Landbird Inventory for Sequoia and Kings Canyon National Parks (2003-2004)

Final Report

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Summary

In May of 2003 The Institute for Bird Populations (IBP) initiated fieldwork on a two-year, breeding season inventory of the landbirds of Sequoia and Kings Canyon National Parks. Using field and analytical techniques consistent with those implemented in the other SIEN parks, as well as in the North Coast and Cascades Network parks, we conducted variable circular-plot point counts at 1,732 stations along 224 transects throughout the length and breadth of the parks. We counted 14,189 individual birds, and documented the presence of 132 species; we detected 109 of these species during at least one point count, while the remaining 23 species were recorded only at times other than during point counts. We also conducted rapid habitat assessments at each of the 1,732 survey points.

We present habitat-specific density estimates, adjusted for species- and habitat-specific differences in detectability, for 77 species that we detected at least ten times during point counts, as well as 'naïve' habitat-specific density estimates, unadjusted for differences in detectability, for all 109 species recorded at least once during point counts. For the 77 species with adjusted density estimates, we also provide maps that indicate their distribution and estimated density across Sequoia National Park, as well as the locations of transects across both parks where they were and were not detected.

We also present lists of all species detected in each of 28 major bird habitats we defined for the parks, and assess and compare avian species richness across the habitats.

Finally, we report on efforts to field-test an inexpensive method for incorporating multi-species surveys of owls and other nocturnal birds into a more intensive survey of diurnal landbirds.

The results from this inventory of Sequoia and Kings Canyon landbirds will serve as baseline information for assessing future changes in species-specific density and community composition in the parks, and have already provided important information for the design of a potential long-term monitoring program for landbirds in the Sierra Nevada network of national parks (Siegel and Wilkerson 2005a). Our results should also be of great interest to researchers and land managers working in more intensively managed areas of the Sierra Nevada, who may wish to use the more pristine national parks as reference sites against which to compare their own data.

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Introduction

Reported declines of many bird species breeding in North America have stimulated interest in avian population trends and mechanisms driving those trends (Robbins et al. 1989; DeSante and George 1994; Peterjohn et al. 1995). The North American Breeding Bird Survey suggests that many landbird populations in the Sierra Nevada are declining (Siegel and DeSante 1999; Sauer and Hines 2004), and data from the national parks are particularly important for teasing out possible causes. Indeed, monitoring population trends at 'control' sites in national parks is especially important because the parks are among the few sites in the United States where population trends due to large-scale regional or global change patterns are not confounded with local changes in land use (Simons et al. 1999). Additionally, monitoring landbird populations in the parks is important for providing information that will inform future decisions about management issues *in the parks*, such as visitor impacts, fire management, and the effects of introduced species. Birds are particularly well-suited to serve as indicators of ecological change, as they generally occupy a high position on the food web and provide important ecological functions such as seed dispersal and insect control (Furness et al. 1993; Greenwood et al. 1993).

With vast land area and diverse environmental conditions and plant communities, Sequoia and Kings Canyon National Parks (SEKI) provide extremely important habitat to numerous breeding, migrating, and wintering landbird species. Although the parks maintain a wildlife observations database with over 40,000 bird observations (Sequoia and Kings Canyon National Parks Wildlife Observation Database 2005), opportunistically gathered presence/absence data such as these are of limited value for estimating bird abundance or assessing temporal trends. Although much anecdotal information has been collected in a few relatively accessible areas of the parks (e.g. Beedy and Granholm 1985), efforts to systematically survey birds throughout the parks have been minimal. More recently, NPS personnel have established and/or re-established bird banding stations that utilize the Monitoring Avian Productivity and Survivorship (MAPS) protocol (DeSante et al. 2003, 2004, 2005) to assess and monitor avian demographic rates at a handful of meadows in the parks, and Wilkerson and Siegel (2001) conducted more spatially extensive, rapid surveys of numerous meadows throughout the parks, but in general, systematic survey efforts have been sparse.

Forest birds throughout the Sierra Nevada face numerous potential stressors and changes, including pollution and pesticide up-drift from the Central Valley, increasing exurban development (Duane 1999) with its concomitant increases in land conversion and facilitation of Brown-headed Cowbird parasitism, long-term shifts in habitat composition and structure resulting from historical fire suppression (Hejl 1994; Chang 1996; Gruell 2001), projected climate change (Lenihan et al. 2003), and recent decisions by the USDA Forest Service to step up timber harvest and forest thinning efforts.

Thus, a strong need exists to systematically assess and describe the bird communities utilizing the diverse habitats of Sequoia and Kings Canyon National Parks and to produce quantitative, habitat-specific estimates of density for species inhabiting the parks. Such estimates could then serve as baselines for monitoring future ecological changes within the parks and for assessing the effects of future management actions on bird populations,

and as benchmarks for comparison with more heavily managed areas outside of the NPS system (Silsbee and Peterson 1991; Simons et al. 1999). Such information, which already exists for Yosemite National Park (Siegel and DeSante 2002) and Devil's Postpile National Monument (Siegel and Wilkerson 2004), is also critical for designing a long-term strategy for monitoring landbirds in the parks (Siegel and Wilkerson 2005a).

We designed this inventory project to determine habitat-specific density of landbirds during the breeding season at Sequoia and Kings Canyon National Parks, using methods consistent with those employed in other parks across the Sierra Nevada Network (Siegel and DeSante 2002; Siegel and Wilkerson 2004), and the montane west (Siegel et al. 2002; Siegel et al. 2004a; Siegel et al. 2004b; Wilkerson et al. 2005).

Owl Surveys

As an auxiliary project, we also tested low-cost techniques for adding an owl survey component to our landbird survey. Although morning point counts generally maximize the number of bird species that can be monitored simultaneously, they generally provide a poor means of counting owls and other nocturnal birds. Partly as a result, existing information on the distribution, habitat relationships, and population trends of numerous North American owl species is inadequate for effective conservation planning (Takats et al. 2001; Rich et al. 2004).

Most widely used owl survey protocols rely on broadcast surveys, where human imitations or recordings of actual owls are broadcast to elicit vocal responses from a particular target species (e.g. Beck and Winter 2000). While broadcast methods may boost detection probability substantially over passive listening (Mosher et al. 1990; Takats et al. 2001), they nevertheless have important drawbacks. Broadcast equipment can be difficult to carry to remote locations, and broadcast techniques may be inappropriate for multi-species surveys, because detecting large aggressive species, or even broadcasting their calls, may reduce detection probability of smaller or less aggressive species. Additionally, broadcasting calls may disrupt breeding behavior in some species, or even skew survey results by luring owls off their territories to respond (Holroyd and Takats 1997). If passive listening techniques can effectively sample multiple owl species simultaneously, then they may provide an easy method for incorporating owl surveys into existing bird monitoring efforts, with minimal costs.

In an effort to a) collect information on owl distribution as part of our inventory efforts, and b) test a low-cost technique for adding multi-species owls surveys to landbird survey efforts, in 2003 our point count crews conducted a 15-min passive listening survey wherever they were camped each night. Although we knew our owl survey results would have limited inference because the survey sites were not randomly selected—and because we had no information on owl detection probability using our methods—we nevertheless hoped to at least accumulate a large body of anecdotal data on owl distribution within the parks, and to field-test the survey method.

Methods

Sampling Strategy

Landbirds in SEKI occupy lands that range in elevation from 400 m in the Sierra foothills to 4,418 m at the top of Mt. Whitney, and include huge tracts of mid-elevation and subalpine conifer forest, as well as substantial acreage of chaparral, oak woodland and savanna, upland hardwood forest, meadows, and alpine plant communities. We sought an inventory strategy that would permit drawing inferences broadly across these diverse habitats, while still being logistically efficient enough to yield the relatively large sample sizes required for assessing and accounting for variation in detectability among species and habitats. We balanced these potentially opposing goals by conducting point count transects off-trail, but restricting them to starting within a 2-km buffer around trails and roads.

We also sought a balance between sampling habitats in proportion to their spatial extent in the parks (so that we would obtain the most detailed and statistically robust results for the habitats that represent the majority of the land area in the parks), and ensuring that even relatively rare habitats would be sampled well enough for us to characterize their bird communities (so that we could produce density estimates not just for habitat generalist species, but also for relatively rare species with more narrow habitat niches).

Working from a randomly selected start point, we generated a systematic grid of potential starting points for transects, 1 km apart across the extent of both parks. For logistic as well as safety reasons, we then discarded points that were farther than 2 km from a trail or road, or that fell on slopes>30º. The remaining points constituted all of our potential starting points for transects. We then used SEKI's 'vegrec' GIS coverage, which maps the parks according to habitat categories based on the California Wildlife Habitat Relationships (CWHR) system (CA Dept. of Fish and Game 1988, 1999), to assign habitat classifications to each of the potential transect starting points. We used the CWHR-based coverage rather than SEKI's more detailed and accurate plant community map based on the National Vegetation Classification Standard (NatureServe 2004; ESRI and Aerial Information Systems 2004), because the latter was not yet available when we were designing this study. Note, however, that we used the CWHR-based coverage only for the initial sample design; all fieldwork and data analysis utilized NatureServe (2004).

We then apportioned all the potential starting points into separate databases for each CWHR-based habitat. We decided not to target the categories called 'Barren Rock', 'No Data', and 'Other', leaving 12 distinct sets of points. We sorted points within each of the 12 habitats by northing and easting, and then systematically selected every n^{th} point within each habitat, such that 20 points would be chosen (e.g. if there were 100 candidate points within a particular habitat, we selected every 5^{th} point; if there were 200 candidate points, we selected every 10^{th} point). Then, for each of the 12 habitats, we projected all the points onto a map of SEKI that included trails, roads, streams, and areas with slope>30°. Using this map, we inspected each point for accessibility, discarding points that:

a) were on the opposite side of the trail from an apparently uncrossable river reach,
b) could not be accessed without first crossing dangerously steep slopes,
c) were less than 2 km from another point we had already selected and determined was accessible, or
d) were along the lower South Fork of the Kaweah River, which law enforcement officials advised us were unsafe to survey because of the presence of marijuana cultivators (A. DeLaCruz, personal communication).

This became an iterative process; after discarding several points from a given habitat, we went back to the habitat-specific set of potential points and again systematically selected every n^{th} point, with an end goal of choosing 20 accessible starting points for each habitat category. This would theoretically yield 240 selected transect starting points for the two-year survey— somewhat in excess of the approximately 200 transects we expected to complete, but 'extra' transect starting points would be useful to have identified in case snow conditions or other logistic constraints rendered some points unusable.

We found, however, that we were unable to reach the goal of 20 start points in five of the CWHR-based habitats, because they are relatively restricted in the parks and/or tend to occur on very steep slopes. Since some of the habitats thus ended up with fewer than 20 points, we had 'extra space' for additional points, which we selected from among the habitats that had additional potential starting points available.

The end result of this process was a set of starting points distributed across the length and breadth of the parks. During the 2003 field season, however, we were able to survey most of the points in higher-elevation habitats, leaving too few points to occupy our crew during the latter portion of the 2004 field season; we therefore went back to the candidate starting points and systematically chose additional starting points. The final habitat distribution of 'selected' points, including points that were selected in either year, was as follows:

Foothill Chaparral: 13
Foothill Hardwoods and Grassland: 15
Giant Sequoia: 16
Lodgepole Pine: 38
Meadow: 30
Mid-elevation Hardwood Forest: 13
Montane Chaparral: 26
Ponderosa – Mixed Conifer: 31
Red Fir: 41
Subalpine Conifer: 45
White Fir Mixed Conifer: 40
Xeric Conifer Forest: 15

We knew we could not actually sample all 323 of these 'selected' points, so to avoid bias, each time the crew leader sent a two-person crew into the field to conduct surveys, he randomly chose six transects to assign to them, from among all available 'selected' transects within the area where they were to work.

Field Methods

Conducting Point Counts. We conducted all fieldwork between May 15 and July 20 of 2003 and May 14 and July 18 of 2004. Crew members worked in pairs, and generally hiked into the backcountry for seven days at a time, during which they conducted transects virtually every morning. Prior to leaving for the field, crews were provided with coordinates and maps of at least six transect start points, selected such that each was generally no more than a one-day hike from another.

We used five-minute variable circular plot (VCP) point counts (Fancy and Sauer 2000; Siegel 2000) coupled with detailed habitat descriptions of each point count location as our primary means of surveying birds. Conducting VCP point counts entailed recording the horizontal distance, estimated to the nearest meter, to every bird seen or heard during the point count.

Each morning in the field, each two-person team conducted a transect of approximately 7-10 off-trail points spaced 250 m apart. Transects began at pre-selected starting points which were located in the field with topographic maps and a hand-held GPS unit. Prior to starting the transect, one team member was designated the point count observer and the other was designated the vegetation observer. The point count observer flagged the trail from point to point as the transect was conducted; the vegetation observer then followed the trail of flagging, collecting vegetation data at the indicated point count locations. Vegetation observers were careful to remain at least 250 m away from the point count observer, to avoid influencing bird activity during the count. As a safety consideration, point count and vegetation observers remained in radio contact throughout the morning.

For transects that started in a CWHR-based habitat where we were able to select at least 20 start points (Lodgepole Pine, Meadow, Montane Chaparral, Ponderosa – Mixed Conifer, Red Fir, Subalpine Conifer, and White Fir – Mixed Conifer), observers completed their transect by collecting data at the starting point, and then proceeding in a randomly chosen cardinal or semi-cardinal direction (0°, 45°, 90°, etc.). Observers frequently encountered a river, cliff, or other barrier that prevented them from completing a transect along the intended compass bearing. In these cases they returned to the last successfully completed point, and then reoriented to the nearest semi-cardinal bearing that was not blocked by a barrier. Because we completed an average of 7.7 points per transect, most transects extended at least 1.5 km and encompassed points dominated by different habitats from one another.

For transects that started in a CWHR-based habitat where we were *not* able to select at least 20 starting points (Foothill Chaparral, Foothill Hardwoods and Grassland, Giant

Sequoia, Mid-elevation Hardwood Forest, and Xeric Conifer Forest), observers completed their transect by collecting data at the start point, and then, rather than proceeding in a randomly chosen cardinal or semi-cardinal direction, instead proceeding in whichever cardinal or semi-cardinal direction appeared to maximize the number of points on their transect that would likely fall within the targeted CWHR-based habitat. Observers were given habitat maps of the area surrounding their starting points to help facilitate their choice of the optimal direction for the transect. The purpose of this aspect of our protocol was to bolster sample sizes in habitats we feared would otherwise be poorly sampled.

Point counts began within ten minutes of official local sunrise, and continued until 3.5 hours after local sunrise. 'Flyovers'— defined as birds that flew over the top of the vegetation canopy, never touched down in the observer's field of view, and did not appear to be foraging, displaying, or behaving in any other way that might suggest a link to the habitat below— were tallied separately from other bird detections. Birds thought to have been recorded previously at another point were marked accordingly on the data forms. We recorded whether each bird was initially detected during the first three minutes or last two minutes of the point count, in order to facilitate comparisons with data from the Breeding Bird Survey (BBS), which utilizes three-minute counts. We also recorded whether each bird was initially detected visually or aurally, and whether the bird sang at any time during the count. Geographical coordinates based on GPS readings and topographic maps were recorded at each sampling point, generally by the vegetation observer.

Additionally, whenever crew members detected species thought to be rare or difficult to sample in the parks, they completed "Rare Bird Report Forms", including geographical coordinates and descriptions of the birds' appearance and behavior. These reports covered not only birds detected during point counts, but also birds detected while sampling vegetation, hiking between transects, relaxing at camp in the evening, or at any other time during the field season, including our pre-season training session.

Sampling Vegetation at Bird Survey Points. Vegetation descriptions at each point entailed collecting detailed data on vegetation structure and composition, as well as physiographic features, within a circular 40-m radius plot (covering 0.5 ha) centered on the point count station, according to a method based heavily on a protocol developed for the SEKI vegetation mapping project to assess the accuracy of the draft vegetation maps (J. Akin, personal communication). We also classified each point according to the CWHR-based classification system, and according to the plant community alliance or association, using the National Vegetation Classification Standard (NVCS), with draft modifications for application at Sequoia and Kings Canyon National Parks (NatureServe 2004).

