2
Schell	4.9
Humboldt River	4.3
Stillwater	3.8
Lakeview District Lakeview	3.4
Tuscarora	3.1
White River	2.7

Table. 3.1.3b. Percent of winter distribution within BLM lands on the top ten BLM Field Offices for the Green-tailed Towhee.

BLM Field Office	Percent of Distribution
Las Cruces District Office	27.4
Carlsbad	10.8
Safford	9.5
Needles	4.0
Kingman	4.0
Caliente	3.9
Tucson	3.7
Lower Sonoran	3.5
Las Vegas	3.3
Roswell	3.2

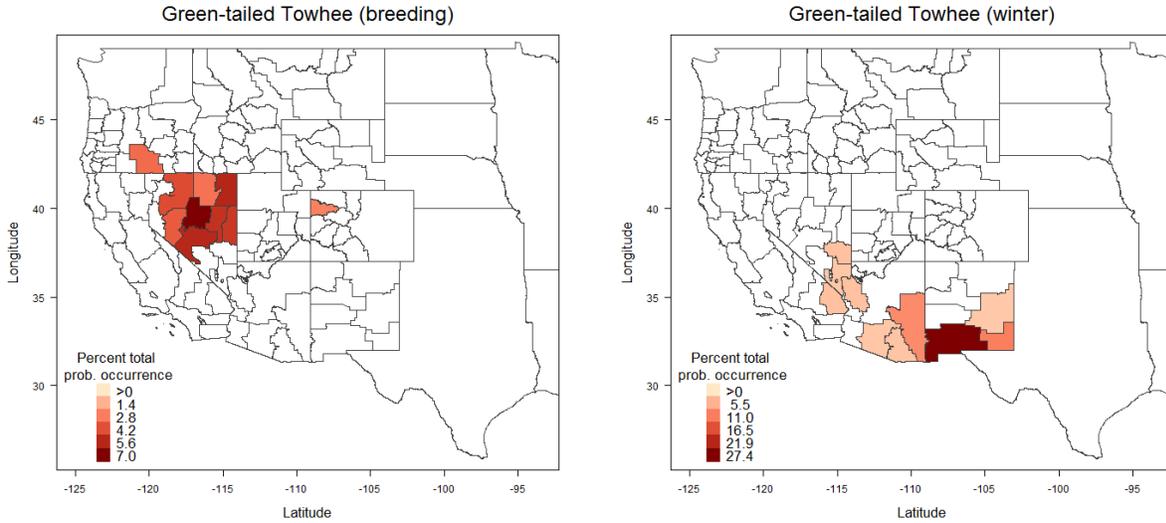


Fig. 3.1.3c. Ten most important BLM Field offices for the Green-tailed Towhee on BLM lands.

Section 3.1.4: Brewer's Sparrow

Table. 3.1.4a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Brewer's Sparrow.

BLM Field Office	Percent of Distribution
Humboldt River	6.3
Rock Springs	5.3
Tonopah	4.9
Rawlins	4.6
Mount Lewis	4.5
Wells	4.4
Lakeview District Lakeview	4.1
Tuscarora	4.0
Egan	3.2
Stillwater	3.1

Table. 3.1.4b. Percent of winter distribution within BLM lands on the top ten BLM Field Offices for the Brewer's Sparrow.

BLM Field Office	Percent of Distribution
Las Cruces District Office	24.8
Carlsbad	8.4
Safford	7.5
Needles	4.9
Lower Sonoran	4.3
Caliente	3.9
Kingman	3.9
Las Vegas	3.8
Tucson	3.3
Lake Havasu	3.3

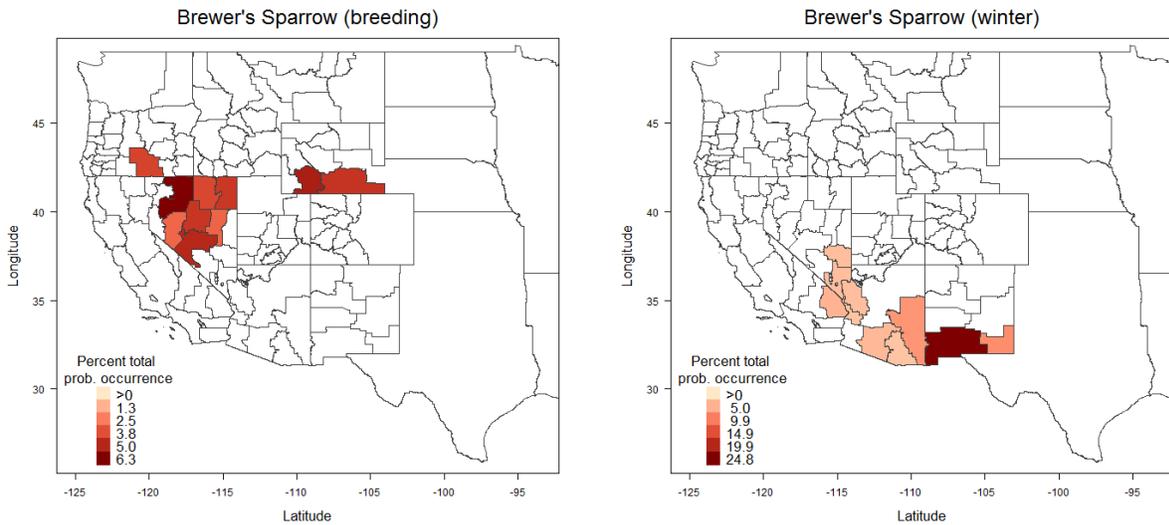


Fig. 3.1.4c. Ten most important BLM Field offices for the Brewer's Sparrow on BLM lands.

Section 3.1.5: Sage Sparrow

Table. 3.1.5a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Sage Sparrow.

BLM Field Office	Percent of Distribution
Humboldt River	8.9
Tonopah	8.0
Stillwater	5.7
Lakeview District Lakeview	5.3
Rawlins	3.9
Rock Springs	3.9
Vale Jordan	3.8
Mount Lewis	3.7
Wells	3.3
Caliente	2.9

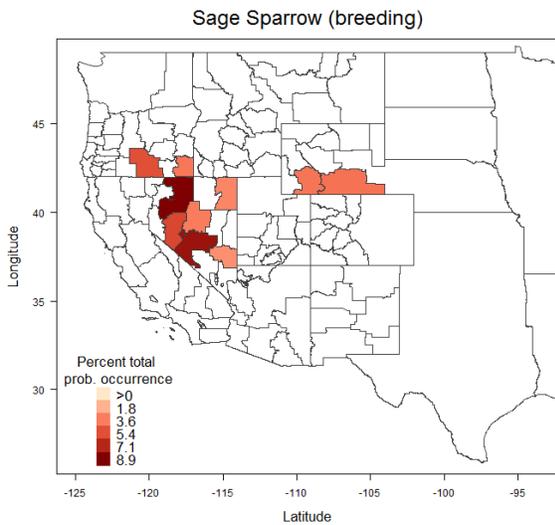


Fig. 3.1.5c. Ten most important BLM Field offices for the Sage Sparrow on BLM lands.

Section 3.2: Desert scrub species

Section 3.2.1: Costa's Hummingbird

Table. 3.2.1a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Costa's Hummingbird.

BLM Field Office	Percent of Distribution
Needles	15.2
Barstow	11.9
Las Vegas	8.6
Ridgecrest	8.1
Kingman	8.0
Palm Springs/S. Coast	7.5
El Centro	6.2
Lake Havasu	5.3
Yuma	4.6
Lower Sonoran	4.0

Table. 3.2.1b. Percent of winter distribution within BLM lands on the top ten BLM Field Offices for the Costa's Hummingbird.

BLM Field Office	Percent of Distribution
Needles	19.6
Barstow	10.6
Palm Springs/S. Coast	9.8
El Centro	9.8
Lake Havasu	7.2
Yuma	6.2
Las Vegas	5.7
Lower Sonoran	5.4
Ridgecrest	4.9
Kingman	4.8

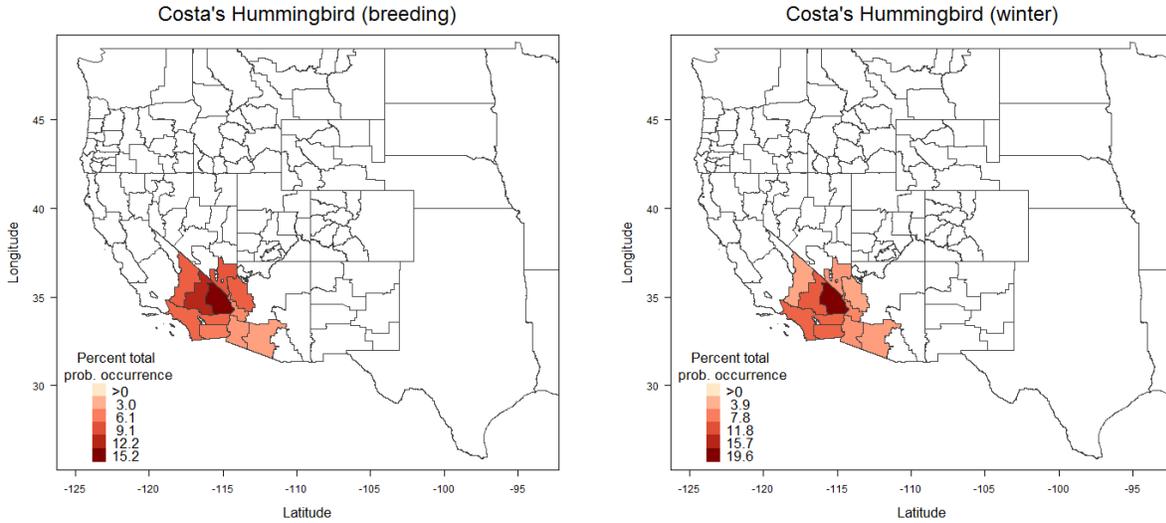


Fig. 3.2.1c. Ten most important BLM Field offices for the Costa's Hummingbird on BLM lands.

Section 3.2.2: Gilded Flicker

Table. 3.2.2a. Percent of breeding distribution within BLM lands on the top five BLM Field Offices for the Gilded Flicker.

BLM Field Office	Percent of Distribution
Needles	15.8
Lower Sonoran	13.0
Lake Havasu	12.4
Yuma	10.4
Palm Springs/S. Coast	10.1

Table. 3.2.2b. Percent of winter distribution within BLM lands on the top five BLM Field Offices for the Gilded Flicker.

BLM Field Office	Percent of Distribution
Needles	15.8
Lower Sonoran	13.0
Lake Havasu	12.4
Yuma	10.4
Palm Springs/S. Coast	10.1

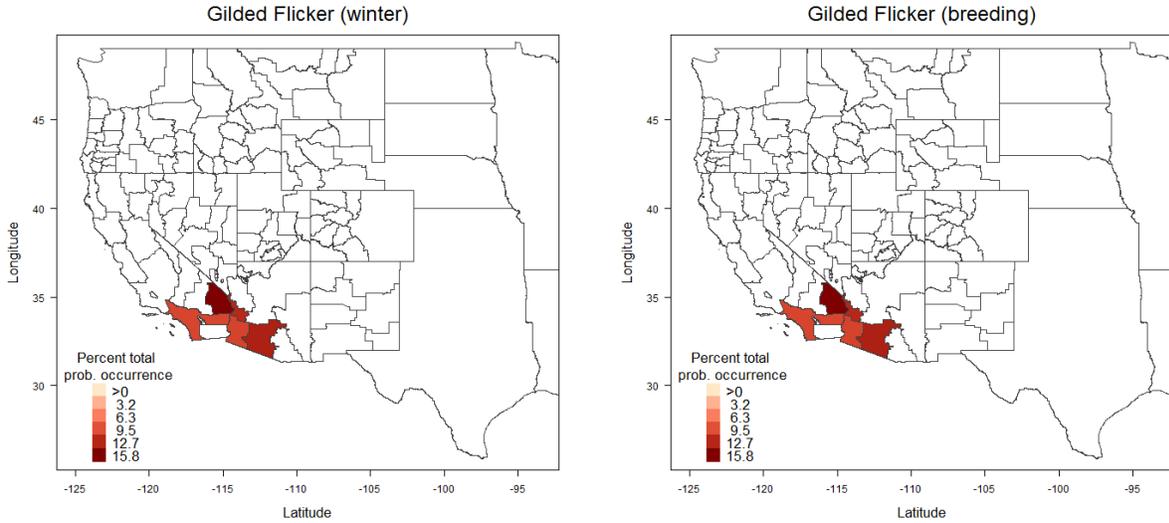


Fig. 3.2.2c. Five most important BLM Field Offices for the Gilded Flicker on BLM lands.

Section 3.2.3: Le Conte's Thrasher

Table. 3.2.3a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Le Conte's Thrasher.

BLM Field Office	Percent of Distribution
Needles	22.4
Barstow	19.4
El Centro	14.0
Ridgecrest	10.4
Palm Springs/S. Coast	9.2
Pahrump	4.6
Lower Sonoran	4.3
Yuma	4.0
Tonopah	3.5
Las Vegas	2.2

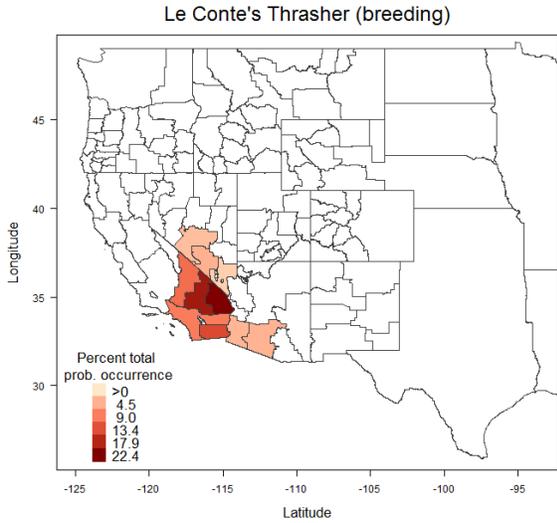


Fig. 3.2.3c. Ten most important BLM Field offices for the Le Conte's Thrasher on BLM lands.

Section 3.2.4: Phainopepla

Table. 3.2.4a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Phainopepla.

BLM Field Office	Percent of Distribution
Needles	10.0
Las Cruces District Office	9.2
Kingman	8.0
Barstow	7.0
Las Vegas	6.9
Safford	5.5
Lake Havasu	5.4
Palm Springs/S. Coast	5.3
Lower Sonoran	5.1
Yuma	4.8

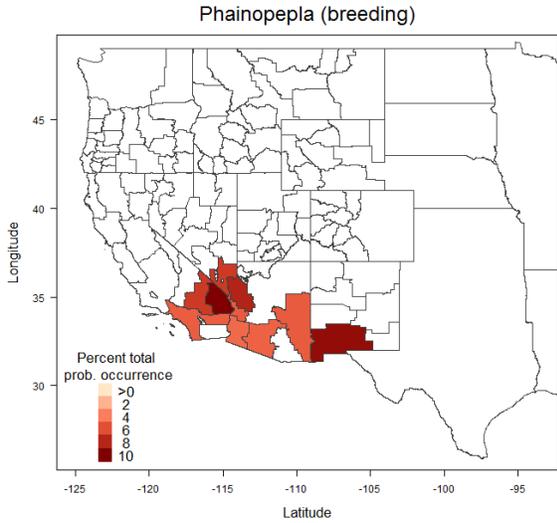


Fig. 3.2.4c. Ten most important BLM Field offices for the Phainopepla on BLM lands.

Section 3.2.5: Lucy's Warbler

Table. 3.2.5a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Lucy's Warbler.

BLM Field Office	Percent of Distribution
Las Cruces District Office	10.4
Needles	9.1
Safford	7.8
Las Vegas	7.4
Kingman	7.2
Lower Sonoran	5.9
Barstow	5.2
Carlsbad	5.2
Lake Havasu	5.0
Tucson	4.8

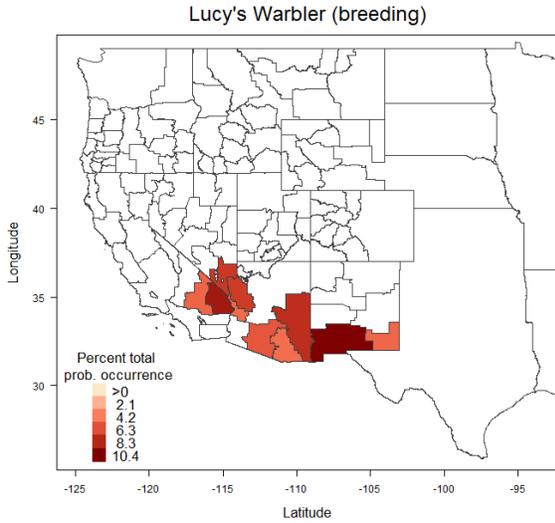


Fig. 3.2.5c. Ten most important BLM Field offices for the Lucy's Warbler on BLM lands.

Section 3.3: Western grassland species

Section 3.3.1: Swainson's Hawk

Table. 3.3.1a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Swainson's Hawk.

BLM Field Office	Percent of Distribution
Las Cruces District Office	12.7
Rawlins	8.4
Rock Springs	7.5
Carlsbad	7.3
Roswell	5.2
Lander	5.1
Worland	3.4
Casper	2.9
Upper Snake	2.9
Kemmerer	2.5

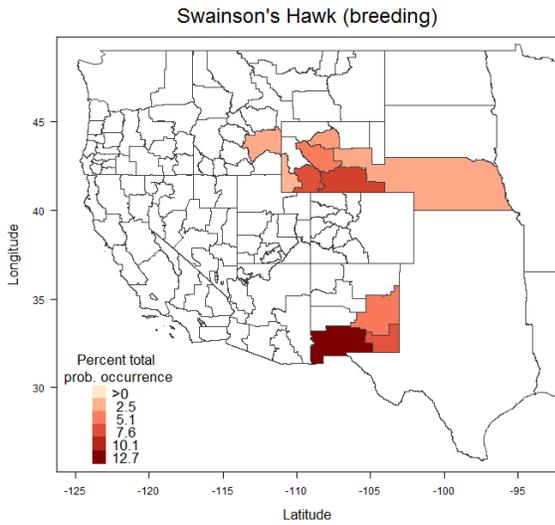


Fig. 3.3.1c. Ten most important BLM Field offices for the Swainson's Hawk on BLM lands.

Section 3.3.2: Golden Eagle

Table. 3.3.2a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Golden Eagle.

BLM Field Office	Percent of Distribution
Humboldt River	6.8
Tonopah	5.6
Wells	5.6
Lakeview District Lakeview	5.1
Rawlins	4.4
Rock Springs	4.1
Vale Jordan	4.0
Stillwater	3.6
Mount Lewis	3.4
Tuscarora	3.2

Table. 3.3.2b. Percent of winter distribution within BLM lands on the top ten BLM Field Offices for the Golden Eagle.

BLM Field Office	Percent of Distribution
Rock Springs	7.2
Rawlins	6.9
Lander	4.8
Miles City	4.0
Worland	3.8
Wells	3.4
Humboldt River	3.2
Tuscarora	3.1
Lakeview District Lakeview	3.1
Kemmerer	2.9

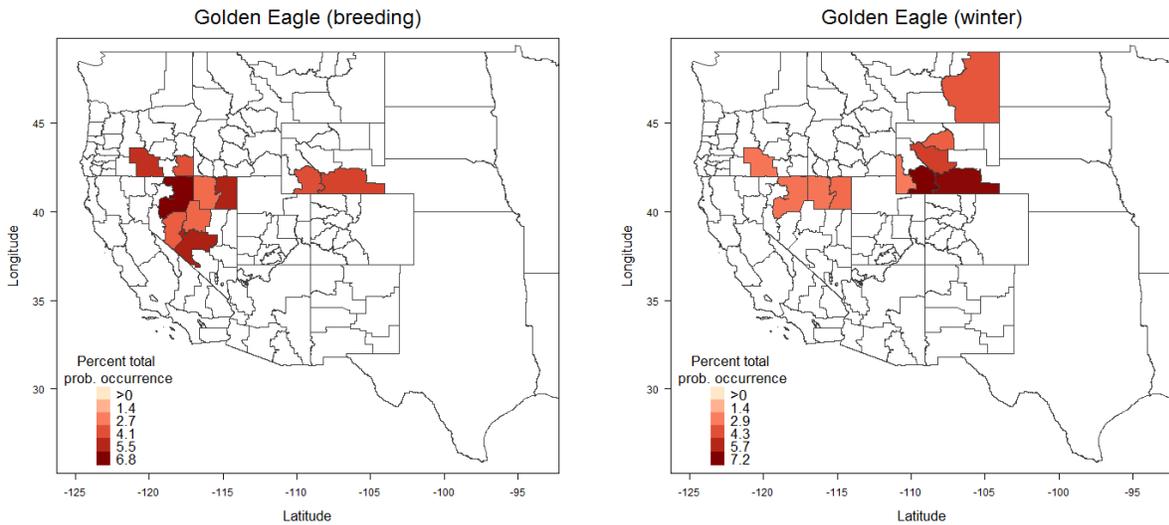


Fig. 3.3.2c. Ten most important BLM Field offices for the Golden Eagle on BLM lands.

Section 3.3.3: Mountain Plover

Table. 3.3.3a. Percent of breeding distribution within BLM lands on the top five BLM Field Offices for the Mountain Plover.

BLM Field Office	Percent of Distribution
Rawlins	29.0
Rock Springs	24.0
Lander	14.9
San Luis Valley	5.1
Kremmling	4.6

Table. 3.3.3b. Percent of winter distribution within BLM lands on the top five BLM Field Offices for the Mountain Plover.