Owl Surveys

In order to at least produce some anecdotal information about the distribution of owls in the parks, we supplemented our landbird survey with a 15-min 'passive' survey,

conducted each night wherever our field crews happened to be camped. Each night, each pair of observers was required to complete a Nightly Owl Survey in the vicinity of their campsite. The survey involved listening quietly for owls for 15 minutes, sometime between thirty minutes after official sunset and thirty minutes before official sunrise—the individual observers were allowed to select the time based on preference and convenience. Observers had to be outside their tents, with campfires or stoves extinguished, listening quietly for the duration of the 15-min survey.

Crew Training and Testing

At the beginning of each field season, we provided our field crew with an intensive two-week training program. We trained our crew members, who all had prior experience birding and conducting biological fieldwork, in visual and aural bird identification, distance estimation, plant identification, orienteering, backcountry safety, and project protocols. Crew members honed their bird identification skills by spending days in the field birding and practicing point counts with experienced trainers, and then reviewing at night with the aid of field guides, recorded songs and calls, and an instructional CD-ROM. At the end of the two-week training period, we gave all crew members a rigorous exam involving the identification of approximately 100 recorded songs and calls (some of them grouped together in rapid succession to produce 'simulated point counts') as well as 30-40 photographic images (generally of rarer species or less obvious female plumages). Crew members were not permitted to conduct point counts (they worked solely as vegetation observers instead) until they passed the exam, which was altered and then administered a second time (after a period of further study) for crew members who did not pass during the first administration. Passing the exam, which required a near-perfect score, ensured that observers could competently identify by sight and sound all bird species expected to occur in the central and southern Sierra Nevada.

Data Analysis

All data were entered into electronic databases, which we then checked for errors using an array of automated and manual data verification routines. Copies of these databases accompany this report.

All results in this report are expressed in terms of bird habitat classifications based on NVCS plant community alliances (Table 1), rather than the less precise CWHR-based classifications that we used to generate the sampling points, before the NVCS-based habitat maps were available. In some cases we aggregated similar NVCS plant community alliances into a single bird habitat classification (Table 1), generally because our bird data suggested little if any difference between bird communities detected in the plant community alliances and/or because our sample sizes in some of the rarer plant community alliances were too small to otherwise allow for meaningful characterization of their bird communities (Table 1).

Two of the plant community alliances--Meadow and Rock/Sparsely Vegetated--spanned enormous elevation gradients and consequently encompassed widely varying bird

communities. We therefore split each of these alliances into three bird habitats, based on elevation. We determined elevation breakpoints by inspecting our data and determining breakpoints that would most reasonably divide the dataset into three sets of generally co-occurring bird species. For Meadow, the three resulting elevation classes were as follows:

Lower Elevation Meadow-- <2,940 m
Mid Elevation Meadow-- 2,940 m – 3,230 m
Higher Elevation Meadow-- > 3,230 m

Note that meadows up to nearly 3,000 m would not normally be considered 'low elevation' in the Sierra; our designation of them as such signifies only that they are lower in elevation than the other two categories. Since SEKI includes little if any meadow habitat in the foothill zone, our 'Lower Elevation' classification includes meadows roughly from the lower conifer zone up through the Red Fir zone. Our 'Mid Elevation' classification includes meadows primarily in the Lodgepole Pine zone, and our 'Higher Elevation' classification includes meadows in the Subalpine conifer zone and higher.

The elevation breakpoints for our Rock/Sparsely Vegetated bird habitats differed only slightly from those of our Meadow habitats, and again were based on inspection of the data and an attempt to create elevation classifications that would define discrete groups of bird species that generally occur together. Our Rock/Sparsely Vegetated breakpoints were as follows:

Lower Elevation Rock/Sparsely Vegetated-- <2,775 m
Mid Elevation Rock/Sparsely Vegetated-- 2,775 m – 3,260 m
Higher Elevation Rock/Sparsely Vegetated-- > 3,260 m

As with the Meadow habitat nomenclature, 'Lower', 'Mid', and Higher' are relative terms, and do not adhere to their more common colloquial usage in describing Sierra elevation zones.

Within each bird habitat, we calculated each species' apparent density, uncorrected for detectability, as

$$\frac{(d_{50}/p_{hab})}{0.7854},$$

where d_{50} is the total number of detections within 50 m of the observer tallied at all points in that habitat, p_{hab} is the total number of points sampled within that habitat type, and 0.7854 is the portion of a hectare covered by a 50-m radius circle

The detection radius for birds during point counts has been shown to vary across habitats and between species (Burnham 1981; Barker and Sauer 1995). Because vegetative structure differs dramatically across park habitats, it was necessary to correct for inter-habitat variability in detectability before densities could be compared across habitats

(Buckland et al. 2001). Additionally, some species vocalize much more loudly than others, so detectability corrections are best performed on a species-by-species basis. We used the computer program DISTANCE 4.1 Release 2 (Thomas et al. 2003) to correct for detectability and to produce estimates of absolute density for all species with adequate numbers of detections.

Distance-sampling experts generally advise that at least 60-80 detections are necessary for reliably modeling the relationship between detection probability and distance from the observer (Buckland et al. 2001). Not surprisingly, we amassed 60 or more detections in a single NVCS-based habitat for just a small number of very common species in a small number of widespread habitats. For the purpose of modeling detection probability, we therefore pooled habitats into two general detectability groups, based on vegetation structure and, presumably, likelihood of detecting birds at moderate or large distances:

> relatively open-canopy habitats: Mixed and montane chaparral; sagebrush, subalpline, and alpine shrubland; Western Juniper woodland; Whitebark Pine woodland; Aspen forest; meadows; and rocky, sparsely vegetated areas.
>
> relatively closed-canopy habitats: All remaining habitats, including forests and woodlands at all elevations, except for Western Juniper woodland and Whitebark Pine woodland.

Within each detectability group (relatively open-canopy habitats versus relatively closed-canopy habitats), we used DISTANCE to fit detection functions for each species detected at least 60 times in the pooled habitats that constitute that group. We set the data filter to exclude the 10% of detections at the greatest distances from the observer (Buckland et al. 2001), and then fit models using the half-normal key function (the function that we have found best models our data collected with similar methods in other studies) and both the cosine and polynomial series expansions. We used the Akaike Information Criterion (AIC) to select among models with different forms and numbers of expansion terms (Akaike 1973; Burnham and Anderson 1998). We then applied the habitat group detection function separately to the data in each of the constituent NVCS-based habitats, to produce habitat-specific estimates of absolute density, taking into account species- and habitat-specific variation in detectability.

Species that were detected at least 10 times in the parks, but fewer than 60 times in one or both habitat groups, were matched with 'surrogate species'—species with similar song volume, song pitch, and/or singing location (e.g. high in the canopy or low in the understory) that were detected at least 60 times within a habitat group (Table 2). We applied the detectability functions generated from surrogate species by fitting the uniform key function with no adjustment terms, and using 'borrowed' estimates of detection probability, detection probability variance, and sampling width from the surrogate species (Thomas et al. 2003). We modeled detectablity for two additional groups, the sapsuckers in relatively closed-canopy habitats, and quiet-singing species (including Bushtit, Brown Creeper, Golden-crowned Kinglet, and Blue-gray Gnatcatcher) in relatively open-canopy habitats, by pooling detections across species to model detectability and obtain the necessary parameters for adjusting density estimates. Those parameters were then

applied to the data for each species in the same manner as described above for 'surrogate species'.

We made an exception to our sample size rule and matched Nuttall's Woodpecker with a surrogate species and estimated its habitat-specific density, even though it was detected only seven times during point counts, because all seven detections were recorded in just one habitat type, California Black Oak Forest. For a few other species, we did not attempt to model detectability and estimate density, even though they were detected at least ten times during point counts. These species included White-throated Swift and Violet-green Swallow (because their flight behavior and tendency to be travel in groups make them difficult to count with certainty, and difficult to associate with a particular point on the ground or by extension, the habitat that point may occupy); Anna's, Calliope, and Rufous Hummingbird (because hummingbirds were often attracted to the brightly colored flagging we used to temporarily mark survey points; hence our density estimates would be biased extremely high), and American Dipper (because its tight association with rivers, rather than particular plant communities, made estimating densities for habitats based on plant communities of questionable value).

We produced distribution and abundance maps for each species for which we estimated habitat-specific densities. The distribution and abundance maps were created using Sequoia National Park's NVCS-based vegetation map (ESRI and Aerial Information Systems 2004) as a template. We reclassified each plant community polygon according to the bird habitat classification system in Table 1, and then for each bird species we assigned the appropriate density estimate to each polygon. Since the vegetation map for Kings Canyon National Park is not yet available at this writing, we were not able to map bird species distribution and abundance in that park. Finally, we overlaid each map with the starting points for each of the 224 transects we conducted (in both parks), using shading to indicate whether the species of interest was detected at least once at any of the points on that transect.

We also quantified species richness for each NVCS-based habitat. Some method of correcting raw species counts was necessary, because a) even the most comprehensive survey is likely to miss some rare or secretive species (Nichols et al.1998), and b) the number of species detected is likely to be confounded by the number of points sampled, which varied greatly by habitat in this study. Although numerous analytical methods for extrapolating species richness estimates from survey data have been developed, the ecological literature reflects little consensus as to which methods are preferable under particular circumstances (Colwell and Coddington 1994; Boulinier et al. 1998; Chazdon et al. 1998; Keating and Quinn 1998). Furthermore, it is unclear what the precise definition of species richness for a particular habitat should be. Due in part to the southern Sierra's dramatic topography, in which vastly different habitats and even life zones can exist within just a few linear miles of one another, many Sierra bird species, even those that are 'normally' restricted to a particular elevation band, are occasionally encountered in almost any Sierra habitat, at any elevation. Storms can drive subalpine and alpine species far downslope, and many species that breed in the foothills and/or lower montane zone frequently or occasionally wander all the way up to treeline later in

the summer, when the more typically high-elevation species are still nesting. Estimating the 'complete' number of species that occurs in a given habitat may therefore not be very meaningful.

Instead, we wished to quantify the number of diurnal landbird species that could be considered part of the commonly encountered avifauna of a particular habitat—excluding extralimital vagrants, late-season spring migrants on their way to breeding grounds elsewhere, post-breeding birds dispersing upslope in mid-summer, and rare species that occur only at very low densities. We therefore defined species richness as the number of species we observed in a habitat at an estimated density of at least 0.01 birds per ha. We wish to emphasize that our species richness value for a given habitat may be substantially lower than the number of species we actually detected in that habitat, and is certainly lower than the number of species that may potentially occur in that habitat. Nevertheless, we believe our method provides a meaningful metric for making comparisons across habitats within the parks, at least for habitats that were sampled with a reasonably large number of points (e.g. >30 points).

Results and Discussion

Scope of Work Accomplished

We recorded 14,189 individual birds during 1,732 point counts conducted along 224 transects (Fig. 1), completing an average of 7.7 points per transect. Points were classified as belonging to one of 81 distinct NVCS plant community alliances which we later grouped into 28 distinct major bird habitat classifications for analyses (Table 1). The largest share of all our sampling points were classified as Lodgepole Pine (374 points), but 21 other habitats were represented by at least 20 sampling points (Table 1). For most habitats, point count locations were well distributed geographically across the extent of the habitat in the parks. For each habitat, Figures 2-8 indicate the locations of all transects comprising at least one point classified as being dominated by that habitat type, and also indicate the spatial extent of the bird habitat classification within Sequoia National Park (NVCS-based map for Kings Canyon net yet available).

Bird Species Detected in the Parks

We documented the presence of 132 bird species in the parks (Table 2); 109 of these were detected during at least one point count, while the remaining 23 were recorded only at times other than during point counts. Although many of the species in Table 2 are relatively uncommon within the parks, a few are particularly noteworthy:

-*White-tailed Ptarmigan*. We detected White-tailed Ptarmigan at two locations: Dusy Basin, and approximately 20 km to the south, along the trail just south of Pinchot Pass and East of Crater Mountain. White-tailed Ptarmigan is an introduced species in the Sierra, with the entire Sierra population apparently stemming from the release of 73 birds near Mono Pass in 1971 and 1972 (Roberson 1993). By 1990 the population was known to have spread at least as far south as Bishop (Frederick and Gutierrez 1992). A survey crew working slightly further to the south in Dusy Basin between 1997-2002 observed the species there every year (Karen Pope, personal communication). Our detection south of Pinchot Pass may represent the most southerly record in the Sierra.

-*Say's Phoebe*. Our crew detected a lone individual, believed to be a juvenile, just west of New Army Pass on July 11, 2004. Gaines (1992) describes the species, which most likely does not breed anywhere in the parks, as 'an extremely rare transient' to tree line on the west slope, and above 7,000' on the east slope.

-*Swainson's Thrush*. A singing bird was heard on June 1, 2003 from the trail on the south side of the South Fork of the Kings River, between its confluences with Avalanche Creek and Bubbs Creek. Once considered a fairly common breeder on the west slope, Swainson's Thrush is now quite rare throughout the Sierra. Although the species is occasionally caught at the MAPS station at Zumwalt Meadow (Rachel Mazur, personal communication), no more than a few individuals likely persist in the parks.

-*Common Yellowthroat*. An individual was heard singing in a meadow approximately 1.5 km south of Elizabeth Pass on June 30, 2004. Although singing birds are occasionally encountered throughout the Sierra's west slope (indeed, we observed another singing male just west of and below Kearsarge Pass in 1999) they nevertheless are rare enough not to be considered part of the regularly breeding avifauna of the west slope.

-*Black-chinned Sparrow*. At least six individuals were heard singing and seen on June 12, 2004 just north of Simpson Meadow, at approximately 6,600'. The species is described by Gaines (1992) as a 'rare summer resident below 4,000' on the west slope.'

-*Rose-breasted Grosbeak*. A lone male was heard singing and clearly seen on June 2, 2004 at the north end of Paradise Valley, east of Kid Peak. Although extralimital in California, the species has nevertheless been observed numerous times during the summer in the southern Sierra (Gaines 1992; Sibley 2000).

Finally, one species was most notable for its absence. We failed to detect Willow Flyatcher anywhere in either park. The species, which has declined precipitously throughout the Sierra in recent decades, was nevertheless known to persist in very small numbers within the parks up until a few years ago (Rachel Mazur, personal communication). Our results suggest the species may now be extirpated within the parks.

Density Estimates and Distribution Maps

We amassed enough detections ($\geq$60) to model detectability in relatively open- and/or relatively closed-canopy habitats for 77 of the 109 species detected during point counts (Table 3). Of these 77 species, we modeled detectability of 35 without the use of surrogate species in relatively closed-canopy habitats and 20 without the use of surrogate species in relatively open-canopy habitats (Table 3).

Tables 4-31 provide lists of all bird species detected during point counts in each habitat. The tables also provide:

1) the number of points with detections (including flyovers) of each species within each habitat,

2) the number of detections (excluding flyovers) of each species within each habitat,

3) the number of non-flyover detections of each species within 50 m of the observer in each habitat (used to calculated the unadjusted density),

4) the 'unadjusted density' of each species (based only on the number of

detections within 50 m of the observer, and incorporating no correction for species- or habitat-specific variation in detectability),

5) the adjusted density estimate, which takes into account habitat- and species-specific variation in detectability, for each species recorded at least 10 times (both parks pooled) during point counts, and

6) the coefficient of variation, degrees of freedom, and 95% confidence interval associated with each adjusted density estimate.

To provide an easy way to compare species-specific densities across habitats, Tables 32-108 present nearly the same data as described above for all 77 species for which we produced adjusted density estimates, organized by species rather than habitat and indicating the percent of points with detections rather than the number of points with detections.