BLM Field Office	Percent of Distribution
Bishop	24.4
Sierra Front	14.9
Humboldt River	13.4
Bakersfield	13.0
Burns Andrews	13.0

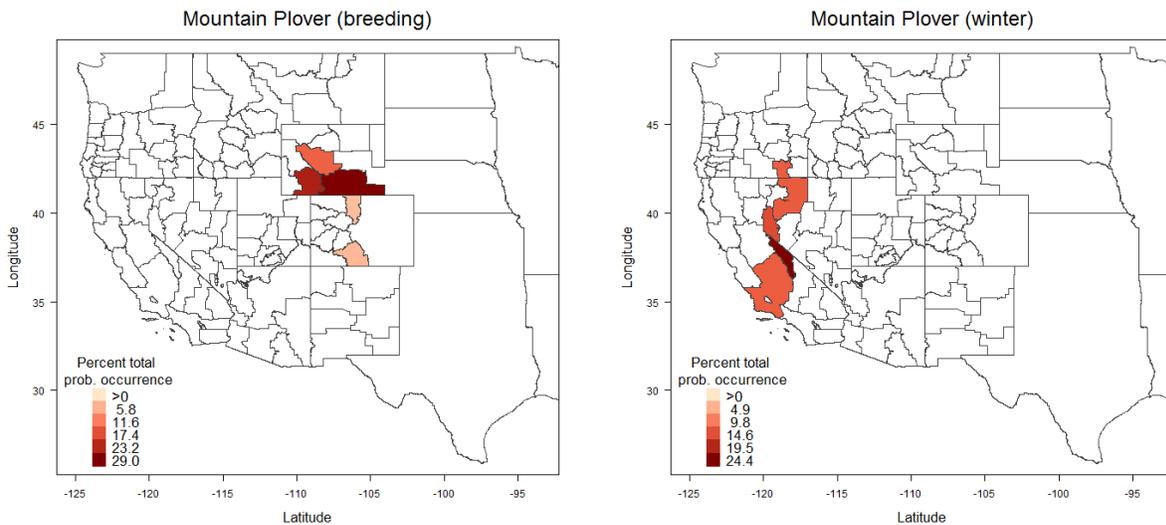


Fig. 3.3.3c. Five most important BLM Field Offices for the Mountain Plover on BLM lands.

Section 3.3.4: Long-billed Curlew

Table. 3.3.4a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Long-billed Curlew.

BLM Field Office	Percent of Distribution
Miles City	9.0
Malta	8.9
Four Rivers	8.4
Glasgow	8.0
Lewistown	4.8
Salt Lake	4.7
Shoshone	4.2
Dillon	4.0
Jarbidge	3.9
Black Rock	3.8

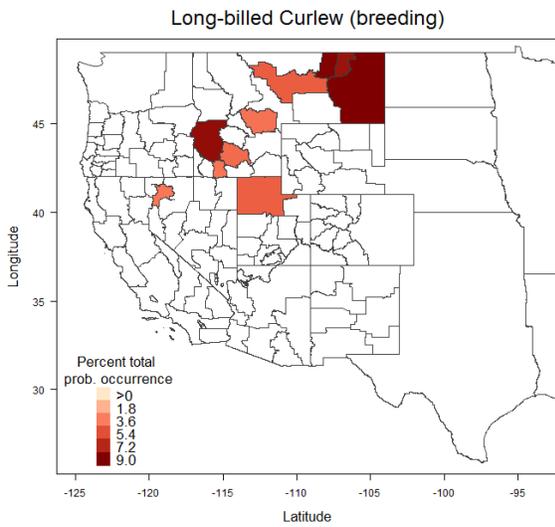


Fig. 3.3.4c. Ten most important BLM Field offices for the Long-billed Curlew on BLM lands.

Section 3.3.5: Loggerhead Shrike

Table. 3.3.5a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Loggerhead Shrike.

BLM Field Office	Percent of Distribution
Tonopah	5.8
Humboldt River	5.4
Needles	4.7
Barstow	3.5
Stillwater	3.4
Caliente	3.1
Lakeview District Lakeview	2.9
Mount Lewis	2.7
Fillmore	2.6
Wells	2.5

Table. 3.3.5b. Percent of winter distribution within BLM lands on the top ten BLM Field Offices for the Loggerhead Shrike.

BLM Field Office	Percent of Distribution
Las Cruces District Office	12.0
Carlsbad	6.9
Needles	6.3
Tonopah	4.5
Barstow	4.2
Caliente	4.0
Las Vegas	3.3
Roswell	3.0
El Centro	3.0
Kingman	2.8

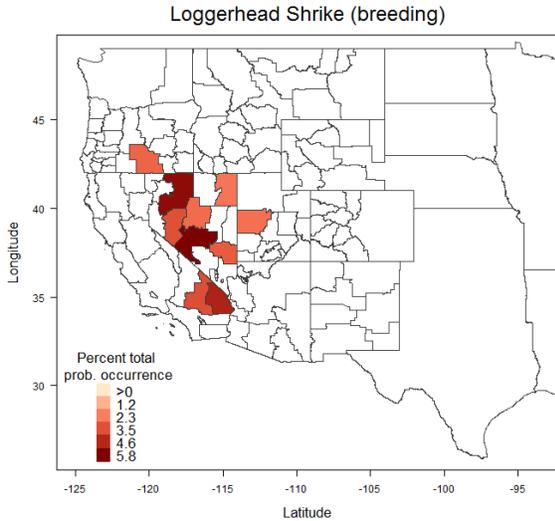


Fig. 3.3.5c. Ten most important BLM Field offices for the Loggerhead Shrike on BLM lands.

Section 3.3.6: Cassin's Sparrow

Table. 3.3.6a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Cassin's Sparrow.

BLM Field Office	Percent of Distribution
Carlsbad	43.3
Roswell	26.0
Las Cruces District Office	21.2
Socorro	2.6
Royal Gorge	2.6
San Luis Valley	1.0
Price	0.6
Taos	0.5
Rio Puerco	0.5
Gunnison	0.4

Table. 3.3.6b. Percent of winter distribution within BLM lands on the top ten BLM Field Offices for the Cassin's Sparrow.

BLM Field Office	Percent of Distribution
Carlsbad	92.9
Roswell	7.1

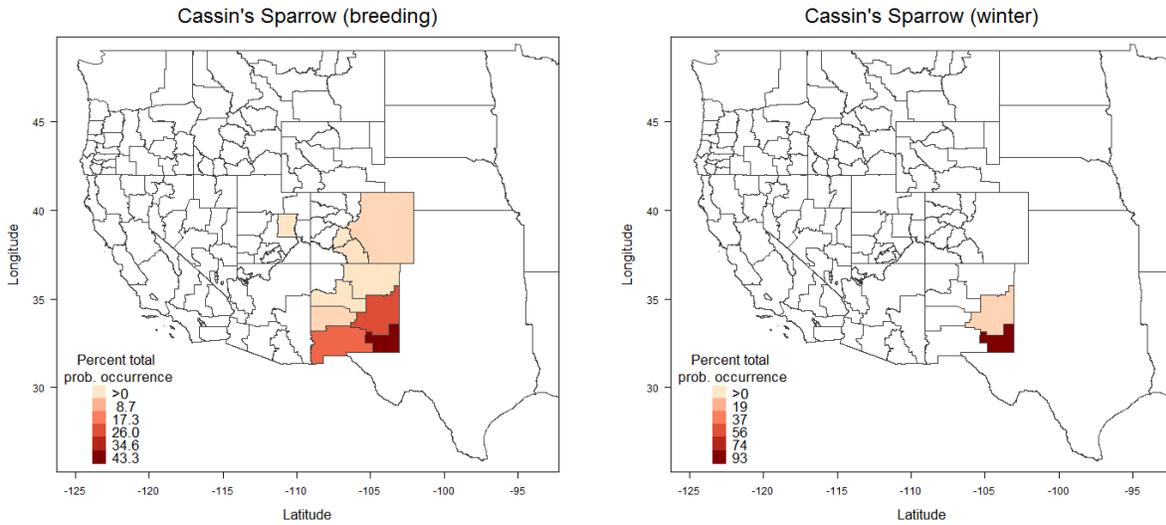


Fig. 3.3.6c. Ten most important BLM Field offices for the Cassin's Sparrow on BLM lands.

Section 3.3.7: Vesper Sparrow

Table. 3.3.7a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Vesper Sparrow.

BLM Field Office	Percent of Distribution
Humboldt River	5.5
Rock Springs	4.8
Rawlins	4.7
Lakeview District Lakeview	4.5
Miles City	4.0
Lander	3.5
Worland	3.5
Vale Malheur	3.0
Vale Jordan	3.0
Upper Snake	2.9

Table. 3.3.7b. Percent of winter distribution within BLM lands on the top ten BLM Field Offices for the Vesper Sparrow.

BLM Field Office	Percent of Distribution
Las Cruces District Office	29.0
Carlsbad	11.2
Safford	7.4
Roswell	5.0
Lower Sonoran	3.8
Tucson	3.7
Kingman	3.6
Arizona Strip	3.2
Socorro	3.1
Yuma	2.8

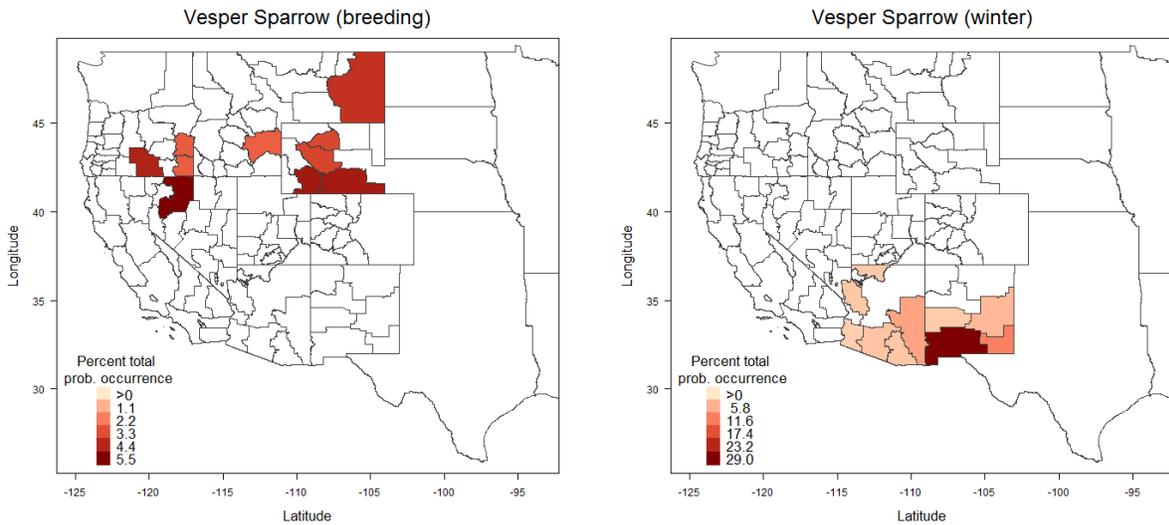


Fig. 3.3.7c. Ten most important BLM Field offices for the Vesper Sparrow on BLM lands.