Figures 8-27 provide distribution and abundance maps for all 77 species with adjusted density estimates. As with the tables of density estimates, it is important to keep in mind that the maps indicate the estimated density of adult birds in each habitat during the breeding season, but not necessarily the density of *breeding* birds. The point count methodology provides no conclusive means of distinguishing between breeding and non-breeding birds; even if we based our analyses only on singing males, there would still be an unknown fraction of that population that was comprised of unmated birds. A few species, most notably House Wren (Fig. 16; Table 67) and Orange-crowned Warbler (Fig. 19; Table 78), even exhibit density estimates $\geq$0.01 birds/ha in one or more habitats where they probably do not breed at all; rather, post-breeding birds move upslope into montane habitats after breeding in the foothills, and in some cases even continue to sing. In the case of Orange-crowned Warbler, however, we deviated from our usual methodology and chose not to shade high-elevation polygons on the distribution and abundance map, even though our estimated density for the species in some high-elevation habitats was $\geq$0.01 birds/ha, because otherwise the map would appear extremely misleading. However, we preserved the high-elevation detections in the tables and databases. Finally, we also underscore that our density estimates represent an averaged value for the two breeding seasons in which we conducted our surveys (2003 and 2004). Populations of some species (Band-tailed Pigeon, for example) may fluctuate widely from year to year.

We believe that in providing quantitative density estimates, these maps represent an important step forward in knowledge of the Sierra's avifauna. Additionally, inspection of the maps and tables reveals surprising results for several species:

1) Figure 10 suggests that White-headed Woodpecker is more widespread at higher elevations than is Hairy Woodpecker. This is not the result we would have expected; indeed Gaines (1992) describes White-headed Woodpecker as "extremely rare above the red firs on the west slope", while Hairy Woodpecker is a "fairly common resident from 3,000' to treeline on the west slope". Comparing

Tables 42 and 43, we see that Hairy Woodpecker was estimated to occur at a slightly higher (though not statistically significant) density in Lodgepole Pine Forest than was White-headed Woodpecker (0.04 birds/ha versus 0.01 birds/ha), as we would have expected, and neither species was detected at all in Whitebark Pine Woodland. The surprising appearance of Figure 10 reflects that we did not detect Hairy Woodpecker at all in Foxtail Pine, while we did find White-headed Woodpecker there at a very low density (three individual birds detected during point counts, yielding an estimated density of 0.01 birds/ha). Since Foxtail Pine is so widespread in Sequoia National Park, the distribution of White-headed Woodpecker appears much greater there. Given our small sample size even for White-headed Woodpecker in Foxtail Pine, more targeted study of the habitat would be needed to state with confidence whether White-headed Woodpecker really is more common than Hairy Woodpecker there.

2) Figure 13 suggests that Cassin's Vireo is nearly as widely distributed in high-elevation habitats as is Warbling Vireo. This is somewhat surprising, as Warbling Vireo is generally considered less strictly tied to a hardwood forest component than is Cassin's Vireo, and is described by Gaines as occurring regularly up to about 1,000' higher than its congener. However, a closer look at Tables 52 and 54 reveals that our results are less surprising than the map, with its fairly broad density categories, suggests. Both species were found at very low densities in Whitebark Pine Woodland (both species were estimated to occur at 0.02 birds/ha in each habitat) and Foxtail Pine (both species were estimated to occur at 0.01 birds/ha in each habitat); however, Warbling Vireo was substantially more abundant than Cassin's Vireo in Lodgepole Pine (0.12 birds/ha versus 0.01 birds/ha) and in the more spatially restricted Western Juniper habitat (0.24 birds/ha versus 0.00 birds/ha).

3) Figure 18 suggests that across much of its range American Robin is more abundant than Hermit Thrush, which is not a surprising result; more surprising, however, is that Hermit Thrush is estimated to occur at a density >0.01 birds/ha in all high-elevation areas of the park, while American Robin is not. Inspection of Tables 74 and 75 reveals that American Robin was not detected at all in the Higher Elevation Rock/Sparsely Vegetated habitat, while we amassed nine detections of Hermit Thrush there, yielding an estimated density of 0.03 birds/ha.

4) American Pipit (along with Gray-crowned Rosy-Finch—see below) is one of the two species we detected at the highest densities in alpine habitats (Figure 19). Its estimated densities of 0.80 birds/ha in the Higher Elevation Rock/Sparsely Vegetated habitat (Table 77) and 1.21 birds/ha in Higher Elevation Meadow, are among the higher habitat-specific densities we calculated for any species. This is a remarkable result, given that the species was not known to nest in SEKI, in the Sierra Nevada, or anywhere else in California prior to the 1970s (DeSante and LeValley 1971; Norris and Morgenson 1982). Indeed, the absence of the species from the observations of naturalists in the Sierra up through the 1950s (reviewed in Miller and Green 1987) strongly suggests the species colonized the Sierra and

underwent a rapid range expansion during the middle of the twentieth century (Miller and Green 1987). Interestingly, Miller and Green (1987) report a density of 1.24 bird/ha on their Dusy Basin study plot—a value nearly identical to our estimated density for Higher Elevation Meadow, and slightly exceeding our estimate of 0.80 birds/ha in the Higher Elevation Rock/Sparsely Vegetated habitat (Table 77).

5) The other species we estimated to occur at a remarkably high density in alpine habitats is Gray-crowned Rosy-Finch (Figure 25; Table 101). While there is no question that Gray-crowned Rosy-Finch is one of the most abundant alpine species in the southern Sierra, we do caution that our estimates of its density could potentially be biased high. The species tends to travel in loose flocks, to refrain from territorial behavior, and to quickly fly relatively long distances; all these factors can make density estimation through distance sampling somewhat problematic.

The maps also reveal some interesting multi-species patterns which invite further study:

Latitudinal differences in density of subalpine species. The detection of several subalpine species appear largely clustered either in Kings Canyon NP, where much of the subalpine forest is dominated by Whitebark Pine, or in Sequoia NP, where much of the subalpine forest is dominated by Foxtail Pine. The most extreme example of this is Mountain Bluebird (Fig. 18; Table 72), which has an estimated density of 0.23 birds/ha in Foxtail Pine, but was never detected during point counts in Whitebark Pine Woodland. Conversely, White-crowned Sparrow and Gray-crowned Rosy-Finch detections both appear somewhat clustered in Kings Canyon NP, and each has an estimated density in Whitebark Pine Woodland at least ten times that of its estimated density in Foxtail Pine (Tables 95 and 101). Further work on the habitat associations of subalpine-dwelling birds in the parks is warranted, to better understand the ecology and habitat needs of these species, and to provide the basis for future conservation actions in the parks and beyond, should they become warranted.

Surprising predictions for the drainages of the lower South Fork of the Kern River, and its drainages. Although we are pleased with the overall geographic distribution of sampling points across the parks, one area that was not well-sampled is the lower South Fork of the Kern River canyon, including the lower portions of the drainages that flow into it. Indeed, we only completed one transect within the canyon along the approximately 27-km reach between Wallace Creek and the southern boundary of the park (Fig. 1). The other relatively proximal transects we completed were at the top of the canyon walls, 2,000' higher. This relative gap in our coverage occurred because a) the canyon walls themselves were too steep to survey, so to be eligible for sampling, any potential transect starting points in the canyon had to fall along the narrow canyon bottom, b) the river is not safe to cross along most of this reach during June and July, so eligible points had to fall on the same side of the river as the trail (or be near the crossing), and c) the most proximal access routes to the area are from the high eastside

passes, but by the time these are free of snow, it is nearly too late in the season to sample the area, which at 6,000-8,000' is thousands of feet below the passes.

We did not identify this relative gap in our survey coverage as a substantial problem until we completed our data analysis and the species distribution maps predicted numerous bird species generally restricted to the foothills and/or lower montane zones to occur within this area. Indeed, 20 of the species that our maps predicted to occur there, albeit at low density and in some cases in very restricted areas, were never actually detected by us in Sequoia National Park east of the Great Western Divide (Table 109). Rather, we detected them on the west side of the park in NVCS-based habitats that also occur along the South Fork of the Kern River. However, since the South Fork drainage is the only substantial area of the eastern half of the park that lies below 8,000', our failure to detect these species anywhere else in the eastern half of the park provides little if any evidence that the species do not occur in the drainage. Furthermore, we have studied bird communities intensively on study plots outside the park but within the same drainage, approximately 45 km downstream (Siegel and Wilkerson 2005b). Our study plots, situated in fairly similar habitats between 6,000-8,000' on the east side of Sequoia National Forest, host all of the species in Table 110 except for Winter Wren, Blue-gray Gnatcatcher, Hermit Warbler, California Towhee, and Purple Finch. Only a targeted survey along SEKI's reach of the South Fork of the Kern River, ideally conducted during the month of June, would provide the information necessary to determine the accuracy of the maps.

Species Richness

Habitat-specific species richness values are presented in Table 110. As explained above, these values indicate the number of species we estimated to occur at densities of 0.01 birds per ha or greater in each habitat—generally substantially fewer species than we actually detected in the habitat, and certainly fewer than the number of species that could potentially occur in the habitat. Figure 28 displays the distribution of species richness values (based on the distribution of habitats) across Sequoia National Park. We were unable to provide a similar map for Kings Canyon NP because the NVCS-based habitat map is not yet available.

Perhaps not surprisingly, Table 110 and Figure 28 reveal that mid-elevation habitats harbor the greatest species richness, at least as we have defined the term. Low-elevation habitats are clustered near the middle of the range of values, and high-elevation habitats are mostly clustered at the lower end of the range (Table 110). There are a few notable exceptions to this pattern, however. Lodgepole Pine Forest, primarily a high-elevation habitat, has the third highest species richness value (46 species at densities $\geq$ 0.01 birds per ha), perhaps reflecting the fairly broad range of environmental conditions (e.g. xeric to mesic habitats, and a broad elevational range that extends from upper mid-elevation closed-canopy forest all the way up to treeline (Weeden 1996). Another high-elevation habitat, Sagebrush Shrubland/Alpine and Subalpine Dwarf Shrubland also has a notably high species richness value (45 species at densities $\geq$ 0.01 birds per ha); as with Lodgepole Pine Forest, this high species richness may reflect a high diversity of

environmental conditions represented by the habitat, especially since in this case, the habitat is one that we cobbled together by pooling data from several somewhat disparate NVCS-based classifications.

The biggest surprise in Table 110 may be the relatively low value (27 species at densities $\geq$ 0.01 birds per ha) for areas classified as Undifferentiated Riparian. We believe this low value is largely an artifact of our low sample size (just 10 points) for this habitat. Indeed, the appearance of Green-tailed Towhee, as species not normally considered to have a particular affinity for riparian habitat, as the fourth most abundant species detected in the habitat would seem to corroborate the conclusion that 10 points were not adequate to reliably characterize the bird community in this habitat.

Owl Surveys

Our nightly owl surveys yielded disappointing results. One hundred and twelve nightly surveys, distributed very broadly across the parks, produced just four detections of two owl species (Fig. 29). One possible explanation for this low encounter rate is that the seasonal timing of our surveys—adjusted to be optimal for the majority of diurnal landbirds—may have been somewhat late to take advantage of the peak season for territorial vocalizations in some owl species. It should be noted, however, that our crews opportunistically gathered 24 detections of five owl species (again, plus Common Poorwill) during the same field season. These detections occurred at times other than during the 15-min surveys. Based on the very low rate of encountering owls during nightly 15-min surveys, we discontinued the surveys during our 2004 field season. We did, however, continue to collect data opportunistically on owl detections. During the 2004 fieldwork we amassed 16 detections of five species, yielding a two-year total of 40 opportunistic detections of five owl species (Flammulated Owl, Western Screech-Owl, Great Horned Owl, Northern Pygmy-Owl, and Spotted Owl) plus Common Poorwill (Fig. 29).

The relative sparseness of even our opportunistic owl survey dataset, combined with our lack of information on detection probability, make inferences about owl distribution or abundance across the parks difficult. Nevertheless, even limited and anecdotal information about poorly known species (e.g. Flammulated Owl) or species of concern (e.g. Spotted Owl) may be of use.

Simply collecting data opportunistically on owl detections, whenever they happened to occur, proved to be a much more successful means of generating anecdotal data than did the nightly owl surveys. We believe that the nightly surveys failed to detect many owls because of a) their fairly short (15-min) duration, and b) their restriction to just a single listening location each night. Any future attempts to conduct multi-species owl surveys in the parks, particularly if based on passive listening, should utilize longer survey periods and/or listening from multiple points each night. We caution, however, that such techniques would require substantially more time and energy from observers, and therefore may not be compatible with an ambitious diurnal bird monitoring program; rather they would likely require a separate crew devoted exclusively to owl monitoring.

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Table 1. Number of point counts completed in each NVCS-based habitat (indicated in bold type), and in its constituent NVCS-based mapping units. Habitat definition and classification follow NatureServe (2004) and ESRI and Aerial Systems (2004), except where we aggregated mapping units to define our own bird habitats (eg. Ponderosa Pine/Incense Cedar Forest) or split mapping units based on elevation (e.g. Lower, Mid, and Higher Elevation Meadow); such habitats are indicated by the lack of an 'ESRI Numeric Code'.

ESRI Numeric Code[1]	Bird Habitats or Constituent NVCS-based Mapping Units	Number of Points Sampled
	Lower Elevation Rock/Sparsely Vegetated	**6**
0940	Sparsely Vegetated Undifferentiated	2
0961	Sparsely Vegetated to Non-vegetated Exposed Rock	4
	Mid Elevation Rock/Sparsely Vegetated	**34**
0100	Alpine Talus Slope	5
0200	Alpine Scree Slope	2
0300	Alpine Snow Patch Communities	1
0500	Mesic Rock Outcrop	1
0700	Boulder Field	8
0940	Sparsely Vegetated Undifferentiated	5
0950	Non-alpine Talus	1
0961	Sparsely Vegetated to Non-Vegetated Exposed Rock	11
	Higher Elevation Rock/Sparsely Vegetated	**48**
0100	Alpine Talus Slope	8
0200	Alpine Scree Slope	1
0300	Alpine Snow Patch Communities	1
0400	Alpine Fell-field	4
0700	Boulder Field	13
0940	Sparsely Vegetated Undifferentiated	15
0950	Non-alpine Talus	1
0961	Sparsely Vegetated to Non-Vegetated Exposed Rock	4
0965	Sparsely Vegetated Rocky Streambed	1
1020	**Canyon Live Oak Forest**	**64**
	Interior Live Oak/Canyon Live Oak/California Buckeye Woodland	**27**
1040	Interior Live Oak Woodland Alliance	17
2110	CA Buckeye Woodland Alliance	8
1501	Canyon Live Oak / CA Buckeye & Interior Live Oak / CA Buckeye Mapping Unit	1
5040	Interior Live Oak CA Buckeye Association	1

Table 1, continued.

ESRI Numeric Code[1]	Bird Habitat Classifications or Constituent Field Provisional Communities[2]	Number of Points Sampled
2010	**Aspen Forest**	**22**
2020	**California Black Oak Forest**	**33**
2030	**Blue Oak Woodland**	**19**
	Undifferentiated Riparian	**10**
2050	Black Cottonwood Temporarily Flooded Forest Alliance	3
2080	Big Leaf Maple Forest Alliance	1
2090	Fremont Cottonwood Alliance	6
	Lodgepole Pine Forest	**374**
3010	Lodgepole Pine –Aspen/Meadow Mapping Unit	6
3020	Lodgepole Pine Forest	367
4030	Mountain Hemlock-Lodgepole Pine Association	1
3050	**Ponderosa Pine Woodland**	**16**
	Ponderosa Pine/Incense-cedar Forest	**53**
3060	Ponderosa Pine-Incense-cedar-Black Oak Association	50
4110	Incense-cedar Forest Alliance	3
3070	**Jeffrey Pine Woodland**	**82**
3130	**Western White Pine Woodland**	**20**
3140	**Whitebark Pine Woodland**	**53**
3200	**Foxtail Pine**	**157**
4020	**Giant Sequoia Forest**	**76**
4050	**Red Fir Forest**	**137**
4070	**Red Fir/White Fir Forest**	**97**
4080	**White Fir/Sugar Pine Forest**	**104**
4100	**Western Juniper Woodland**	**17**
	Mixed Chaparral	**45**
5010	Birchleaf Mountain Mahogany Woodland Alliance	2
5020	Chamise Shrubland Alliance	37
5060	Chaparral Ceanothus Shrubland Alliance	2
6010	Deerbrush Shrubland Alliance	3
5270	Yucca Whipplei Alliance	1

Table 1, continued.

ESRI Numeric Code[1]	Bird Habitat Classifications or Constituent Field Provisional Communities	Number of Points Sampled
	Montane Chaparral	**80**
5080	Bush Chinquapin Shrubland Alliance	18
5090	Greenleaf Manzanita Shrubland Alliance	30
5110	Mountain Whitethorn Shrubland Alliance	13
5220	Bitter Cherry Shrubland Alliance	4
5230	Curl-leaf Mountain Mahogany Woodland Alliance	2
5502	Greenleaf Manzanita-Bush Chinquapin-Mountain Whitethorn Montane Chaparral Mapping Unit	6
5503	Bitter Cherry-Ribes Spp.-Mountain Maple Mesic Montane Chaparral Mapping Unit	7
	Sagebrush Shrubland/Alpine and Subalpine Dwarf Shrubland	**27**
5160	Big Sagebrush Shrubland Alliance	13
6210	Holodiscus Alliance	1
5501	Mtn. Sagebrush & Rothrock's Sagebrush & Ocean Spray & Mtn. Heather Superassociation	1
5210	Low Sagebrush/Dwarf-shrubland Alliance	12
	Lower Elevation Meadow	**45**
6500	Shrub Willow Meadow Setting Mapping Unit	5
6600	Shrub Willow Riparian Setting Mapping Unit	4
6700	Shrub Willow Talus Setting Mapping Unit	1
7000	Upland Graminoids	5
8000	Intermittently to Temporarily Flooded Meadow	10
9000	Seasonally to Permanently Flooded Meadow	20
	Mid Elevation Meadow	**24**
0980	Water	1
6500	Shrub Willow Meadow Setting Mapping Unit	1
6600	Shrub Willow Riparian Setting Mapping Unit	1
6700	Shrub Willow Talus Setting Mapping Unit	4
7701	Grasses/Forbs and Small Shrubs	1
8000	Intermittently to Temporarily Flooded Meadow	7
9000	Seasonally to Permanently Flooded Meadow	9

Table 1, continued.

ESRI Numeric Code[1]	Bird Habitat Classifications or Constituent Field Provisional Communities	Number of Points Sampled
	Higher Elevation Meadow	**56**
6500	Shrub Willow Meadow Setting Mapping Unit	8
6600	Shrub Willow Riparian Setting Mapping Unit	9
7000	Upland Graminoids	5
8000	Intermittently to Temporarily Flooded Meadow	21
9000	Seasonally to Permanently Flooded Meadow	13
	Undifferentiated Post-fire	**6**
7700	Post-fire Herbaceous Vegetation	2
0910	Undifferentiated Post-fire	4

[1]NPS Numeric Codes follow ESRI and Aerial Information Systems (2004).

[1]NBird Habitat Classifications lacking numeric codes do not follow NatureServe (2004), but instead were created for this analysis aggregating Field Provisional Communities with similar avifauna.

Table 2. All bird species detected by IBP personnel in Sequoia and Kings Canyon National Parks during the 2003 and 2004 field seasons of the landbird inventory project. Asterisks indicate species that were detected only at times other than during point counts.

Mallard	Northern Flicker	European Starling
Common Merganser*	Pileated Woodpecker	American Pipit
White-tailed Ptarmigan*	Olive-sided Flycatcher	Cedar Waxwing*
Blue Grouse	Western Wood-Pewee	Phainopepla*
Mountain Quail	Hammond's Flycatcher	Orange-crowned Warbler
California Quail	Dusky Flycatcher	Nashville Warbler
Great Blue Heron	Pacific-slope Flycatcher	Yellow Warbler
Turkey Vulture*	Black Phoebe	Yellow-rumped Warbler
Osprey*	Say's Phoebe*	Black-throated Gray Warbler
Northern Harrier*	Ash-throated Flycatcher	Hermit Warbler
Sharp-shinned Hawk	Western Kingbird	MacGillivray's Warbler
Cooper's Hawk	Cassin's Vireo	Common Yellowthroat
Northern Goshawk*	Hutton's Vireo	Wilson's Warbler
Red-shouldered Hawk*	Warbling Vireo	Western Tanager
Red-tailed Hawk	Steller's Jay	Green-tailed Towhee
Golden Eagle*	Western Scrub-Jay	Spotted Towhee
American Kestrel	Clark's Nutcracker	California Towhee
Peregrine Falcon*	Common Raven	Rufous-crowned Sparrow
Killdeer	Horned Lark	Chipping Sparrow
Spotted Sandpiper	Violet-green Swallow	Black-chinned Sparrow
Band-tailed Pigeon	No. Rough-winged Swallow	Fox Sparrow
Mourning Dove	Cliff Swallow	Song Sparrow
Flammulated Owl*	Mountain Chickadee	Lincoln's Sparrow
Western Screech-Owl*	Oak Titmouse	White-crowned Sparrow
Great Horned Owl	Bushtit	Dark-eyed Junco
Northern Pygmy-Owl	Red-breasted Nuthatch	Black-headed Grosbeak
Spotted Owl*	White-breasted Nuthatch	Rose-breasted Grosbeak*
Common Nighthawk*	Brown Creeper	Lazuli Bunting
Common Poorwill*	Rock Wren	Red-winged Blackbird
Vaux’s Swift*	Canyon Wren	Western Meadowlark*
Black Swift	Bewick's Wren	Brewer's Blackbird
White-throated Swift	House Wren	Brown-headed Cowbird
Anna's Hummingbird	Winter Wren	Bullock's Oriole
Black-chinned Hummingbird*	American Dipper	Gray-crowned Rosy-Finch
Calliope Hummingbird	Golden-crowned Kinglet	Pine Grosbeak
Rufous Hummingbird	Ruby-crowned Kinglet	Purple Finch
Belted Kingfisher	Blue-gray Gnatcatcher	Cassin's Finch
Acorn Woodpecker	Western Bluebird	House Finch
Williamson's Sapsucker	Mountain Bluebird	Red Crossbill
Red-breasted Sapsucker	Townsend's Solitaire	Pine Siskin
Nuttall's Woodpecker	Swainson's Thrush	Lesser Goldfinch
Downy Woodpecker	Hermit Thrush	Lawrence's Goldfinch*
Hairy Woodpecker	American Robin	Evening Grosbeak
White-headed Woodpecker	Wrentit	House Sparrow*

Table 3. Source and value of density adjustment parameters obtained through detectability modeling. 'Self' indicates species for which we amassed at least 60 detections within a habitat group (closed-canopy habitats or open-canopy habitats) and were able to model detectability and adjust density estimates for the constituent habitats without using data from 'surrogate' species. For species that we detected less frequently (but at least ten times), we adjusted density estimates using detectability models obtained from a carefully selected 'surrogate species'--a more frequently encountered species whose vocalizations seem to have similar acoustic properties.

	Source and Value of Density Adjustment Parameters Obtained through Detectability Modeling[1]							
	Relatively Closed-canopy Habitats				Relatively Open-canopy Habitats			
		Sample	Detection Probability			Sample	Detection Probability	
Species	Species	Width $(m)^2$	Estimate	SE	Species	Width $(m)^2$	Estimate	SE
Blue Grouse	Hermit Thrush	117	0.6833	0.5260	Hermit Thrush	119	0.4673	0.3962
Mountain Quail	self	124	0.6030	0.0964	Olive-sided Flycatcher	145	0.3356	0.0570
California Quail	Mountain Chickadee	85	0.5049	0.0662	Mountain Chickadee	95	0.6493	0.2774
Spotted Sandpiper	Dark-eyed Junco	70	0.3656	0.0264	Dark-eyed Junco	81	0.3512	0.0408
Band-tailed Pigeon	Hermit Thrush	117	0.6833	0.5260	Hermit Thrush	119	0.4673	0.3962
Mourning Dove	Hermit Thrush	117	0.6833	0.5260	Hermit Thrush	119	0.4673	0.3962
Acorn Woodpecker	White-headed Woodpecker	85	0.6848	0.1373	Mountain Chickadee	95	0.6493	0.2774
Williamson's Sapsucker	pooled sapsucker species	105	0.4047	0.6881	Mountain Chickadee	95	0.6493	0.2774
Red-breasted Sapsucker	pooled sapsucker species	105	0.4047	0.6881	Mountain Chickadee	95	0.6493	0.2774
Nuttall's Woodpecker	White-headed Woodpecker	85	0.6848	0.1373	not detected			
Hairy Woodpecker	self	110	0.3125	0.0472	Mountain Chickadee	95	0.6493	0.2774
White-headed Woodpecker	self	85	0.6848	0.1373	Mountain Chickadee	95	0.6493	0.2774
Northern Flicker	self	101	0.5555	0.2708	Olive-sided Flycatcher	145	0.3356	0.0570
Pileated Woodpecker	Olive-sided Flycatcher	135	0.4306	0.0531	not detected			
Olive-sided Flycatcher	self	135	0.4306	0.0531	self	145	0.3356	0.0570
Western Wood-Pewee	self	90	0.7071	0.3233	Yellow-rumped Warbler	94	0.6042	0.0905
Hammond's Flycatcher	Dusky Flycatcher	72	0.6655	0.2354	Dusky Flycatcher	79	0.5546	0.0695
Dusky Flycatcher	self	72	0.6655	0.2354	self	79	0.5546	0.0695
Pacific-slope Flycatcher	Dusky Flycatcher	72	0.6655	0.2354	Dusky Flycatcher	79	0.5546	0.0695
Ash-throated Flycatcher	Western Wood-Pewee	90	0.7071	0.3233	Warbling Vireo	94	0.4394	0.0726
Cassin's Vireo	Warbling Vireo	71	0.6412	0.0823	Warbling Vireo	94	0.4394	0.0726
Hutton's Vireo	Warbling Vireo	71	0.6412	0.0823	Warbling Vireo	94	0.4394	0.0726
Warbling Vireo	self	71	0.6412	0.0823	self	94	0.4394	0.0726
Steller's Jay	self	100	0.6820	0.0636	self	125	0.5565	0.1047
Western Scrub-Jay	Steller's Jay	100	0.6820	0.0636	Steller's Jay	125	0.5565	0.1047
Clark's Nutcracker	self	152	0.4080	0.0928	self	200	0.3030	0.0330
Common Raven	self	120	0.6964	0.1380	Clark's Nutcracker	200	0.3030	0.0330
Mountain Chickadee	self	85	0.5049	0.0662	self	95	0.6493	0.2774
Oak Titmouse	Black-throated Gray Warbler	80	0.5312	0.0945	Warbling Vireo	94	0.4394	0.0726

Table 3, continued.

Species	Source and Value of Density Adjustment Parameters Obtained through Detectability Modeling[1]							
	Relatively Closed-canopy Habitats				Relatively Open-canopy Habitats			
		Sample	Detection Probability			Sample	Detection Probability	
	Species	Width (m)[2]	Estimate	SE	Species	Width (m)[2]	Estimate	SE
Bushtit	Pine Siskin	60	0.3905	0.0520	pooled quiet species	64	0.5860	0.1210
Red-breasted Nuthatch	self	110	0.7748	0.6194	Mountain Chickadee	95	0.6493	0.2774
White-breasted Nuthatch	self	110	0.6484	0.1183	Mountain Chickadee	95	0.6493	0.2774
Brown Creeper	self	55	0.7168	0.1039	pooled quiet species	64	0.5860	0.1210
Rock Wren	Spotted Towhee	70	0.6415	0.2870	Spotted Towhee	69	0.4581	0.0260
Bewick's Wren	Spotted Towhee	70	0.6415	0.2870	Spotted Towhee	69	0.4581	0.0260
House Wren	Spotted Towhee	70	0.6415	0.2870	Spotted Towhee	69	0.4581	0.0260
Winter Wren	self	80	0.6446	0.1215	not detected			
Golden-crowned Kinglet	self	48	0.5546	0.1668	pooled quiet species	64	0.5860	0.1210
Ruby-crowned Kinglet	self	90	0.5883	0.0884	Yellow-rumped Warbler	94	0.6042	0.0905
Blue-gray Gnatcatcher	Golden-crowned Kinglet	48	0.5546	0.1668	pooled quiet species	64	0.5860	0.1210
Mountain Bluebird	Pine Siskin	60	0.3905	0.0520	American Pipit	91	0.2096	0.0567
Townsend's Solitaire	self	115	0.5519	0.0710	Cassin’s Finch	102	0.2583	0.3600
Hermit Thrush	self	117	0.6833	0.5260	self	119	0.4673	0.3962
American Robin	self	85	0.5563	0.2145	self	108	0.3416	0.0446
Wrentit	Fox Sparrow	87	0.5190	0.1397	self	121	0.3162	0.0525
American Pipit	not detected				self	91	0.2096	0.0567
Orange-crowned Warbler	Dark-eyed Junco	70	0.3656	0.0264	Dark-eyed Junco	81	0.3512	0.0408
Nashville Warbler	self	65	0.6014	0.2369	MacGillivray's Warbler	74	0.3938	0.0559
Yellow Warbler	Yellow-rumped Warbler	71	0.6748	0.1485	Yellow-rumped Warbler	94	0.6042	0.0905
Yellow-rumped Warbler	self	71	0.6748	0.1485	self	94	0.6042	0.0905
Black-throated Gray Warbler	self	80	0.5312	0.0945	Yellow-rumped Warbler	94	0.6042	0.0905
Hermit Warbler	self	75	0.5994	0.2410	Yellow-rumped Warbler	94	0.6042	0.0905
MacGillivray's Warbler	self	75	0.4618	0.1439	self	74	0.3938	0.0559
Wilson's Warbler	Yellow-rumped Warbler	71	0.6748	0.1485	self	70	0.3252	0.0533
Western Tanager	self	85	0.5960	0.1150	American Robin	108	0.3416	0.0446
Green-tailed Towhee	self	70	0.6268	0.1659	self	78	0.4283	0.1477
Spotted Towhee	self	70	0.6415	0.2870	self	69	0.4581	0.0260
California Towhee	MacGillivray’s Warbler	75	0.4618	0.1439	MacGillivray's Warbler	74	0.3938	0.0559
Rufous-crowned Sparrow	Spotted Towhee	70	0.6415	0.2870	Spotted Towhee	69	0.4581	0.0260
Chipping Sparrow	Dark-eyed Junco	70	0.3656	0.0264	Dark-eyed Junco	81	0.3512	0.0408
Fox Sparrow	self	87	0.5190	0.1397	self	81	0.4805	0.1301
Song Sparrow	Fox Sparrow	87	0.5190	0.1397	Fox Sparrow	81	0.4805	0.1301
Lincoln's Sparrow	Dark-eyed Junco	70	0.3656	0.0264	Dark-eyed Junco	81	0.3512	0.0408

Table 3, continued.