Section 3.4: Prairie grassland species

Section 3.4.1: Ferruginous Hawk

Table. 3.4.1b. Percent of winter distribution within BLM lands on the top ten BLM Field Offices for the Ferruginous Hawk.

BLM Field Office	Percent of Distribution
Roswell	10.8
Bakersfield	10.6
Caliente	10.3
Las Cruces District Office	7.3
Humboldt River	5.9
Four Rivers	5.6
Price	5.2
Richfield	4.1
Tuscarora	3.8
Salt Lake	3.7

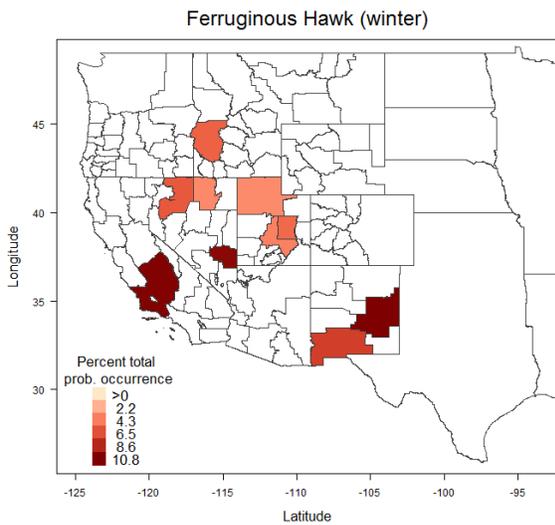


Fig. 3.4.1c. Ten most important BLM Field offices for the Ferruginous Hawk on BLM lands.

Section 3.4.2: Upland Sandpiper

Table. 3.4.2a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Upland Sandpiper.

BLM Field Office	Percent of Distribution
Miles City	43.8
Glasgow	19.6
Malta	15.4
South Dakota	7.7
Lewistown	3.8
Buffalo	2.4
North Dakota	2.0
Casper	1.2
Newcastle	1.2
Havre	1.0

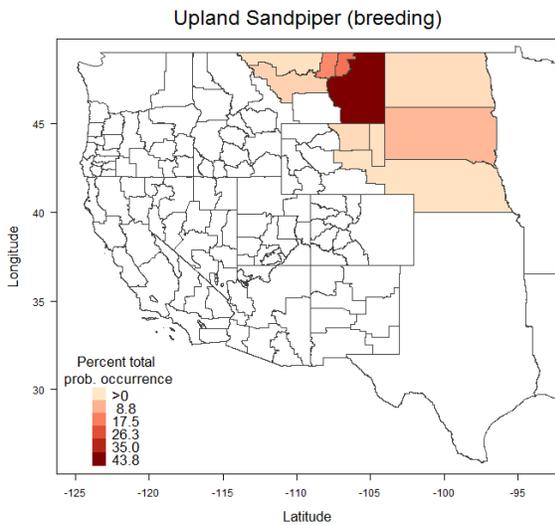


Fig. 3.4.2c. Ten most important BLM Field offices for the Upland Sandpiper on BLM lands.

Section 3.4.3: Marbled Godwit

Table. 3.4.3a. Percent of breeding distribution within BLM lands on the top five BLM Field Offices for the Marbled Godwit.

BLM Field Office	Percent of Distribution
Miles City	29.7
Glasgow	25.2
Malta	24.1
Lewistown	8.2
Havre	5.6

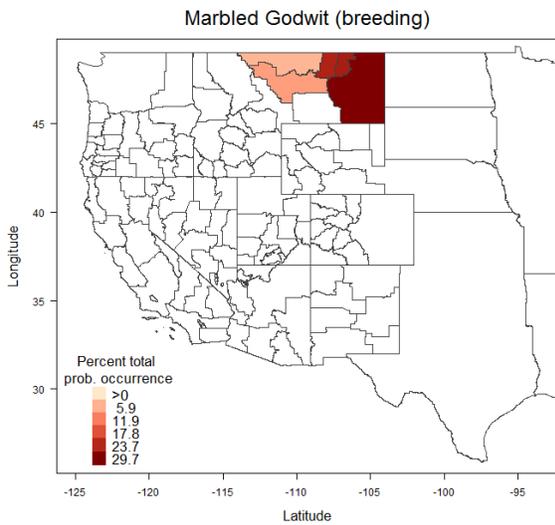


Fig. 3.4.3c. Five most important BLM Field Offices for the Marbled Godwit on BLM lands.

Section 3.4.4: Horned Lark

Table. 3.4.4a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Horned Lark.

BLM Field Office	Percent of Distribution
Humboldt River	6.1
Rock Springs	4.7
Rawlins	4.2
Wells	3.6
Tonopah	3.6
Tuscarora	3.4
Lakeview District Lakeview	3.2
Vale Jordan	3.2
Fillmore	2.8
Mount Lewis	2.7

Table. 3.4.4b. Percent of winter distribution within BLM lands on the top ten BLM Field Offices for the Horned Lark.

BLM Field Office	Percent of Distribution
Las Cruces District Office	8.8
Humboldt River	5.9
Miles City	5.2
Roswell	4.3
Lakeview District Lakeview	4.0
Black Rock	3.6
Socorro	3.4
Price	2.8
Vale Jordan	2.7
Rawlins	2.6

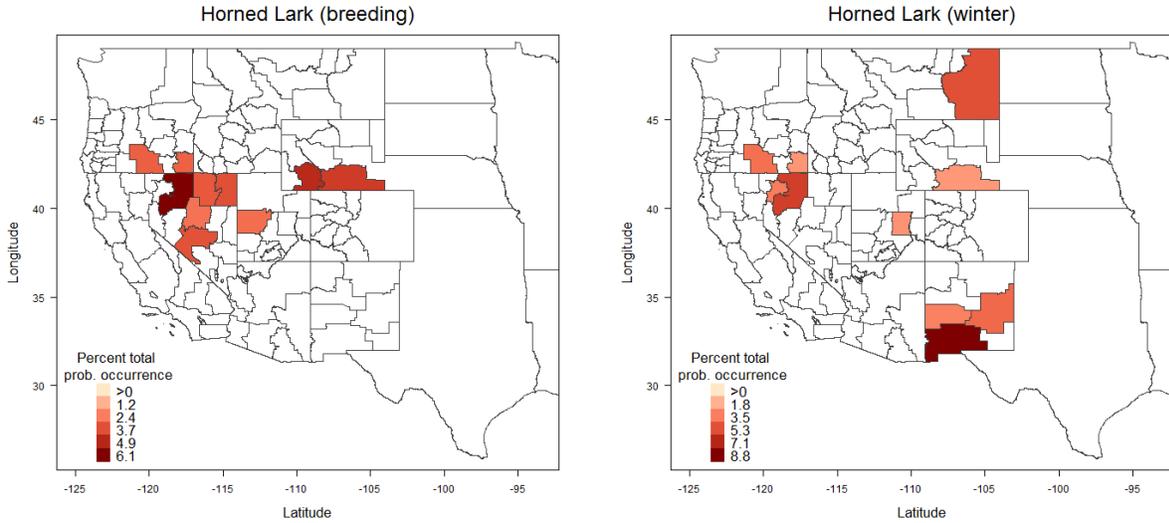


Fig. 3.4.4c. Ten most important BLM Field offices for the Horned Lark on BLM lands.

Section 3.4.5: Sprague's Pipit

Table. 3.4.5a. Percent of breeding distribution within BLM lands on the top five BLM Field Offices for the Sprague's Pipit.

BLM Field Office	Percent of Distribution
Vernal	22.0
Taos	20.0
Upper Snake	19.6
Miles City	12.8
North Dakota	9.6

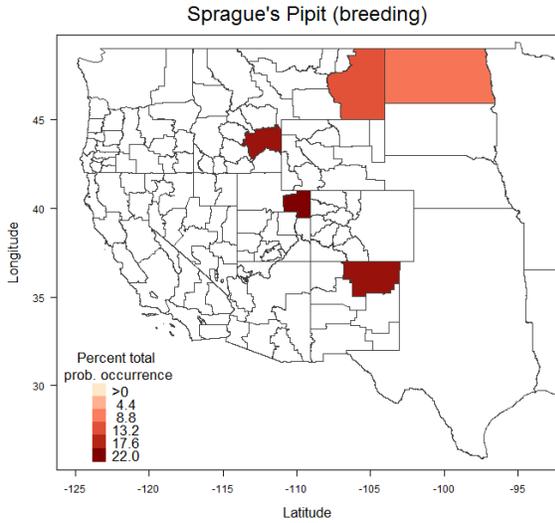


Fig. 3.4.5c. Five most important BLM Field Offices for the Sprague's Pipit on BLM lands.

Section 3.4.6: Chestnut-collared Longspur

Table. 3.4.6a. Percent of breeding distribution within BLM lands on the top five BLM Field Offices for the Chestnut-collared Longspur.

BLM Field Office	Percent of Distribution
Miles City	36.3
Glasgow	25.3
Malta	21.9
South Dakota	5.5
Lewistown	3.2

Table. 3.4.6b. Percent of winter distribution within BLM lands on the top five BLM Field Offices for the Chestnut-collared Longspur.

BLM Field Office	Percent of Distribution
Las Cruces District Office	24.3
Socorro	22.3
Roswell	21.7
Arizona Strip	6.3
Carlsbad	5.5

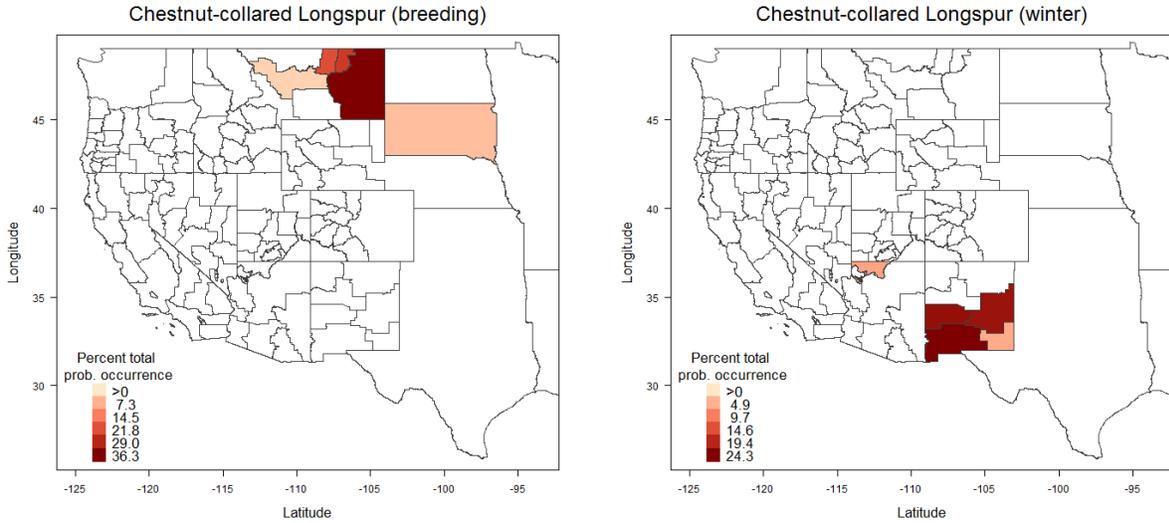


Fig. 3.4.6c. Five most important BLM Field Offices for the Chestnut-collared Longspur on BLM lands.