Species	Source and Value of Density Adjustment Parameters Obtained through Detectability Modeling[1]							
	Relatively Closed-canopy Habitats				Relatively Open-canopy Habitats			
		Sample	Detection Probability			Sample	Detection Probability	
	Species	Width (m) [2]	Estimate	SE	Species	Width (m) [2]	Estimate	SE
White-crowned Sparrow	Fox Sparrow	87	0.5190	0.1397	self	120	0.3144	0.0215
Dark-eyed Junco	self	70	0.3656	0.0264	self	81	0.3512	0.0408
Black-headed Grosbeak	self	90	0.3780	0.0358	American Robin	108	0.3416	0.0446
Lazuli Bunting	MacGillivray's Warbler	75	0.4618	0.1439	MacGillivray's Warbler	74	0.3938	0.0559
Brewer's Blackbird	not detected				American Pipit	91	0.2096	0.0567
Brown-headed Cowbird	Black-headed Grosbeak	90	0.3780	0.0358	American Robin	108	0.3416	0.0446
Gray-crowned Rosy-Finch	Pine Siskin	60	0.3905	0.0520	self	70	0.4011	0.0518
Pine Grosbeak	Cassin's Finch	87	0.5854	0.2224	American Robin	108	0.3416	0.0446
Purple Finch	Cassin's Finch	87	0.5854	0.2224	Cassin's Finch	102	0.2583	0.3600
Cassin's Finch	self	87	0.5854	0.2224	self	102	0.2583	0.3600
Red Crossbill	Evening Grosbeak	80	0.5983	0.1075	Cassin's Finch	102	0.2583	0.3600
Pine Siskin	self	60	0.3905	0.0520	Cassin's Finch	102	0.2583	0.3600
Lesser Goldfinch	Pine Siskin	60	0.3905	0.0520	Cassin's Finch	102	0.2583	0.3600
Evening Grosbeak	self	80	0.5983	0.1075	Cassin's Finch	102	0.2583	0.3600

[1]Parameter values calculated using the software Distance 4.0 Release 2 (Buckland et al. 2003). See Methods for details.
[2]Sample width calculated as the 90th percentile of recorded detection distances.

Table 4. Results from 6 point counts at locations classified as Lower Elevation Rock/Sparsely Vegetated. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Mountain Quail	1	1	1	0.21	**0.08**	101.4	5	0.01	0.65
White-throated Swift	1	0	0	0.00	--				
Calliope Hummingbird	1	1	1	0.21	--				
White-headed Woodpecker	1	1	0	0.00	**0.09**	108.7	5	0.01	0.88
Olive-sided Flycatcher	1	1	0	0.00	**0.08**	101.4	5	0.01	0.63
Western Wood-Pewee	1	1	0	0.00	**0.10**	101.1	5	0.01	0.86
Dusky Flycatcher	1	1	1	0.21	**0.15**	100.8	5	0.02	1.29
Warbling Vireo	1	1	1	0.21	**0.14**	101.4	5	0.02	1.15
Steller's Jay	2	3	1	0.21	**0.18**	70.9	6	0.04	0.88
Mountain Chickadee	1	2	1	0.21	**0.18**	108.7	7	0.02	1.46
Red-breasted Nuthatch	1	1	0	0.00	**0.09**	108.7	5	0.01	0.88
American Robin	2	2	1	0.21	**0.13**	100.9	5	0.02	1.12
Nashville Warbler	3	4	3	0.64	**0.98**	52.0	5	0.28	3.46
Yellow-rumped Warbler	1	1	0	0.00	**0.10**	101.1	5	0.01	0.84
MacGillivray's Warbler	1	1	0	0.00	--				
Western Tanager	1	1	1	0.21	**0.13**	100.9	5	0.02	1.15
Spotted Towhee	1	2	2	0.42	**0.49**	100.2	5	0.06	4.13
Fox Sparrow	2	5	3	0.64	**0.67**	68.8	7	0.15	2.93
Dark-eyed Junco	1	2	1	0.21	**0.46**	100.7	5	0.05	3.89
Purple Finch	1	1	1	0.21	**0.20**	101.0	5	0.02	1.70

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 5. Results from 34 point counts at locations classified as Mid Elevation Rock/Sparsely Vegetated. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Blue Grouse	2	2	1	0.04	**0.01**	109.7	33	<0.01	0.08
Mountain Quail	5	6	0	0.00	**0.07**	53.6	33	0.02	0.18
Spotted Sandpiper	1	1	0	0.00	**0.00**				
Rufous Hummingbird	3	3	3	0.11	**--**				
Williamson's Sapsucker	1	1	0	0.00	**0.02**	108.7	33	<0.01	0.10
Northern Flicker	1	1	0	0.00	**0.01**	101.4	33	<0.01	0.07
Olive-sided Flycatcher	4	4	0	0.00	**0.05**	50.6	42	0.02	0.14
Dusky Flycatcher	6	7	1	0.04	**0.14**	52.3	37	0.05	0.37
Warbling Vireo	2	3	1	0.04	**0.02**	101.4	35	<0.01	0.13
Steller's Jay	3	3	0	0.00	**0.02**	72.1	38	0.01	0.08
Clark's Nutcracker	5	9	2	0.07	**0.07**	52.4	36	0.03	0.19
Mountain Chickadee	8	11	4	0.15	**0.16**	56.3	129	0.06	0.45
Red-breasted Nuthatch	2	2	0	0.00	**0.02**	108.7	33	<0.01	0.10
Rock Wren	10	11	3	0.11	**0.30**	34.7	33	0.15	0.60
Golden-crowned Kinglet	2	2	1	0.04	**0.08**	72.6	33	0.02	0.29
Ruby-crowned Kinglet	1	1	0	0.00	**0.02**	101.1	33	<0.01	0.10
Townsend's Solitaire	5	5	0	0.00	**0.10**	57.7	33	0.04	0.31
Hermit Thrush	5	8	0	0.00	**0.05**	97.3	110	0.01	0.26
American Robin	3	3	0	0.00	**0.07**	57.5	37	0.02	0.21
Nashville Warbler	2	2	0	0.00	**0.04**	101.0	33	0.01	0.24
Yellow-rumped Warbler	8	13	1	0.04	**0.12**	47.3	41	0.05	0.30
MacGillivray's Warbler	3	4	1	0.04	**0.13**	57.7	37	0.04	0.39
Wilson's Warbler	6	6	5	0.19	**0.35**	41.0	46	0.16	0.78
Green-tailed Towhee	7	10	0	0.00	**0.11**	65.7	60	0.03	0.36
Fox Sparrow	5	5	2	0.07	**0.09**	62.2	50	0.03	0.28
White-crowned Sparrow	10	13	5	0.19	**0.27**	32.0	36	0.14	0.51
Dark-eyed Junco	23	38	25	0.94	**1.42**	22.3	61	0.92	2.21
Gray-crowned Rosy-Finch	1	1	1	0.04	**0.05**	100.8	34	0.01	0.26
Cassin's Finch	6	7	3	0.11	**0.17**	52.7	38	0.06	0.47
Pine Siskin	2	2	1	0.04	**0.07**	71.0	33	0.02	0.26

Table 5, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lesser Goldfinch	1	1	0	0.00	**0.03**	101.0	33	0.01	0.19

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 6. Results from 48 point counts at locations classified as Higher Elevation Rock/Sparsely Vegetated. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
American Kestrel	1	1	0	0.00	--				
Anna's Hummingbird	1	1	1	0.03	--				
Rufous Hummingbird	4	4	4	0.11	--				
Northern Flicker	1	1	0	0.00	**0.01**	101.4	47	<0.01	0.05
Dusky Flycatcher	5	5	2	0.05	**0.10**	44.6	55	0.04	0.22
Clark's Nutcracker	13	17	2	0.05	**0.06**	38.9	55	0.03	0.13
Common Raven	1	2	0	0.00	**0.01**	100.6	47	<0.01	0.03
Horned Lark	2	3	0	0.00	--				
Mountain Chickadee	6	7	0	0.00	**0.07**	62.3	133	0.02	0.21
White-breasted Nuthatch	3	3	0	0.00	**0.01**	108.7	47	<0.01	0.07
Rock Wren	11	14	4	0.11	**0.15**	59.1	47	0.05	0.46
Ruby-crowned Kinglet	1	1	0	0.00	**0.01**	101.1	47	<0.01	0.07
Mountain Bluebird	4	5	1	0.03	**0.11**	78.7	47	0.03	0.46
Townsend's Solitaire	1	1	0	0.00	**0.02**	101.0	47	<0.01	0.13
Hermit Thrush	8	9	1	0.03	**0.03**	96.2	115	0.01	0.14
American Pipit	15	22	11	0.29	**0.80**	37.1	103	0.39	1.63
Yellow-rumped Warbler	2	2	1	0.03	**0.01**	101.1	49	<0.01	0.07
White-crowned Sparrow	21	45	11	0.29	**0.53**	27.6	53	0.31	0.91
Dark-eyed Junco	11	12	7	0.19	**0.35**	30.3	64	0.19	0.62
Gray-crowned Rosy-Finch	11	30	24	0.64	**1.04**	41.1	75	0.41	2.30
Cassin's Finch	6	7	3	0.08	**0.12**	53.3	54	0.05	0.34
Pine Siskin	1	1	1	0.03	**0.02**	101.0	47	<0.01	0.13

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 7. Results from 64 point counts at locations classified as Canyon Live Oak Forest. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Mountain Quail	8	10	1	0.02	**0.02**	44.3	83	0.01	0.05
Black Swift	1	6	0	0.00	--				
White-throated Swift	6	25	6	0.12	--				
Anna's Hummingbird	4	4	4	0.08	--				
Belted Kingfisher	1	1	0	0.00	--				
Acorn Woodpecker	2	2	1	0.02	**0.02**	73.0	63	0.01	0.07
Northern Flicker	4	4	1	0.02	**0.01**	74.9	149	<0.01	0.06
Olive-sided Flycatcher	2	2	0	0.00	**0.01**	71.2	67	<0.01	0.05
Western Wood-Pewee	8	12	8	0.16	**0.09**	63.0	198	0.03	0.27
Dusky Flycatcher	1	1	1	0.02	**0.01**	106.1	80	<0.01	0.08
Pacific-slope Flycatcher	11	11	10	0.20	**0.16**	44.9	63	0.07	0.37
Ash-throated Flycatcher	1	1	0	0.00	**0.01**	110.0	63	<0.01	0.05
Cassin's Vireo	8	9	8	0.16	**0.14**	37.2	63	0.07	0.28
Hutton's Vireo	4	4	3	0.06	**0.06**	50.5	63	0.02	0.16
Warbling Vireo	10	11	8	0.16	**0.14**	37.2	81	0.07	0.28
Steller's Jay	16	21	7	0.14	**0.13**	27.3	81	0.08	0.22
Western Scrub-Jay	6	6	4	0.08	**0.04**	40.3	63	0.02	0.09
Common Raven	1	2	2	0.04	**0.01**	102.0	68	<0.01	0.05
Violet-green Swallow	1	1	0	0.00	--				
Mountain Chickadee	6	9	5	0.10	**0.10**	47.9	74	0.04	0.24
Oak Titmouse	1	1	1	0.02	**0.01**	101.6	63	<0.01	0.08
Bushtit	1	1	1	0.02	**0.04**	100.9	63	0.01	0.19
Red-breasted Nuthatch	1	1	0	0.00	**0.01**	128.0	160	<0.01	0.04
Brown Creeper	5	6	5	0.10	**0.11**	53.8	73	0.04	0.31
Canyon Wren	2	2	0	0.00	--				
Bewick's Wren	3	3	2	0.04	**0.05**	72.3	63	0.01	0.17
House Wren	6	7	6	0.12	**0.09**	64.0	63	0.03	0.31
Winter Wren	2	3	3	0.06	**0.04**	76.4	71	0.01	0.14
Golden-crowned Kinglet	1	1	1	0.02	**0.04**	104.4	75	0.01	0.22
Blue-gray Gnatcatcher	1	1	0	0.00	**0.00**				

Table 7, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Townsend's Solitaire	1	1	0	0.00	**0.01**	100.8	65	<0.01	0.04
American Robin	9	10	6	0.12	**0.11**	52.0	231	0.04	0.29
Wrentit	10	12	1	0.02	**0.11**	41.2	63	0.05	0.25
Orange-crowned Warbler	6	7	2	0.04	**0.14**	52.3	63	0.05	0.37
Nashville Warbler	24	35	28	0.56	**0.67**	44.2	285	0.29	1.53
Yellow Warbler	1	1	1	0.02	**0.01**	102.4	63	<0.01	0.08
Yellow-rumped Warbler	3	3	2	0.04	**0.03**	73.5	76	0.01	0.11
Black-throated Gray Warbler	20	29	17	0.34	**0.42**	27.4	117	0.25	0.72
Hermit Warbler	1	1	1	0.02	**0.01**	107.8	84	<0.01	0.08
MacGillivray's Warbler	3	3	3	0.06	**0.06**	64.8	102	0.02	0.19
Western Tanager	28	35	13	0.26	**0.31**	26.5	234	0.19	0.52
Spotted Towhee	21	26	21	0.42	**0.38**	49.1	211	0.15	0.95
California Towhee	3	3	2	0.04	**0.06**	64.8	63	0.02	0.19
Song Sparrow	1	1	0	0.00	**0.00**				
Dark-eyed Junco	6	7	4	0.08	**0.17**	46.4	66	0.07	0.40
Black-headed Grosbeak	30	53	31	0.62	**0.80**	18.7	109	0.55	1.15
Lazuli Bunting	7	8	7	0.14	**0.15**	49.0	63	0.06	0.39
Brown-headed Cowbird	4	4	3	0.06	**0.06**	49.7	63	0.03	0.17
Purple Finch	3	3	3	0.06	**0.03**	68.4	63	0.01	0.12
Cassin's Finch	2	2	1	0.02	**0.02**	79.8	103	0.01	0.09
Lesser Goldfinch	2	4	3	0.06	**0.11**	100.9	63	0.02	0.57

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 8. Results from 27 point counts at locations classified as Interior Live Oak-Canyon Live Oak-California Buckeye Woodland. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Mountain Quail	1	1	0	0.00	**0.01**	101.3	27	<0.01	0.04
California Quail	1	1	0	0.00	**0.03**	100.9	26	0.01	0.18
Great Blue Heron	2	0	0	0.00	**--**				
Mourning Dove	2	2	1	0.05	**0.03**	103.6	26	<0.01	0.15
White-throated Swift	2	0	0	0.00	**--**				
Anna's Hummingbird	3	3	3	0.14	**--**				
Acorn Woodpecker	2	4	2	0.09	**0.07**	76.1	26	0.02	0.29
Western Wood-Pewee	3	4	0	0.00	**0.08**	74.8	63	0.02	0.31
Pacific-slope Flycatcher	1	1	1	0.05	**0.03**	106.1	26	0.01	0.20
Black Phoebe	1	1	1	0.05	**--**				
Ash-throated Flycatcher	7	9	6	0.28	**0.19**	58.1	26	0.06	0.56
Cassin's Vireo	1	1	0	0.00	**0.04**	100.8	26	0.01	0.20
Hutton's Vireo	1	1	1	0.05	**0.04**	100.8	26	0.01	0.20
Steller's Jay	4	4	2	0.09	**0.07**	47.9	28	0.03	0.18
Western Scrub-Jay	8	11	6	0.28	**0.19**	34.1	26	0.1	0.38
Violet-green Swallow	1	0	0	0.00	**--**				
No. Rough-winged Swallow	1	1	1	0.05	**--**				
Oak Titmouse	8	11	10	0.47	**0.38**	39.5	26	0.17	0.83
Bushtit	1	1	1	0.05	**0.08**	100.9	26	0.01	0.47
Bewick's Wren	3	5	4	0.19	**0.15**	74.2	26	0.04	0.59
House Wren	7	8	4	0.19	**0.30**	56.9	26	0.1	0.89
American Dipper	2	2	2	0.09	**--**				
Blue-gray Gnatcatcher	4	4	2	0.09	**0.18**	75.6	26	0.05	0.73
Townsend's Solitaire	1	1	0	0.00	**0.00**				
American Robin	5	5	2	0.09	**0.09**	67.6	56	0.03	0.30
Wrentit	9	15	8	0.38	**0.39**	46.1	26	0.16	0.96
Orange-crowned Warbler	10	16	12	0.57	**0.99**	30.2	26	0.54	1.81
Nashville Warbler	5	7	5	0.24	**0.28**	58.9	79	0.09	0.83
Yellow-rumped Warbler	1	1	1	0.05	**0.03**	102.4	29	0.01	0.20
Black-throated Gray Warbler	6	8	4	0.19	**0.21**	53.1	33	0.08	0.57

Table 8, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
MacGillivray's Warbler	2	2	2	0.09	**0.09**	76.0	37	0.02	0.36
Western Tanager	8	9	8	0.38	**0.25**	37.4	48	0.12	0.51
Green-tailed Towhee	2	2	1	0.05	**0.08**	74.2	34	0.02	0.30
Spotted Towhee	19	34	22	1.04	**1.20**	48.5	187	0.49	2.97
California Towhee	9	10	5	0.24	**0.45**	42.8	26	0.2	1.05
Dark-eyed Junco	3	3	1	0.05	**0.13**	69.7	27	0.04	0.48
Black-headed Grosbeak	16	24	19	0.90	**0.81**	25.9	35	0.48	1.36
Lazuli Bunting	7	8	5	0.24	**0.36**	47.0	26	0.14	0.91
Brown-headed Cowbird	4	4	4	0.19	**0.15**	48.0	26	0.06	0.39
Purple Finch	2	2	1	0.05	**0.05**	79.1	26	0.01	0.22
Lesser Goldfinch	7	9	7	0.33	**0.75**	38.2	26	0.35	1.61

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 9. Results from 22 point counts at locations classified as Aspen Forest. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Mountain Quail	1	1	0	0.00	**0.02**	101.4	21	<0.01	0.12
Anna's Hummingbird	1	1	1	0.06	**--**				
Rufous Hummingbird	1	1	1	0.06	**--**				
Williamson's Sapsucker	1	1	0	0.00	**0.02**	108.7	21	<0.01	0.16
Red-breasted Sapsucker	1	1	1	0.06	**0.02**	108.7	21	<0.01	0.16
White-headed Woodpecker	1	1	1	0.06	**0.02**	108.7	21	<0.01	0.16
Northern Flicker	2	2	1	0.06	**0.04**	71.1	21	0.01	0.16
Olive-sided Flycatcher	10	13	4	0.23	**0.25**	31.3	40	0.13	0.46
Western Wood-Pewee	6	7	2	0.12	**0.11**	48.7	21	0.04	0.28
Dusky Flycatcher	5	5	4	0.23	**0.21**	42.1	25	0.09	0.48
Warbling Vireo	7	14	10	0.58	**0.48**	38.3	31	0.23	1.03
Steller's Jay	6	6	0	0.00	**0.10**	40.3	34	0.05	0.22
Clark's Nutcracker	1	1	0	0.00	**0.01**	100.6	22	<0.01	0.07
Mountain Chickadee	3	3	2	0.12	**0.07**	69.6	51	0.02	0.26
Red-breasted Nuthatch	1	2	1	0.06	**0.05**	108.7	21	0.01	0.31
Brown Creeper	2	2	1	0.06	**0.06**	102.1	21	0.01	0.35
House Wren	1	1	1	0.06	**0.07**	100.2	21	0.01	0.38
Hermit Thrush	3	3	0	0.00	**0.02**	109.3	82	<0.01	0.12
American Robin	5	8	6	0.35	**0.29**	48.1	24	0.11	0.74
Nashville Warbler	2	3	3	0.17	**0.20**	74.5	21	0.05	0.80
Yellow Warbler	1	1	1	0.06	**0.03**	101.1	21	<0.01	0.16
Yellow-rumped Warbler	13	14	7	0.41	**0.38**	24.6	50	0.23	0.62
MacGillivray's Warbler	4	6	4	0.23	**0.40**	51.3	25	0.15	1.09
Wilson's Warbler	3	4	4	0.23	**0.36**	61.0	24	0.11	1.16
Western Tanager	1	1	0	0.00	**0.04**	100.9	21	0.01	0.21
Green-tailed Towhee	3	5	0	0.00	**0.22**	68.1	37	0.06	0.78
Fox Sparrow	11	14	9	0.52	**0.64**	36.4	88	0.32	1.30
Lincoln's Sparrow	2	3	3	0.17	**0.19**	74.0	21	0.05	0.74
White-crowned Sparrow	3	4	2	0.12	**0.13**	59.2	22	0.04	0.40
Dark-eyed Junco	17	25	18	1.04	**1.38**	21.9	40	0.89	2.14

Table 9, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lazuli Bunting	1	2	2	0.12	**0.13**	101.0	21	0.02	0.77
Cassin's Finch	1	1	0	0.00	**0.05**	101.0	22	0.01	0.31
Pine Siskin	3	4	3	0.17	**0.16**	101.0	21	0.03	0.92

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 10. Results from 33 point counts at locations classified as California Black Oak Forest. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Blue Grouse	1	1	0	0.00	**0.00**				
Mountain Quail	13	15	1	0.04	**0.09**	28.5	65	0.05	0.16
Cooper's Hawk	1	1	0	0.00	**--**				
Band-tailed Pigeon	1	1	0	0.00	**0.01**	126.2	32	<0.01	0.08
Mourning Dove	1	1	1	0.04	**0.01**	126.2	32	<0.01	0.08
Unidentified Hummingbird	1	1	1	0.04	**--**				
Acorn Woodpecker	1	1	0	0.00	**0.02**	102.0	32	<0.01	0.11
Downy Woodpecker	1	1	0	0.00	**--**				
Hairy Woodpecker	3	4	2	0.08	**0.10**	61.5	36	0.03	0.32
White-headed Woodpecker	1	1	0	0.00	**0.02**	102.0	35	<0.01	0.11
Northern Flicker	2	2	1	0.04	**0.02**	85.0	67	<0.01	0.08
Pileated Woodpecker	1	1	0	0.00	**0.01**	100.8	32	<0.01	0.07
Western Wood-Pewee	8	9	4	0.15	**0.15**	56.4	167	0.05	0.43
Hammond's Flycatcher	1	1	0	0.00	**0.03**	106.1	32	<0.01	0.16
Dusky Flycatcher	2	2	2	0.08	**0.06**	78.1	50	0.01	0.22
Pacific-slope Flycatcher	3	3	3	0.12	**0.08**	66.2	32	0.02	0.29
Cassin's Vireo	4	5	3	0.12	**0.15**	52.3	32	0.05	0.41
Hutton's Vireo	1	1	1	0.04	**0.03**	100.8	32	0.01	0.16
Warbling Vireo	5	5	2	0.08	**0.09**	57.4	35	0.03	0.26
Steller's Jay	12	14	4	0.15	**0.18**	28.5	40	0.1	0.32
Western Scrub-Jay	3	2	1	0.04	**0.03**	70.2	32	0.01	0.10
Common Raven	3	3	0	0.00	**0.03**	59.3	40	0.01	0.09
Mountain Chickadee	3	3	1	0.04	**0.08**	57.4	36	0.03	0.23
Red-breasted Nuthatch	5	5	2	0.08	**0.04**	93.0	296	0.01	0.19
Brown Creeper	2	2	2	0.08	**0.09**	71.1	35	0.02	0.33
Bewick's Wren	3	3	2	0.08	**0.09**	71.6	32	0.02	0.34
Winter Wren	1	1	1	0.04	**0.02**	101.8	34	<0.01	0.13
Golden-crowned Kinglet	1	1	1	0.04	**0.08**	104.4	38	0.01	0.43
Townsend's Solitaire	2	2	0	0.00	**0.01**	100.8	33	<0.01	0.07
American Robin	8	10	6	0.23	**0.24**	51.2	142	0.09	0.62

Table 10, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Wrentit	9	10	2	0.08	**0.15**	46.2	32	0.06	0.36
Orange-crowned Warbler	3	3	2	0.08	**0.16**	56.4	32	0.06	0.47
Nashville Warbler	27	47	37	1.43	**1.63**	41.9	254	0.74	3.61
Black-throated Gray Warbler	4	4	4	0.15	**0.11**	50.8	41	0.04	0.30
Hermit Warbler	1	1	1	0.04	**0.03**	107.8	43	<0.01	0.17
MacGillivray's Warbler	9	9	6	0.23	**0.33**	42.5	114	0.15	0.75
Wilson's Warbler	1	1	1	0.04	**0.03**	102.4	32	0.01	0.16
Western Tanager	17	25	9	0.35	**0.54**	27.9	110	0.31	0.92
Green-tailed Towhee	1	2	2	0.08	**0.06**	103.4	37	0.01	0.35
Spotted Towhee	21	30	25	0.96	**0.86**	48.7	193	0.35	2.14
Chipping Sparrow	2	2	1	0.04	**0.11**	70.0	32	0.03	0.39
Fox Sparrow	1	1	1	0.04	**0.02**	103.6	37	<0.01	0.14
Dark-eyed Junco	12	15	11	0.42	**0.70**	32.0	36	0.37	1.32
Black-headed Grosbeak	22	36	16	0.62	**1.01**	18.5	57	0.7	1.45
Lazuli Bunting	4	4	3	0.12	**0.15**	56.9	32	0.05	0.44
Brown-headed Cowbird	1	1	1	0.04	**0.03**	100.5	32	0.01	0.17
Purple Finch	3	4	2	0.08	**0.07**	82.8	32	0.01	0.28
Lesser Goldfinch	2	2	2	0.08	**0.14**	70.9	32	0.04	0.50

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 11. Results from 19 point counts at locations classified as Blue Oak Woodland. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Mountain Quail	4	4	0	0.00	**0.04**	48.4	23	0.02	0.11
California Quail	11	17	6	0.40	**0.60**	36.1	18	0.29	1.25
Cooper's Hawk	1	1	0	0.00	--				
Red-tailed Hawk	1	0	0	0.00	--				
Killdeer	1	1	0	0.00	--				
Mourning Dove	5	8	2	0.13	**0.14**	87.6	18	0.03	0.70
Anna's Hummingbird	5	6	6	0.40	--				
Acorn Woodpecker	16	32	10	0.67	**0.88**	26.9	18	0.51	1.53
Nuttall's Woodpecker	4	7	1	0.07	**0.17**	52.9	18	0.06	0.48
Northern Flicker	2	2	0	0.00	**0.03**	84.3	39	0.01	0.15
Western Wood-Pewee	1	1	0	0.00	**0.03**	110.0	26	<0.01	0.18
Pacific-slope Flycatcher	1	1	1	0.07	**0.05**	106.1	18	0.01	0.30
Black Phoebe	1	1	0	0.00	--				
Ash-throated Flycatcher	15	21	14	0.94	**0.59**	48.2	18	0.22	1.53
Western Kingbird	3	2	1	0.07	--				
Hutton's Vireo	2	3	2	0.13	**0.16**	74.0	18	0.04	0.62
Western Scrub-Jay	9	15	8	0.54	**0.37**	31.4	18	0.19	0.70
Common Raven	2	2	0	0.00	**0.02**	102.0	19	<0.01	0.10
Violet-green Swallow	3	0	0	0.00	--				
Oak Titmouse	13	18	14	0.94	**0.89**	27.2	18	0.51	1.55
Bushtit	2	5	5	0.34	**0.60**	71.5	18	0.15	2.30
White-breasted Nuthatch	7	9	0	0.00	**0.19**	38.4	30	0.09	0.41
Bewick's Wren	3	3	2	0.13	**0.11**	82.0	18	0.02	0.48
House Wren	7	16	12	0.80	**0.80**	55.6	18	0.27	2.38
Blue-gray Gnatcatcher	7	7	6	0.40	**0.79**	45.9	18	0.31	1.97
Western Bluebird	3	5	5	0.34	--				
American Robin	1	1	0	0.00	**0.00**				
Wrentit	5	6	0	0.00	**0.00**				
European Starling	1	1	0	0.00	--				
Orange-crowned Warbler	1	1	0	0.00	**0.09**	100.3	18	0.02	0.54

Table 11, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Yellow-rumped Warbler	1	1	1	0.07	**0.05**	102.4	20	0.01	0.29
Wilson's Warbler	1	1	1	0.07	**0.05**	102.4	18	0.01	0.29
Western Tanager	2	2	0	0.00	**0.08**	71.4	21	0.02	0.30
Spotted Towhee	10	12	4	0.27	**0.37**	58.2	87	0.13	1.09
California Towhee	10	10	2	0.13	**0.45**	43.9	18	0.19	1.09
Rufous-crowned Sparrow	4	4	1	0.07	**0.16**	70.5	18	0.04	0.61
Chipping Sparrow	2	2	1	0.07	**0.19**	69.1	18	0.05	0.69
Dark-eyed Junco	3	4	4	0.27	**0.37**	58.8	19	0.12	1.17
Black-headed Grosbeak	5	6	2	0.13	**0.33**	43.4	20	0.14	0.78
Lazuli Bunting	2	2	2	0.13	**0.13**	75.5	18	0.03	0.53
Brown-headed Cowbird	7	9	5	0.34	**0.49**	35.0	18	0.24	1.01
Bullock's Oriole	3	3	1	0.07	**--**				
Purple Finch	2	2	2	0.13	**0.08**	78.5	18	0.02	0.32
House Finch	3	3	0	0.00	**--**				
Lesser Goldfinch	12	21	20	1.34	**2.50**	29.0	18	1.38	4.55

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 12. Results from 10 point counts at locations classified as Undifferentiated Riparian. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Blue Grouse	1	1	0	0.00	**0.03**	126.2	9	<0.01	0.31
Mountain Quail	1	1	0	0.00	**0.02**	101.3	9	<0.01	0.14
Red-breasted Sapsucker	1	1	1	0.13	**0.07**	101.4	9	0.01	0.48
Hairy Woodpecker	1	1	0	0.00	**0.08**	101.1	9	0.01	0.55
Northern Flicker	2	3	0	0.00	**0.09**	86.3	19	0.02	0.45
Olive-sided Flycatcher	1	1	0	0.00	**0.04**	100.8	9	0.01	0.27
Western Wood-Pewee	6	6	3	0.38	**0.33**	53.2	95	0.12	0.90
Hammond's Flycatcher	1	1	1	0.13	**0.09**	106.1	9	0.01	0.66
Cassin's Vireo	2	2	2	0.25	**0.20**	67.9	9	0.05	0.79
Warbling Vireo	8	16	12	1.53	**1.58**	26.5	15	0.9	2.74
Steller's Jay	4	6	3	0.38	**0.28**	51.8	10	0.09	0.83
Mountain Chickadee	1	1	0	0.00	**0.09**	100.9	9	0.01	0.57
Brown Creeper	1	1	1	0.13	**0.15**	101.0	9	0.02	0.97
Swainson's Thrush	1	1	0	0.00	**--**				
American Robin	6	11	5	0.64	**0.87**	48.0	64	0.35	2.16
Orange-crowned Warbler	1	1	1	0.13	**0.18**	100.3	9	0.03	1.17
Nashville Warbler	2	3	1	0.13	**0.38**	81.3	15	0.08	1.71
Yellow-rumped Warbler	2	2	2	0.25	**0.19**	70.2	11	0.05	0.75
MacGillivray's Warbler	2	3	1	0.13	**0.25**	73.6	13	0.06	1.01
Wilson's Warbler	5	6	5	0.64	**0.56**	42.9	9	0.22	1.42
Western Tanager	3	3	0	0.00	**0.15**	69.4	11	0.04	0.59
Green-tailed Towhee	4	7	7	0.89	**0.73**	54.7	15	0.24	2.16
Spotted Towhee	1	3	1	0.13	**0.30**	109.6	13	0.04	2.07
Fox Sparrow	1	1	1	0.13	**0.08**	103.6	10	0.01	0.54
Song Sparrow	4	5	0	0.00	**0.24**	57.6	9	0.07	0.82
White-crowned Sparrow	1	1	1	0.13	**0.08**	103.6	9	0.01	0.56
Dark-eyed Junco	4	6	6	0.76	**1.07**	45.0	9	0.41	2.80
Brewer's Blackbird	1	0	0	0.00	**--**				

Table 12, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Purple Finch	1	1	1	0.13	**0.07**	107.0	9	0.01	0.52