Section 3.4.7: Lark Bunting

Table. 3.4.7a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Lark Bunting.

BLM Field Office	Percent of Distribution
Miles City	37.6
Glasgow	15.0
Malta	14.2
Lewistown	6.2
Buffalo	4.5
South Dakota	4.2
Worland	3.4
Casper	2.4
Newcastle	2.2
Havre	1.6

Table. 3.4.7b. Percent of winter distribution within BLM lands on the top ten BLM Field Offices for the Lark Bunting.

BLM Field Office	Percent of Distribution
Las Cruces District Office	40.6
Carlsbad	16.8
Roswell	5.9
Safford	5.4
Kingman	3.0
Fillmore	3.0
Yuma	2.7
Arizona Strip	2.4
Tucson	2.1
Hassayampa	1.9

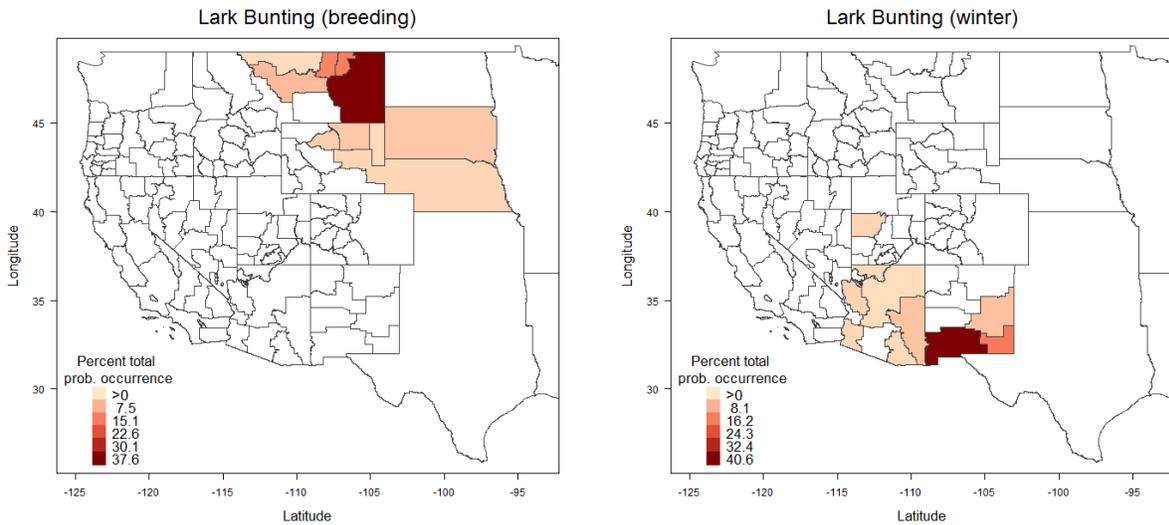


Fig. 3.4.7c. Ten most important BLM Field offices for the Lark Bunting on BLM lands.

Section 3.4.8: Grasshopper Sparrow

Table. 3.4.8a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Grasshopper Sparrow.

BLM Field Office	Percent of Distribution
Miles City	38.7
Glasgow	14.3
Malta	12.3
South Dakota	8.8
Las Cruces District Office	5.2
Lewistown	2.8
North Dakota	2.4
Buffalo	1.1
Newcastle	1.1
Caliente	1.0

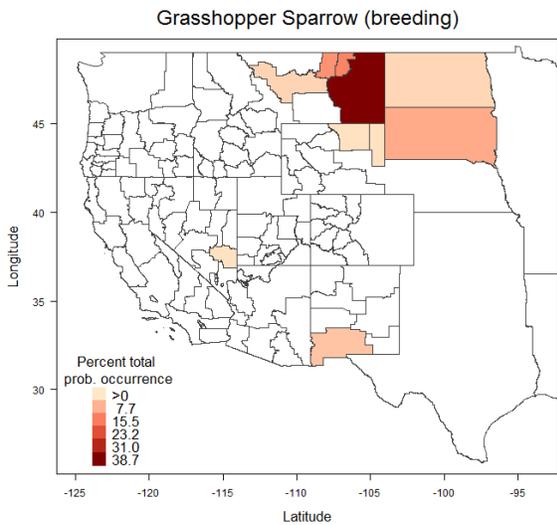


Fig. 3.4.8c. Ten most important BLM Field offices for the Grasshopper Sparrow on BLM lands.

Section 3.5: Western riparian species

Section 3.5.1: Yellow-billed Cuckoo

Table. 3.5.1a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Yellow-billed Cuckoo.

BLM Field Office	Percent of Distribution
Carlsbad	38.5
Tucson	19.2
Safford	17.0
Lower Sonoran	13.7
Lake Havasu	11.6

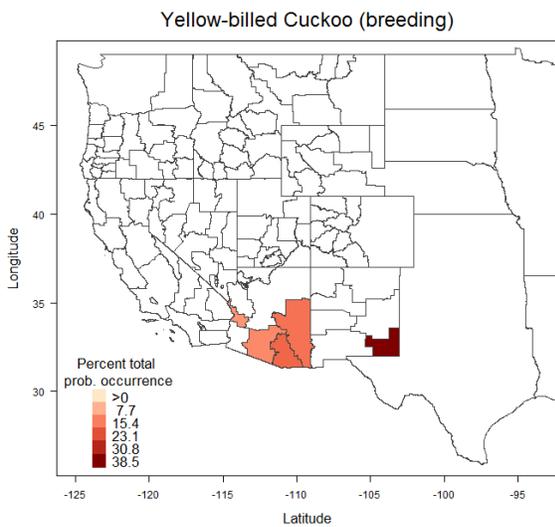


Fig. 3.5.1c. Ten most important BLM Field offices for the Yellow-billed Cuckoo on BLM lands.

Section 3.5.2: Willow Flycatcher

Table. 3.5.2a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Willow Flycatcher.

BLM Field Office	Percent of Distribution
Rock Springs	10.9
Rawlins	9.7
Lander	4.7
Prineville Central Oregon	4.3
Eugene District Siuslaw	4.3
Coos Bay Umpqua	3.4
Vale Baker	3.1
Lewistown	2.6
Spokane Border	2.5
Roseburg District Swiftwater Fo	2.5

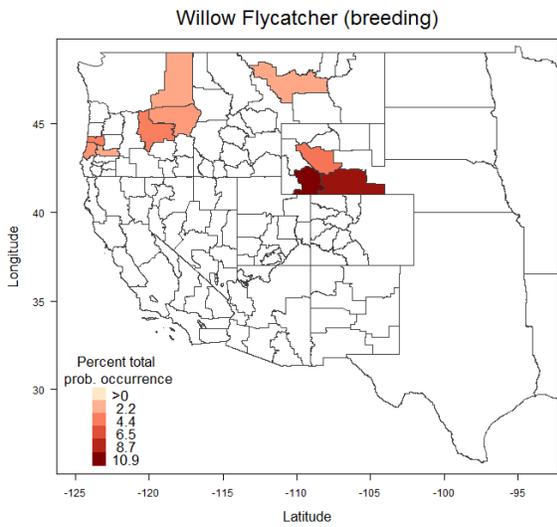


Fig. 3.5.2c. Ten most important BLM Field offices for the Willow Flycatcher on BLM lands.

Section 3.5.3: Bell's Vireo

Table. 3.5.3a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Bell's Vireo.

BLM Field Office	Percent of Distribution
Las Cruces District Office	14.7
Carlsbad	8.6
Needles	8.0
Safford	7.6
Kingman	7.0
Lower Sonoran	5.7
Las Vegas	5.6
Lake Havasu	5.2
Barstow	4.3
Tucson	4.1

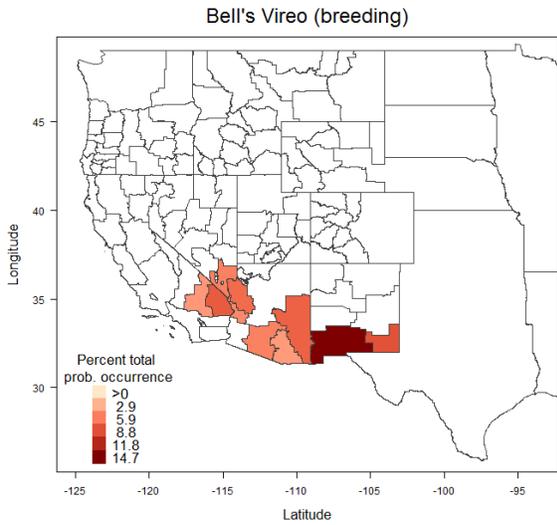


Fig. 3.5.3c. Ten most important BLM Field offices for the Bell's Vireo on BLM lands.

Section 3.5.4: Yellow Warbler

Table. 3.5.4a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Yellow Warbler.

BLM Field Office	Percent of Distribution
Humboldt River	5.1
Wells	3.6
Mount Lewis	3.1
Miles City	3.0
Rawlins	3.0
Rock Springs	2.9
Fillmore	2.8
Tuscarora	2.8
Lakeview District Lakeview	2.7
Salt Lake	2.6

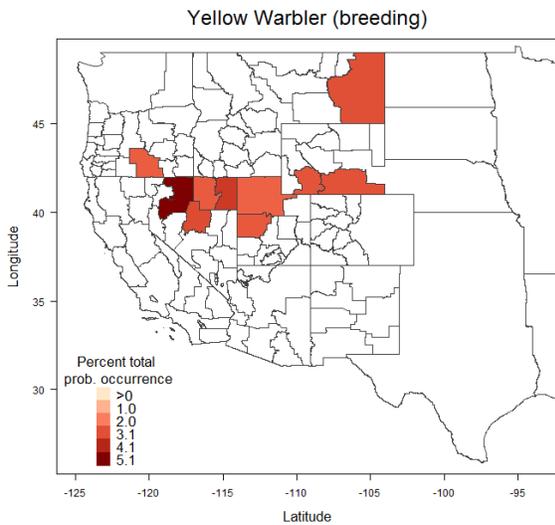


Fig. 3.5.4c. Ten most important BLM Field offices for the Yellow Warbler on BLM lands.

Section 3.6: Pinyon-juniper species

Section 3.6.1: Gray Vireo

Table. 3.6.1a. Percent of breeding distribution within BLM lands on the top five BLM Field Offices for the Gray Vireo.