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 13. Results from 374 point counts at locations classified as Lodgepole Pine Forest. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Mallard	1	1	0	0.00	--				
Blue Grouse	9	9	3	0.01	**0.01**	83.7	372	<0.01	0.03
Mountain Quail	8	8	0	0.00	**<0.01**	40.8	480	<0.01	0.01
Sharp-shinned Hawk	1	1	0	0.00	--				
Red-tailed Hawk	1	1	0	0.00	--				
Spotted Sandpiper	4	5	4	0.01	**0.02**	61.5	372	0.01	0.06
White-throated Swift	1	0	0	0.00	--				
Anna's Hummingbird	3	3	3	0.01	--				
Calliope Hummingbird	4	3	3	0.01	--				
Rufous Hummingbird	14	19	18	0.06	--				
Williamson's Sapsucker	12	13	7	0.02	**0.02**	33.9	372	0.01	0.05
Red-breasted Sapsucker	2	1	1	0.00	**<0.01**	72.6	372	<0.01	0.01
Downy Woodpecker	1	2	2	0.01	--				
Hairy Woodpecker	15	16	7	0.02	**0.04**	30.1	376	0.02	0.06
White-headed Woodpecker	3	3	2	0.01	**0.01**	61.0	432	<0.01	0.02
Northern Flicker	21	22	2	0.01	**0.02**	54.5	191	0.01	0.04
Pileated Woodpecker	1	1	0	0.00	**0.00**				
Olive-sided Flycatcher	29	30	9	0.03	**0.03**	22.3	479	0.02	0.05
Western Wood-Pewee	26	30	17	0.06	**0.04**	50.2	265	0.02	0.11
Hammond's Flycatcher	2	2	2	0.01	**0.01**	79.0	372	<0.01	0.02
Dusky Flycatcher	130	153	98	0.33	**0.36**	36.2	386	0.18	0.72
Cassin's Vireo	4	4	2	0.01	**0.01**	59.0	372	<0.01	0.02
Warbling Vireo	37	48	34	0.12	**0.12**	21.2	561	0.08	0.18
Steller's Jay	35	46	19	0.06	**0.06**	20.3	561	0.04	0.08
Clark's Nutcracker	74	104	25	0.09	**0.09**	25.9	322	0.05	0.14
Common Raven	7	7	0	0.00	**0.01**	45.1	405	<0.01	0.01
Violet-green Swallow	1	3	0	0.00	--				
Mountain Chickadee	170	263	169	0.58	**0.58**	14.8	1096	0.43	0.77
Red-breasted Nuthatch	34	37	6	0.02	**0.03**	81.9	481	0.01	0.13
White-breasted Nuthatch	28	35	14	0.05	**0.04**	27.2	349	0.02	0.06

Table 13, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Brown Creeper	56	62	60	0.20	**0.24**	19.4	467	0.17	0.36
Rock Wren	7	7	0	0.00	**0.01**	72.9	372	<0.01	0.03
House Wren	1	1	1	0.00	**<0.01**	109.6	372	<0.01	0.02
Winter Wren	1	1	0	0.00	**0.00**				
American Dipper	6	6	4	0.01	**--**				
Golden-crowned Kinglet	32	39	31	0.11	**0.21**	36.7	750	0.1	0.42
Ruby-crowned Kinglet	53	69	37	0.13	**0.12**	20.8	276	0.08	0.17
Mountain Bluebird	6	10	8	0.03	**0.05**	60.0	372	0.02	0.14
Townsend's Solitaire	31	34	9	0.03	**0.04**	22.0	459	0.03	0.06
Swainson's Thrush	1	1	0	0.00	**--**				
Hermit Thrush	150	189	42	0.14	**0.16**	77.4	300	0.04	0.62
American Robin	52	58	32	0.11	**0.11**	41.4	355	0.05	0.24
Nashville Warbler	9	9	8	0.03	**0.03**	52.7	518	0.01	0.07
Yellow-rumped Warbler	225	335	223	0.76	**0.76**	22.7	864	0.49	1.18
Hermit Warbler	9	12	10	0.03	**0.03**	53.3	356	0.01	0.08
MacGillivray's Warbler	17	23	12	0.04	**0.06**	44.0	403	0.03	0.14
Wilson's Warbler	22	24	17	0.06	**0.06**	30.7	372	0.03	0.11
Western Tanager	11	12	8	0.03	**0.02**	37.7	604	0.01	0.04
Green-tailed Towhee	2	4	4	0.01	**0.01**	75.4	420	<0.01	0.04
Chipping Sparrow	15	15	9	0.03	**0.06**	28.2	372	0.04	0.11
Fox Sparrow	23	37	20	0.07	**0.08**	35.4	641	0.04	0.15
Lincoln's Sparrow	9	11	6	0.02	**0.04**	43.7	372	0.02	0.09
White-crowned Sparrow	31	41	21	0.07	**0.08**	33.8	372	0.04	0.16
Dark-eyed Junco	215	331	230	0.78	**1.41**	9.6	1082	1.17	1.69
Lazuli Bunting	3	3	3	0.01	**0.01**	65.5	372	<0.01	0.03
Red-winged Blackbird	1	1	0	0.00	**--**				
Brewer's Blackbird	1	0	0	0.00	**--**				
Gray-crowned Rosy-Finch	4	6	3	0.01	**0.02**	75.6	372	<0.01	0.07
Pine Grosbeak	4	6	6	0.02	**0.01**	64.8	372	<0.01	0.04
Purple Finch	6	9	6	0.02	**0.02**	59.3	372	0.01	0.05

Table 13, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Cassin's Finch	75	99	55	0.19	**0.18**	40.0	273	0.08	0.38
Red Crossbill	16	13	7	0.02	**0.03**	40.8	372	0.01	0.06
Pine Siskin	50	70	60	0.20	**0.38**	23.2	437	0.24	0.60
Evening Grosbeak	6	5	3	0.01	**0.01**	48.0	438	<0.01	0.03

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 14. Results from 16 point counts at locations classified as Ponderosa Pine Woodland. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Blue Grouse	1	1	0	0.00	**0.00**				
Mountain Quail	4	4	0	0.00	**0.04**	56.1	18	0.01	0.12
Mourning Dove	1	1	0	0.00	**0.02**	126.2	15	<0.01	0.17
White-throated Swift	1	3	0	0.00	**--**				
Belted Kingfisher	1	1	1	0.08	**--**				
Acorn Woodpecker	1	1	0	0.00	**0.00**				
Hairy Woodpecker	2	2	0	0.00	**0.05**	101.1	16	0.01	0.31
Northern Flicker	2	2	1	0.08	**0.04**	83.9	33	0.01	0.17
Pileated Woodpecker	1	1	0	0.00	**0.03**	100.8	15	<0.01	0.15
Olive-sided Flycatcher	4	4	0	0.00	**0.10**	46.4	17	0.04	0.26
Western Wood-Pewee	8	9	4	0.32	**0.31**	53.6	128	0.12	0.84
Dusky Flycatcher	1	1	1	0.08	**0.06**	106.1	19	0.01	0.35
Hutton's Vireo	1	1	1	0.08	**0.06**	100.8	15	0.01	0.37
Warbling Vireo	5	6	2	0.16	**0.25**	46.5	18	0.1	0.63
Steller's Jay	11	16	4	0.32	**0.41**	24.9	20	0.25	0.68
Common Raven	1	1	1	0.08	**0.02**	102.0	16	<0.01	0.12
Mountain Chickadee	10	12	3	0.24	**0.49**	26.3	27	0.29	0.83
Red-breasted Nuthatch	3	3	2	0.16	**0.06**	96.3	133	0.01	0.32
Brown Creeper	3	5	3	0.24	**0.28**	74.0	16	0.07	1.11
Townsend's Solitaire	2	2	1	0.08	**0.03**	100.8	16	<0.01	0.16
Hermit Thrush	2	3	0	0.00	**0.06**	105.8	64	0.01	0.36
American Robin	4	5	3	0.24	**0.20**	59.1	44	0.07	0.60
Wrentit	2	2	0	0.00	**0.05**	103.6	15	0.01	0.31
Nashville Warbler	3	4	3	0.24	**0.23**	82.5	25	0.05	1.04
Yellow-rumped Warbler	5	7	3	0.24	**0.23**	49.8	23	0.09	0.62
Black-throated Gray Warbler	2	3	3	0.24	**0.18**	74.7	17	0.04	0.72
Hermit Warbler	1	2	0	0.00	**0.00**				
MacGillivray's Warbler	3	4	3	0.24	**0.31**	65.6	25	0.09	1.05
Western Tanager	8	8	1	0.08	**0.28**	38.5	27	0.13	0.59
Green-tailed Towhee	2	2	0	0.00	**0.13**	73.3	20	0.03	0.51

Table 14, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Spotted Towhee	5	9	6	0.48	**0.51**	65.8	48	0.15	1.69
Chipping Sparrow	1	2	2	0.16	**0.22**	100.3	15	0.04	1.31
Fox Sparrow	5	8	5	0.40	**0.35**	49.5	30	0.14	0.92
Dark-eyed Junco	8	8	4	0.32	**0.67**	34.1	16	0.33	1.34
Black-headed Grosbeak	3	4	2	0.16	**0.26**	58.5	16	0.08	0.82
Lazuli Bunting	1	1	0	0.00	**0.00**				
Brown-headed Cowbird	1	1	1	0.08	**0.06**	100.5	15	0.01	0.39
Purple Finch	2	2	1	0.08	**0.09**	78.2	15	0.02	0.39
Cassin's Finch	2	2	0	0.00	**0.04**	107.0	20	0.01	0.28
Lesser Goldfinch	1	1	1	0.08	**0.14**	100.9	15	0.02	0.84

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 15. Results from 53 point counts at locations classified as Ponderosa Pine-Incense-cedar Forest. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Blue Grouse	3	3	0	0.00	**0.01**	104.1	52	<0.01	0.07
Mountain Quail	12	12	0	0.00	**0.04**	32.9	86	0.02	0.07
Cooper's Hawk	1	1	0	0.00	**--**				
Northern Pygmy-Owl	2	2	0	0.00	**--**				
White-throated Swift	5	8	0	0.00	**--**				
Anna's Hummingbird	2	2	2	0.05	**--**				
Hairy Woodpecker	3	4	3	0.07	**0.06**	62.1	59	0.02	0.20
White-headed Woodpecker	4	5	4	0.10	**0.06**	55.4	68	0.02	0.17
Northern Flicker	7	8	3	0.07	**0.05**	61.5	172	0.02	0.15
Pileated Woodpecker	1	1	0	0.00	**0.00**				
Olive-sided Flycatcher	4	4	1	0.02	**0.02**	57.9	57	0.01	0.07
Western Wood-Pewee	15	17	7	0.17	**0.17**	51.1	238	0.06	0.43
Dusky Flycatcher	5	5	3	0.07	**0.05**	66.8	98	0.02	0.17
Pacific-slope Flycatcher	3	3	1	0.02	**0.03**	78.5	52	0.01	0.14
Cassin's Vireo	7	7	3	0.07	**0.13**	37.8	52	0.06	0.27
Hutton's Vireo	1	1	0	0.00	**0.02**	100.8	52	<0.01	0.10
Warbling Vireo	9	11	6	0.14	**0.19**	34.6	69	0.1	0.36
Steller's Jay	30	52	21	0.50	**0.41**	18.5	92	0.29	0.60
Mountain Chickadee	12	17	6	0.14	**0.26**	31.9	75	0.14	0.49
Red-breasted Nuthatch	9	9	0	0.00	**0.04**	87.5	473	0.01	0.20
Brown Creeper	9	9	7	0.17	**0.19**	38.4	70	0.09	0.41
Golden-crowned Kinglet	6	8	8	0.19	**0.38**	51.2	117	0.14	0.98
Townsend's Solitaire	1	1	0	0.00	**0.00**				
American Robin	17	22	12	0.29	**0.28**	46.0	285	0.12	0.67
Wrentit	3	3	1	0.02	**0.05**	62.7	52	0.01	0.15
American Dipper	1	1	1	0.02	**--**				
Nashville Warbler	22	34	27	0.65	**0.73**	43.8	274	0.32	1.67
Yellow Warbler	3	3	3	0.07	**0.05**	60.7	52	0.02	0.16
Yellow-rumped Warbler	5	5	3	0.07	**0.09**	48.3	82	0.04	0.22
Black-throated Gray Warbler	8	10	4	0.10	**0.16**	42.0	74	0.07	0.35

Table 15, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Hermit Warbler	3	3	1	0.02	**0.02**	107.8	70	<0.01	0.10
MacGillivray's Warbler	8	13	9	0.22	**0.25**	48.8	126	0.1	0.63
Wilson's Warbler	1	1	1	0.02	**0.02**	102.4	52	<0.01	0.10
Western Tanager	16	17	11	0.26	**0.22**	30.0	142	0.13	0.40
Green-tailed Towhee	1	1	1	0.02	**0.02**	103.4	59	<0.01	0.11
Spotted Towhee	21	28	19	0.46	**0.52**	48.8	205	0.21	1.28
Fox Sparrow	10	17	7	0.17	**0.17**	46.2	114	0.07	0.40
Song Sparrow	1	1	1	0.02	**0.02**	103.6	52	<0.01	0.08
Dark-eyed Junco	25	38	34	0.82	**1.27**	18.1	74	0.89	1.82
Black-headed Grosbeak	19	23	12	0.29	**0.41**	24.8	71	0.25	0.67
Lazuli Bunting	3	4	4	0.10	**0.09**	67.8	52	0.03	0.32
Brown-headed Cowbird	1	1	1	0.02	**0.02**	100.5	52	<0.01	0.10
Purple Finch	3	4	1	0.02	**0.03**	79.7	52	0.01	0.11
Cassin's Finch	1	1	1	0.02	**0.01**	107.0	68	<0.01	0.08
Lesser Goldfinch	1	1	1	0.02	**0.04**	100.9	52	0.01	0.23

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 16. Results from 82 point counts at locations classified as Jeffrey Pine Woodland. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Blue Grouse	9	10	1	0.02	**0.04**	84.7	81	0.01	0.16
Mountain Quail	16	20	4	0.06	**0.05**	29.0	151	0.03	0.09
American Kestrel	1	0	0	0.00	--				
Anna's Hummingbird	1	1	1	0.02	--				
Calliope Hummingbird	1	1	1	0.02	--				
Williamson's Sapsucker	1	1	0	0.00	**0.01**	101.4	81	<0.01	0.05
Red-breasted Sapsucker	2	2	2	0.03	**0.02**	72.3	81	<0.01	0.06
Hairy Woodpecker	8	8	5	0.08	**0.08**	37.0	110	0.04	0.17
White-headed Woodpecker	8	10	3	0.05	**0.07**	40.7	126	0.03	0.15
Northern Flicker	12	14	1	0.02	**0.05**	56.2	189	0.02	0.14
Olive-sided Flycatcher	22	26	10	0.16	**0.12**	23.7	139	0.08	0.20
Western Wood-Pewee	28	33	9	0.14	**0.20**	48.9	232	0.08	0.49
Hammond's Flycatcher	1	1	1	0.02	**0.01**	106.1	81	<0.01	0.06
Dusky Flycatcher	25	33	23	0.36	**0.32**	40.2	428	0.15	0.67
Cassin's Vireo	2	2	2	0.03	**0.02**	71.4	81	0.01	0.09
Warbling Vireo	12	17	13	0.20	**0.19**	32.7	112	0.1	0.36
Steller's Jay	39	66	24	0.37	**0.33**	17.2	158	0.24	0.46
Clark's Nutcracker	3	3	1	0.02	**0.01**	61.4	108	<0.01	0.04
Common Raven	4	4	0	0.00	**0.02**	52.9	105	0.01	0.04
Mountain Chickadee	44	67	33	0.51	**0.66**	19.6	247	0.45	0.97
Red-breasted Nuthatch	25	30	5	0.08	**0.11**	82.5	487	0.03	0.44
White-breasted Nuthatch	5	4	0	0.00	**0.02**	47.3	109	0.01	0.06
Brown Creeper	8	7	6	0.09	**0.14**	36.8	112	0.07	0.29
Rock Wren	1	1	0	0.00	**0.00**				
House Wren	2	2	0	0.00	**0.01**	109.6	81	<0.01	0.07
American Dipper	1	0	0	0.00	--				
Golden-crowned Kinglet	23	30	28	0.43	**0.82**	36.0	444	0.41	1.63
Blue-gray Gnatcatcher	1	1	1	0.02	**0.03**	104.4	81	0.01	0.17
Townsend's Solitaire	10	10	4	0.06	**0.05**	34.2	108	0.02	0.09
Hermit Thrush	5	5	1	0.02	**0.02**	88.5	373	<0.01	0.09