BLM Field Office	Percent of Distribution
Grand Staircase Escalante Nat Monument	6.6
Price	6.4
Vernal	6.3
Moab	6.3
Monticello	6.2

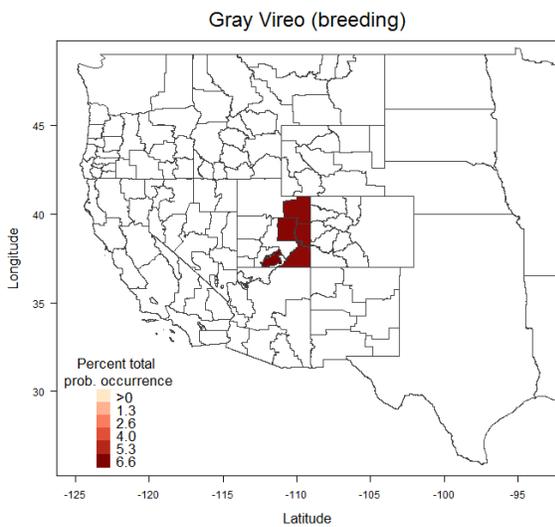


Fig. 3.6.1c. Five most important BLM Field offices for the Gray Vireo on BLM lands.

Section 3.6.2: Pinyon Jay

Table. 3.6.2a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Pinyon Jay.

BLM Field Office	Percent of Distribution
Wells	7.6
Tonopah	7.6
Egan	7.1
Mount Lewis	6.7
Schell	6.3
Caliente	3.8
Rock Springs	3.2
Fillmore	3.1
Tuscarora	3.1
Stillwater	2.9

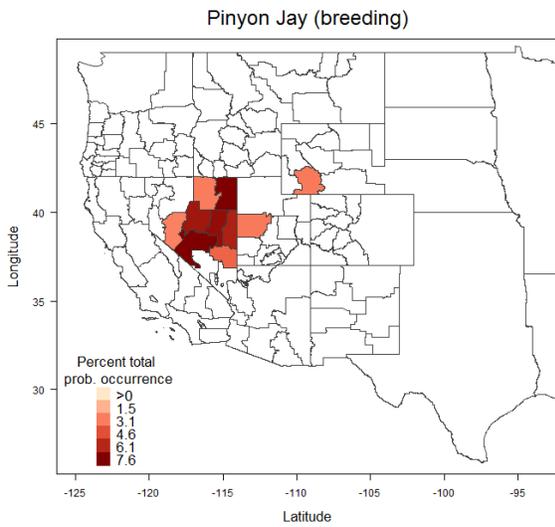


Fig. 3.6.2c. Ten most important BLM Field offices for the Pinyon Jay on BLM lands.

Section 3.6.3: Juniper Titmouse

Table. 3.6.3a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Juniper Titmouse.

BLM Field Office	Percent of Distribution
Rawlins	7.6
Rock Springs	7.0
Vernal	6.2
Moab	5.8
Monticello	4.9
White River	4.7
Price	4.3
Grand Junction	4.2
Little Snake	3.8
Farmington	3.6

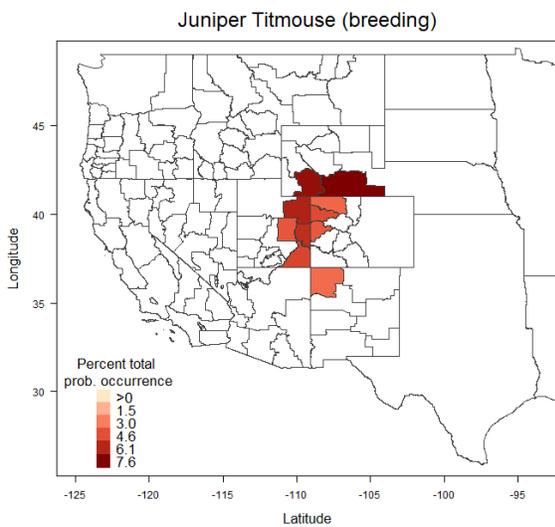


Fig. 3.6.3c. Ten most important BLM Field offices for the Juniper Titmouse on BLM lands.

Section 3.7: Western montane forest species

Section 3.7.1: Rufous Hummingbird

Table. 3.7.1a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Rufous Hummingbird.

BLM Field Office	Percent of Distribution
Eugene District Siuslaw	13.5
Coos Bay Umpqua	12.3
Roseburg District Swiftwater Fo	8.5
Salem Mary's Peak	7.6
Salem Cascades	7.2
Medford Ashland	5.9
Roseburg District South River Fo	5.7
Salem Tillamook	4.1
Medford Butte Falls	4.1
Medford Glendale	3.9

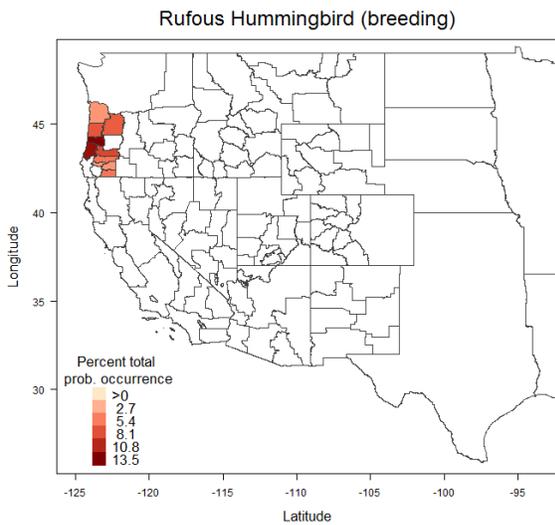


Fig. 3.7.1c. Ten most important BLM Field offices for the Rufous Hummingbird on BLM lands.

Section 3.7.2: Calliope Hummingbird

Table. 3.7.2a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Calliope Hummingbird.

BLM Field Office	Percent of Distribution
Prineville Central Oregon	9.1
Stillwater	6.0
Burns Three Rivers	5.3
Mount Lewis	4.9
Owyhee	4.6
Prineville Deschutes	4.2
Four Rivers	3.6
Lakeview District Lakeview	3.4
Humboldt River	3.2
Coeur d'Alene	3.0

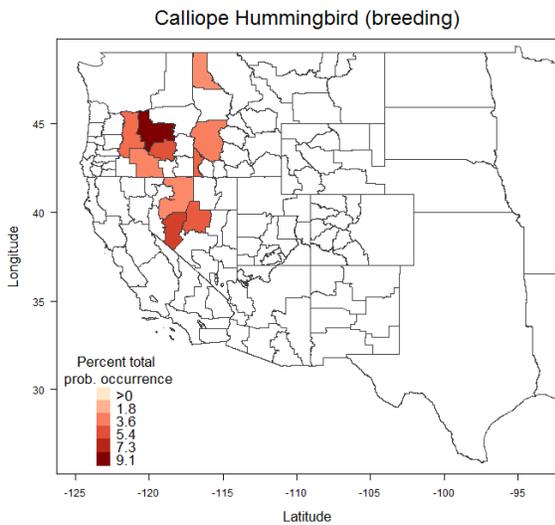


Fig. 3.7.2c. Ten most important BLM Field offices for the Calliope Hummingbird on BLM lands.

Section 3.7.3: Lewis's Woodpecker

Table. 3.7.3a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Lewis's Woodpecker.

BLM Field Office	Percent of Distribution
Lakeview District Lakeview	11.6
Vale Malheur	10.1
Burns Three Rivers	8.3
Humboldt River	7.4
Vale Jordan	7.3
Four Rivers	4.9
Prineville Deschutes	4.1
Burns Andrews	4.1
Prineville Central Oregon	3.9
Owyhee	3.8

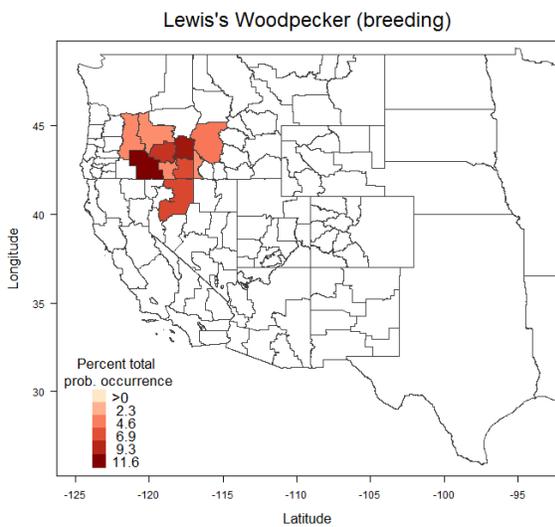


Fig. 3.7.3c. Ten most important BLM Field offices for the Lewis's Woodpecker on BLM lands.

Section 3.7.4: Williamson's Sapsucker

Table. 3.7.4a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Williamson's Sapsucker.

BLM Field Office	Percent of Distribution
Schell	12.4
Egan	11.5
Mount Lewis	10.7
Tonopah	9.0
Stillwater	6.5
Wells	5.0
Royal Gorge	4.5
Fillmore	3.0
Cedar City	3.0
Kemmerer	2.5

Table. 3.7.4b. Percent of winter distribution within BLM lands on the top ten BLM Field Offices for the Williamson's Sapsucker.

BLM Field Office	Percent of Distribution
Tonopah	15.7
Stillwater	12.3
Lakeview District Lakeview	9.7
Surprise	8.4
Mount Lewis	6.3
Alturas	5.9
Eagle Lake	4.8
Sierra Front	4.2
Socorro	3.7
Humboldt River	3.1

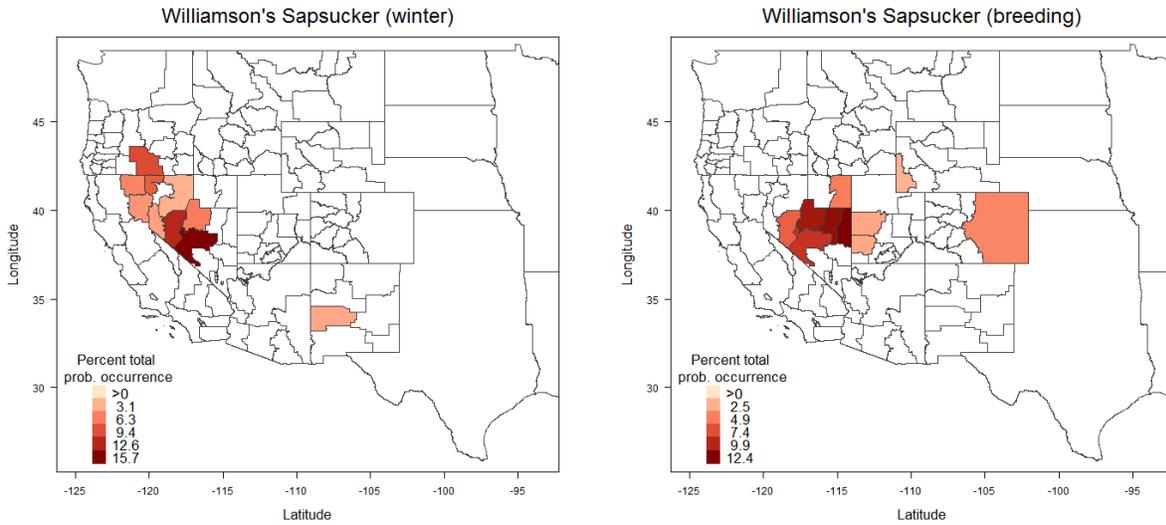


Fig. 3.7.4c. Ten most important BLM Field offices for the Williamson's Sapsucker on BLM lands.

Section 3.7.5: White-headed Woodpecker

Table. 3.7.5a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the White-headed Woodpecker.

BLM Field Office	Percent of Distribution
Stillwater	13.2
Schell	13.1
Mount Lewis	12.2
Tonopah	11.3
Egan	8.3
Caliente	4.1
Alturas	2.8
Ridgecrest	2.7
Medford Glendale	2.6
Eagle Lake	2.4

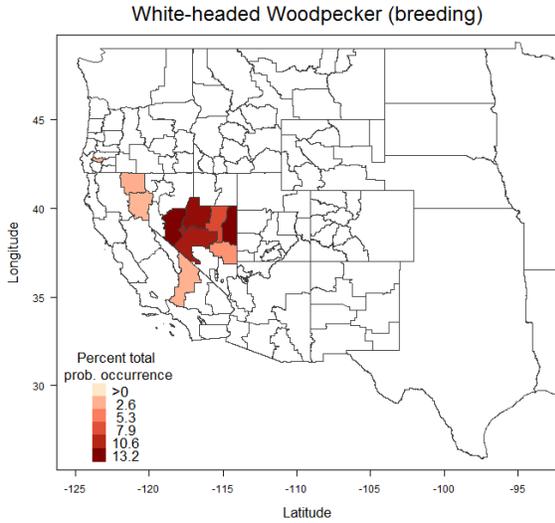


Fig. 3.7.5c. Ten most important BLM Field offices for the White-headed Woodpecker on BLM lands.

Section 3.7.6: Olive-sided Flycatcher

Table. 3.7.6a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Olive-sided Flycatcher.

BLM Field Office	Percent of Distribution
Schell	6.4
Tonopah	6.2
Mount Lewis	5.5
Stillwater	4.8
Egan	4.8
Wells	3.4
Cedar City	3.2
Caliente	3.2
Lakeview District Lakeview	2.7
Humboldt River	2.7

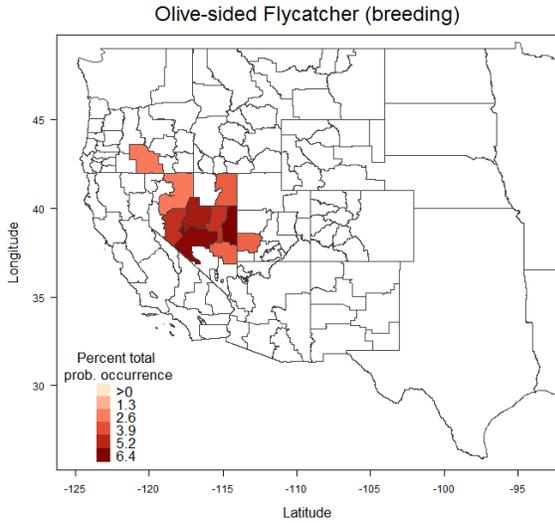


Fig. 3.7.6c. Ten most important BLM Field offices for the Olive-sided Flycatcher on BLM lands.

Section 3.7.7: Virginia's Warbler

Table. 3.7.7a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Virginia's Warbler.

BLM Field Office	Percent of Distribution
White River	8.1
Grand Junction	7.8
Cedar City	5.2
Uncompahgre	5.1
Vernal	5.1
Tres Rios	4.1
Monticello	4.0
Rawlins	4.0
Moab	3.8
Little Snake	3.7

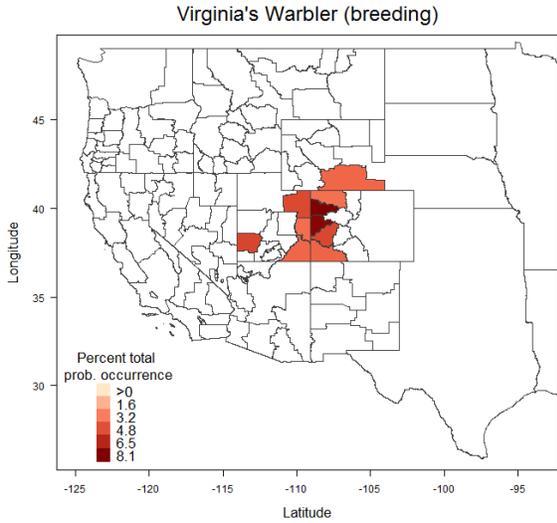


Fig. 3.7.7c. Ten most important BLM Field offices for the Virginia's Warbler on BLM lands.

Section 3.7.8: Black-throated Gray Warbler

Table. 3.7.8a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Black-throated Gray Warbler.

BLM Field Office	Percent of Distribution
Schell	7.3
Wells	6.3
Cedar City	4.7
Grand Junction	3.7
Fillmore	3.5
Caliente	3.3
Rock Springs	2.9
White River	2.8
Rawlins	2.7
Egan	2.7

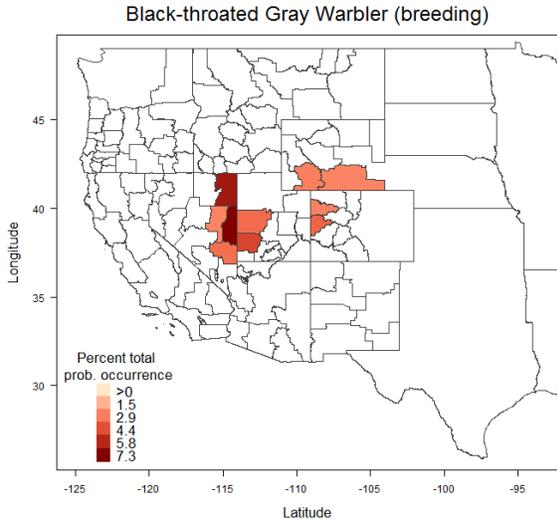


Fig. 3.7.8c. Ten most important BLM Field offices for the Black-throated Gray Warbler on BLM lands.

Section 3.7.9: Cassin's Finch

Table. 3.7.9a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Cassin's Finch.

BLM Field Office	Percent of Distribution
Schell	8.5
Mount Lewis	8.2
Egan	7.4
Wells	5.6
Tonopah	5.2
Stillwater	4.3
Cedar City	3.5
Caliente	2.8
Humboldt River	2.5
White River	2.2

Table. 3.7.9b. Percent of winter distribution within BLM lands on the top ten BLM Field Offices for the Cassin's Finch.

BLM Field Office	Percent of Distribution
Wells	6.9
Schell	6.2
Mount Lewis	6.0
Egan	5.9
White River	3.9
Rawlins	3.7
Royal Gorge	3.4
Tuscarora	3.2
Grand Junction	2.8
Gunnison	2.5

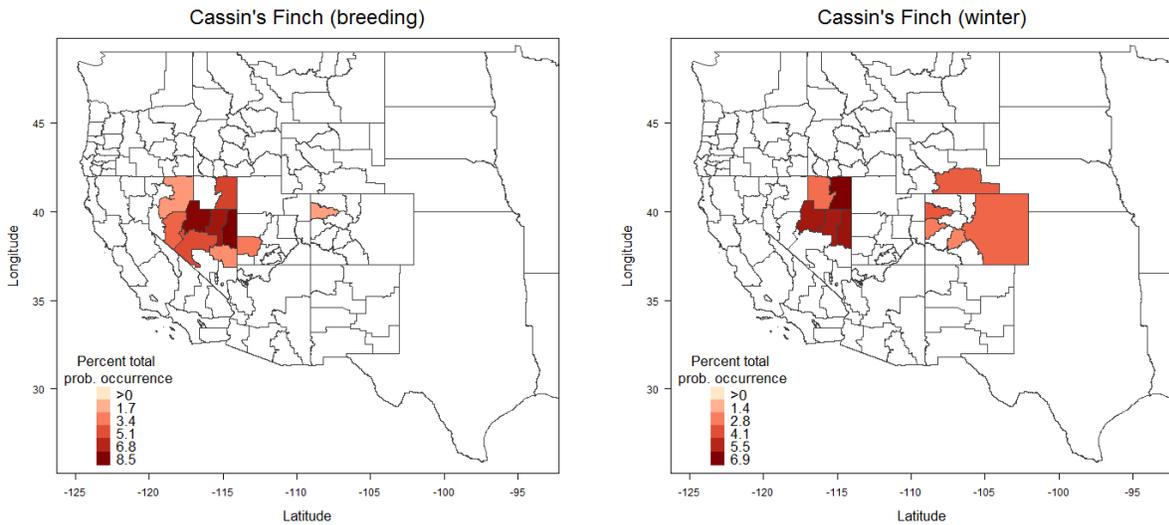


Fig. 3.7.9c. Ten most important BLM Field offices for the Cassin's Finch on BLM lands.

Section 3.8: Pine-oak forest species

Section 3.8.1: Grace's Warbler

Table. 3.8.1a. Percent of breeding distribution within BLM lands on the top five BLM Field Offices for the Grace's Warbler.

BLM Field Office	Percent of Distribution
Uncompahgre	19.2
Monticello	17.5
Grand Canyon/parashant National Monument	11.2
Farmington	9.2
Vernal	7.3

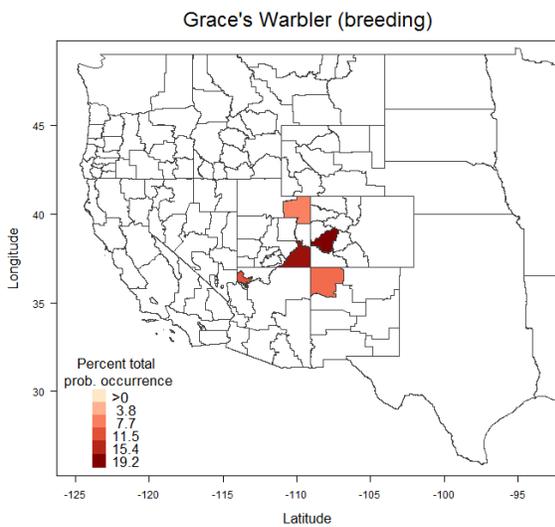


Fig. 3.8.1c. Five most important BLM Field Offices for the Grace's Warbler on BLM lands.

Section 3.9: California oak woodland species

Section 3.9.1: Yellow-billed Magpie

Table. 3.9.1a. Percent of breeding distribution within BLM lands on the top five BLM Field Offices for the Yellow-billed Magpie.

BLM Field Office	Percent of Distribution
Hollister	60.7
Bakersfield	39.3

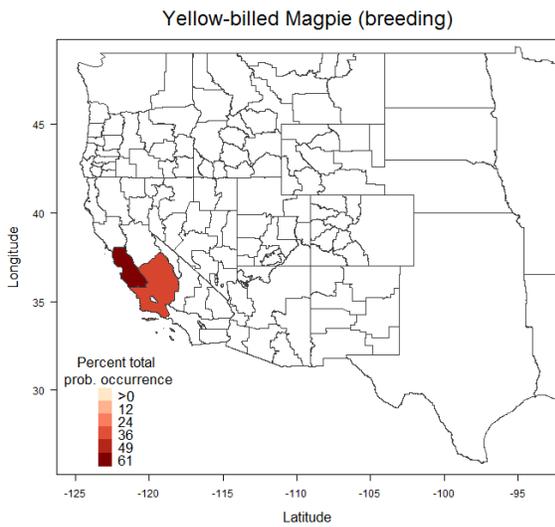


Fig. 3.9.1c. Five most important BLM Field Offices for the Yellow-billed Magpie on BLM lands.

Section 3.9.2: Lawrence's Goldfinch

Table. 3.9.2a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Lawrence's Goldfinch.

BLM Field Office	Percent of Distribution
Hollister	23.7
Ridgecrest	15.2
Bakersfield	12.2
El Centro	10.4
Palm Springs/S. Coast	8.7
Ukiah	5.0
Barstow	4.8
Bishop	4.1
Black Rock	4.1
Humboldt River	1.8

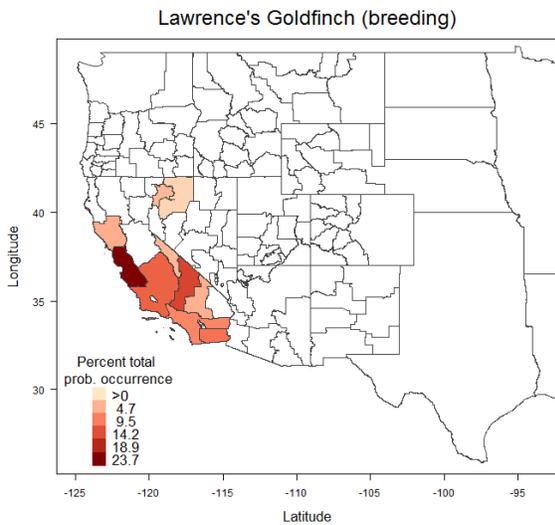


Fig. 3.9.2c. Ten most important BLM Field offices for the Lawrence's Goldfinch on BLM lands.

Section 3.10: Alpine species

Section 3.10.1: Black Rosy-Finch

Table. 3.10.1a. Percent of breeding distribution within BLM lands on the top five BLM Field Offices for the Black Rosy-Finch.

BLM Field Office	Percent of Distribution
Worland	36.5
Challis	16.9
Price	16.3
Mount Lewis	10.9
Burns Andrews	10.1

Table. 3.10.1b. Percent of winter distribution within BLM lands on the top five BLM Field Offices for the Black Rosy-Finch.

BLM Field Office	Percent of Distribution
Wells	13.8
Tuscarora	8.2
Mount Lewis	7.5
Egan	5.8
Gunnison	5.4

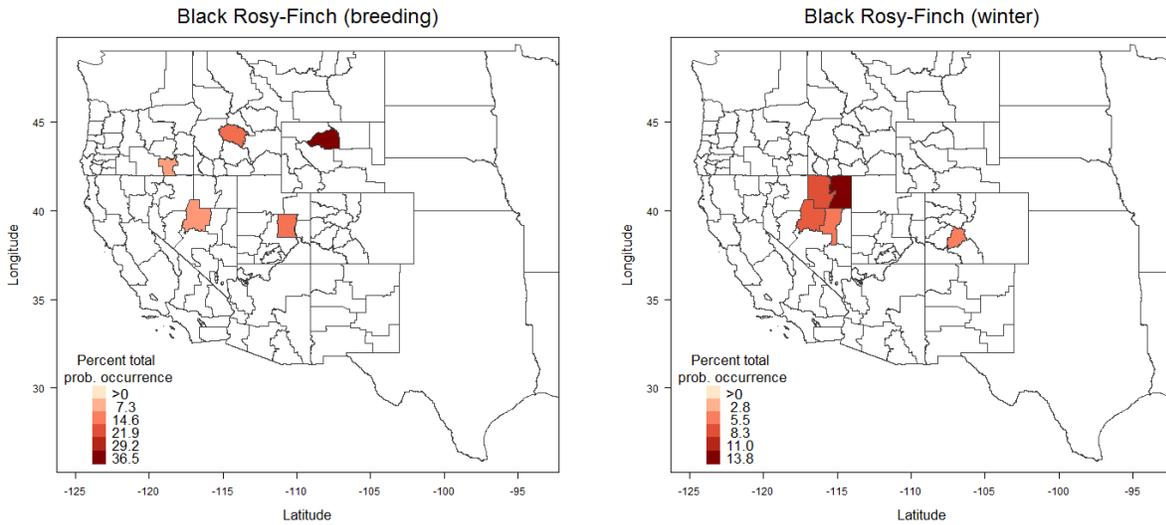


Fig. 3.10.1c. Five most important BLM Field Offices for the Black Rosy-Finch on BLM lands.

Section 3.10.2: Brown-capped Rosy-Finch

Table. 3.10.2a. Percent of breeding distribution within BLM lands on the top five BLM Field Offices for the Brown-capped Rosy-Finch.

BLM Field Office	Percent of Distribution
Tres Rios	44.5
Royal Gorge	41.0
Gunnison	14.4

Table. 3.10.2b. Percent of winter distribution within BLM lands on the top five BLM Field Offices for the Brown-capped Rosy-Finch.

BLM Field Office	Percent of Distribution
Gunnison	36.6
Tres Rios	36.2
Royal Gorge	22.6
Richfield	2.9
San Luis Valley	1.7

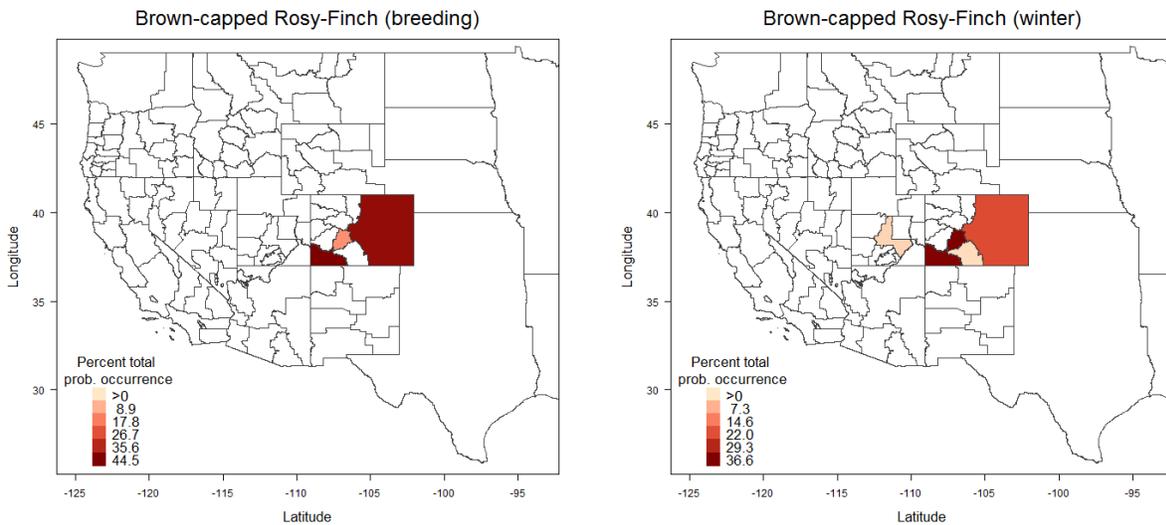


Fig. 3.10.2c. Five most important BLM Field Offices for the Brown-capped Rosy-Finch on BLM lands.

Section 3.11: Miscellaneous species

Section 3.11.1: Bald Eagle

Table. 3.11.1a. Percent of breeding distribution within BLM lands on the top ten BLM Field Offices for the Bald Eagle.

BLM Field Office	Percent of Distribution
Lakeview District Lakeview	11.1
Miles City	5.4
Roseburg District Swiftwater Fo	5.1
Coos Bay Umpqua	4.8
Eugene District Siuslaw	4.8
Lewistown	4.2
Salem Cascades	3.9
Prineville Deschutes	3.9
Medford Glendale	3.7
Roseburg District South River Fo	3.4

Table. 3.11.1b. Percent of winter distribution within BLM lands on the top ten BLM Field Offices for the Bald Eagle.

BLM Field Office	Percent of Distribution
Miles City	7.5
Lakeview District Lakeview	6.9
Vale Malheur	4.4
Vale Jordan	4.4
Burns Three Rivers	3.6
Upper Snake	3.1
Lewistown	2.9
Four Rivers	2.8
Humboldt River	2.8
Malta	2.3

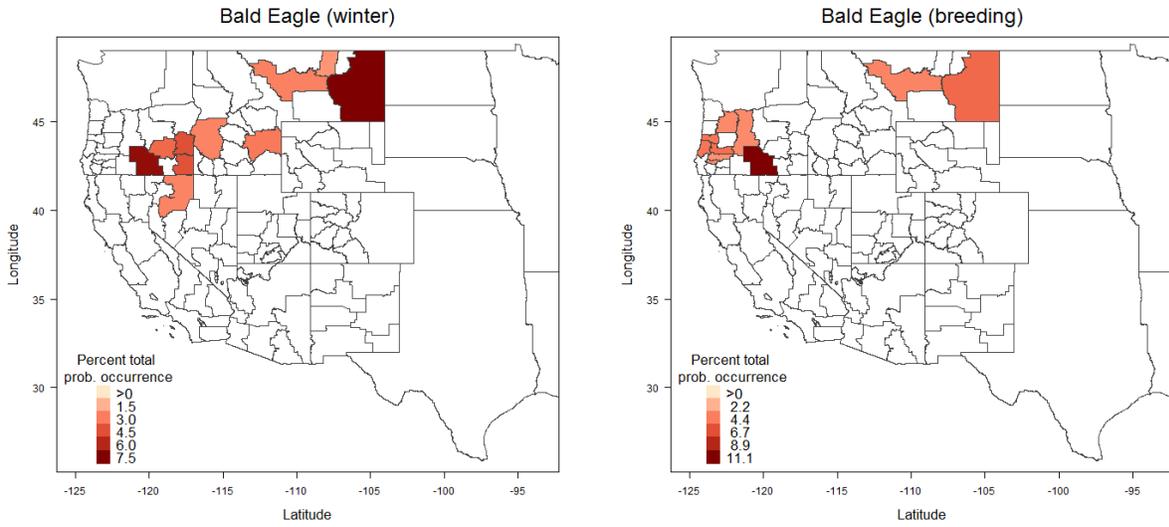


Fig. 3.11.1c. Ten most important BLM Field offices for the Bald Eagle on BLM lands.