Table 16, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
American Robin	13	13	7	0.11	**0.13**	47.6	329	0.05	0.31
Wrentit	3	5	1	0.02	**0.03**	78.9	81	0.01	0.12
Nashville Warbler	24	37	28	0.43	**0.49**	44.3	298	0.21	1.12
Yellow Warbler	3	3	3	0.05	**0.03**	61.1	81	0.01	0.11
Yellow-rumped Warbler	19	23	16	0.25	**0.23**	33.5	237	0.12	0.43
Black-throated Gray Warbler	2	2	0	0.00	**0.01**	101.6	86	<0.01	0.06
Hermit Warbler	6	6	3	0.05	**0.06**	59.3	196	0.02	0.17
MacGillivray's Warbler	15	17	14	0.22	**0.25**	39.8	220	0.12	0.54
Wilson's Warbler	2	2	1	0.02	**0.01**	102.4	81	<0.01	0.06
Western Tanager	30	40	21	0.33	**0.33**	25.6	312	0.2	0.55
Green-tailed Towhee	9	13	4	0.06	**0.13**	42.3	129	0.06	0.28
Spotted Towhee	13	16	12	0.19	**0.19**	52.3	237	0.07	0.49
Chipping Sparrow	2	3	1	0.02	**0.07**	74.5	81	0.02	0.24
Fox Sparrow	49	92	54	0.84	**0.84**	30.0	390	0.47	1.50
Song Sparrow	1	1	0	0.00	**0.01**	103.6	81	<0.01	0.05
Dark-eyed Junco	33	46	29	0.45	**0.93**	18.1	114	0.65	1.33
Black-headed Grosbeak	2	2	2	0.03	**0.03**	70.9	84	0.01	0.09
Lazuli Bunting	4	5	5	0.08	**0.07**	60.7	81	0.02	0.23
Brewer's Blackbird	1	0	0	0.00	**--**				
Cassin's Finch	11	11	5	0.08	**0.09**	48.3	285	0.04	0.22
Pine Siskin	1	2	2	0.03	**0.06**	100.9	84	0.01	0.29
Lesser Goldfinch	1	2	2	0.03	**0.06**	100.9	81	0.01	0.29
Evening Grosbeak	1	1	1	0.02	**0.01**	101.6	86	<0.01	0.05

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 17. Results from 20 point counts at locations classified as Western White Pine Woodland. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed < 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Mountain Quail	2	2	0	0.00	**0.02**	70.7	21	0.01	0.08
Rufous Hummingbird	1	3	3	0.19	**--**				
Williamson's Sapsucker	2	2	2	0.13	**0.07**	70.9	19	0.02	0.27
Hairy Woodpecker	2	1	1	0.06	**0.08**	70.5	21	0.02	0.32
Northern Flicker	2	2	0	0.00	**0.03**	84.4	41	0.01	0.14
Dusky Flycatcher	5	5	4	0.25	**0.23**	53.2	59	0.08	0.63
Warbling Vireo	1	1	0	0.00	**0.00**				
Steller's Jay	7	7	1	0.06	**0.16**	32.6	23	0.08	0.32
Clark's Nutcracker	8	11	5	0.32	**0.20**	40.0	41	0.09	0.44
Mountain Chickadee	13	21	12	0.76	**0.87**	24.4	38	0.54	1.42
Red-breasted Nuthatch	5	6	4	0.25	**0.10**	90.6	253	0.02	0.47
White-breasted Nuthatch	5	5	3	0.19	**0.10**	43.7	28	0.04	0.24
Brown Creeper	5	5	5	0.32	**0.37**	42.3	24	0.16	0.85
Golden-crowned Kinglet	1	1	1	0.06	**0.12**	104.4	23	0.02	0.74
Ruby-crowned Kinglet	2	2	1	0.06	**0.07**	70.4	21	0.02	0.25
Mountain Bluebird	2	3	3	0.19	**0.34**	74.2	19	0.08	1.36
Townsend's Solitaire	9	11	5	0.32	**0.24**	30.7	28	0.13	0.44
Hermit Thrush	5	5	0	0.00	**0.09**	86.6	225	0.02	0.37
American Robin	2	2	0	0.00	**0.08**	78.9	33	0.02	0.33
Yellow-rumped Warbler	10	17	14	0.89	**0.80**	34.1	55	0.41	1.54
Hermit Warbler	1	1	1	0.06	**0.05**	107.8	26	0.01	0.29
MacGillivray's Warbler	1	1	0	0.00	**0.06**	104.7	23	0.01	0.36
Western Tanager	1	1	0	0.00	**0.00**				
Chipping Sparrow	1	1	1	0.06	**0.09**	100.3	19	0.02	0.51
Dark-eyed Junco	14	22	15	0.95	**1.87**	23.5	23	1.16	3.01
Cassin's Finch	6	6	4	0.25	**0.22**	51.7	80	0.08	0.57
Pine Siskin	8	11	10	0.64	**1.25**	48.5	22	0.48	3.23

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 18. Results from 53 point counts at locations classified as Whitebark Pine Woodland. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Spotted Sandpiper	1	1	0	0.00	**0.00**				
Northern Flicker	1	1	0	0.00	**0.00**				
Dusky Flycatcher	20	21	16	0.38	**0.36**	22.3	103	0.24	0.56
Cassin's Vireo	1	1	0	0.00	**0.02**	101.4	52	<0.01	0.08
Warbling Vireo	1	1	0	0.00	**0.02**	101.4	55	<0.01	0.08
Clark's Nutcracker	26	49	16	0.38	**0.23**	23.0	83	0.15	0.37
Common Raven	1	1	0	0.00	**<0.01**	100.6	52	<0.01	0.03
Mountain Chickadee	16	25	18	0.43	**0.26**	48.7	196	0.1	0.64
White-breasted Nuthatch	3	3	0	0.00	**0.02**	82.0	52	<0.01	0.09
Brown Creeper	2	2	2	0.05	**0.05**	73.0	52	0.01	0.19
Rock Wren	6	6	1	0.02	**0.08**	56.9	52	0.03	0.24
Ruby-crowned Kinglet	2	2	1	0.02	**0.02**	71.6	52	0.01	0.08
Townsend's Solitaire	2	2	1	0.02	**0.04**	71.4	52	0.01	0.16
Hermit Thrush	23	27	1	0.02	**0.11**	86.7	86	0.02	0.48
American Robin	6	6	1	0.02	**0.09**	41.0	64	0.04	0.20
Yellow-rumped Warbler	16	19	13	0.31	**0.21**	27.2	99	0.13	0.36
MacGillivray's Warbler	1	1	1	0.02	**0.03**	101.0	54	0.01	0.15
Wilson's Warbler	2	3	1	0.02	**0.04**	101.3	55	0.01	0.20
Chipping Sparrow	2	2	2	0.05	**0.05**	71.0	52	0.01	0.19
Fox Sparrow	3	3	2	0.05	**0.06**	62.8	77	0.02	0.18
White-crowned Sparrow	37	65	32	0.77	**0.81**	15.0	82	0.6	1.09
Dark-eyed Junco	26	32	23	0.55	**0.78**	22.1	97	0.51	1.20
Gray-crowned Rosy-Finch	14	22	13	0.31	**0.58**	31.0	74	0.32	1.06
Purple Finch	2	2	2	0.05	**0.04**	71.4	52	0.01	0.16
Cassin's Finch	7	9	7	0.17	**0.20**	40.5	66	0.09	0.44

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 19. Results from 157 point counts at locations classified as Foxtail Pine. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Mountain Quail	1	1	1	0.01	**<0.01**	101.3	164	<0.01	0.01
Spotted Sandpiper	1	1	0	0.00	**0.00**				
Band-tailed Pigeon	1	1	0	0.00	**0.00**				
Anna's Hummingbird	1	1	0	0.00	--				
Calliope Hummingbird	1	1	1	0.01	--				
Rufous Hummingbird	10	8	8	0.06	--				
Williamson's Sapsucker	9	9	2	0.02	**0.03**	40.8	156	0.01	0.07
Hairy Woodpecker	3	3	0	0.00	**0.00**				
White-headed Woodpecker	2	3	2	0.02	**0.01**	77.0	177	<0.01	0.05
Northern Flicker	7	8	2	0.02	**0.01**	63.2	257	<0.01	0.04
Olive-sided Flycatcher	4	4	1	0.01	**0.01**	51.0	175	<0.01	0.03
Western Wood-Pewee	1	1	1	0.01	**<0.01**	110.0	220	<0.01	0.02
Hammond's Flycatcher	2	2	2	0.02	**0.01**	78.9	156	<0.01	0.05
Dusky Flycatcher	78	95	53	0.43	**0.50**	36.6	399	0.25	1.00
Cassin's Vireo	1	1	0	0.00	**0.01**	100.8	156	<0.01	0.03
Warbling Vireo	1	1	1	0.01	**0.01**	100.8	161	<0.01	0.03
Steller's Jay	8	10	2	0.02	**0.03**	40.5	174	0.01	0.06
Clark's Nutcracker	57	84	14	0.11	**0.15**	27.1	330	0.09	0.25
Common Raven	2	2	0	0.00	**<0.01**	102.0	168	<0.01	0.01
Mountain Chickadee	94	152	78	0.63	**0.72**	16.0	783	0.52	0.98
Red-breasted Nuthatch	10	13	2	0.02	**0.03**	86.4	554	0.01	0.12
White-breasted Nuthatch	42	54	15	0.12	**0.12**	24.5	229	0.07	0.19
Brown Creeper	14	14	10	0.08	**0.10**	32.6	231	0.06	0.19
Rock Wren	11	13	7	0.06	**0.06**	57.9	156	0.02	0.19
Golden-crowned Kinglet	1	1	1	0.01	**0.02**	104.4	185	<0.01	0.09
Ruby-crowned Kinglet	23	25	7	0.06	**0.08**	28.3	239	0.05	0.14
Mountain Bluebird	16	24	13	0.11	**0.23**	46.5	156	0.1	0.55
Townsend's Solitaire	17	21	2	0.02	**0.04**	30.8	216	0.02	0.08
Hermit Thrush	43	61	4	0.03	**0.10**	78.8	322	0.02	0.37
American Robin	13	16	6	0.05	**0.05**	55.1	392	0.02	0.14

Table 19, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Orange-crowned Warbler	1	1	1	0.01	**0.01**	100.3	156	<0.01	0.06
Yellow-rumped Warbler	85	109	57	0.46	**0.55**	24.1	930	0.35	0.88
MacGillivray's Warbler	2	2	1	0.01	**0.02**	77.1	214	<0.01	0.06
Wilson's Warbler	1	1	1	0.01	**0.01**	102.4	156	<0.01	0.03
Western Tanager	1	1	0	0.00	**<0.01**	101.9	168	<0.01	0.02
Green-tailed Towhee	1	1	0	0.00	**0.01**	103.4	176	<0.01	0.04
Chipping Sparrow	6	6	2	0.02	**0.02**	70.9	156	0.01	0.08
Fox Sparrow	2	2	0	0.00	**0.01**	103.6	179	<0.01	0.03
White-crowned Sparrow	6	8	3	0.02	**0.03**	63.4	156	0.01	0.10
Dark-eyed Junco	40	58	37	0.30	**0.55**	17.6	223	0.39	0.78
Brewer's Blackbird	1	0	0	0.00	**--**				
Gray-crowned Rosy-Finch	3	4	3	0.02	**0.04**	75.5	156	0.01	0.16
Pine Grosbeak	2	4	1	0.01	**0.02**	87.6	156	<0.01	0.08
Purple Finch	1	1	0	0.00	**<0.01**	107.0	156	<0.01	0.03
Cassin's Finch	55	77	48	0.39	**0.31**	40.5	281	0.14	0.66
Red Crossbill	12	4	3	0.02	**0.02**	80.9	156	0.01	0.09
Pine Siskin	9	7	3	0.02	**0.07**	54.1	176	0.03	0.20
Evening Grosbeak	3	3	1	0.01	**0.02**	60.1	184	0.01	0.05

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 20. Results from 76 point counts at locations classified as Giant Sequoia Forest. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Blue Grouse	1	1	0	0.00	**<0.01**	126.2	75	<0.01	0.03
Mountain Quail	16	17	1	0.02	**0.04**	30.8	131	0.02	0.07
Band-tailed Pigeon	2	2	1	0.02	**0.01**	104.2	75	<0.01	0.05
Great Horned Owl	1	1	1	0.02	**--**				
Williamson's Sapsucker	1	1	0	0.00	**0.01**	101.4	75	<0.01	0.05
Red-breasted Sapsucker	7	8	3	0.05	**0.08**	41.7	75	0.03	0.17
Downy Woodpecker	1	1	1	0.02	**--**				
Hairy Woodpecker	4	4	2	0.03	**0.04**	51.3	89	0.02	0.12
White-headed Woodpecker	17	18	7	0.12	**0.14**	30.6	140	0.08	0.26
Northern Flicker	20	22	4	0.07	**0.08**	53.8	171	0.03	0.21
Pileated Woodpecker	4	5	2	0.03	**0.03**	53.4	75	0.01	0.07
Olive-sided Flycatcher	1	1	0	0.00	**0.01**	100.8	77	<0.01	0.03
Western Wood-Pewee	13	16	5	0.08	**0.11**	53.9	261	0.04	0.30
Hammond's Flycatcher	5	5	3	0.05	**0.06**	56.1	75	0.02	0.17
Dusky Flycatcher	17	19	17	0.28	**0.22**	42.5	381	0.1	0.49
Pacific-slope Flycatcher	12	14	9	0.15	**0.17**	45.3	75	0.07	0.40
Cassin's Vireo	2	2	0	0.00	**0.01**	100.8	75	<0.01	0.07
Warbling Vireo	12	13	9	0.15	**0.17**	30.5	109	0.09	0.30
Steller's Jay	48	64	15	0.25	**0.35**	15.0	186	0.26	0.47
Clark's Nutcracker	1	1	0	0.00	**<0.01**	102.6	83	<0.01	0.02
Common Raven	13	12	4	0.07	**0.05**	36.7	120	0.02	0.09
Mountain Chickadee	38	58	28	0.47	**0.56**	20.2	215	0.38	0.83
Red-breasted Nuthatch	63	100	15	0.25	**0.40**	80.4	448	0.1	1.61
Brown Creeper	31	34	28	0.47	**0.58**	21.4	199	0.38	0.88
Winter Wren	21	23	10	0.17	**0.20**	28.8	135	0.12	0.35
Golden-crowned Kinglet	65	97	93	1.56	**2.92**	30.9	472	1.61	5.28
Western Bluebird	2	2	2	0.03	**--**				
Townsend's Solitaire	2	2	0	0.00	**0.01**	71.4	80	<0.01	0.04
Hermit Thrush	1	1	0	0.00	**<0.01**	126.2	175	<0.01	0.03
American Robin	23	32	18	0.30	**0.28**	43.9	347	0.12	0.64

Table 20, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Nashville Warbler	6	9	6	0.10	**0.13**	60.3	192	0.04	0.40
Yellow-rumped Warbler	41	59	28	0.47	**0.66**	25.4	647	0.41	1.09
Hermit Warbler	28	42	25	0.42	**0.48**	44.2	189	0.21	1.12
MacGillivray's Warbler	26	33	20	0.34	**0.48**	36.2	206	0.24	0.97
Wilson's Warbler	2	2	2	0.03	**0.02**	73.6	75	0.01	0.09
Western Tanager	52	68	36	0.60	**0.61**	21.8	426	0.4	0.94
Spotted Towhee	10	11	5	0.08	**0.15**	54.4	236	0.05	0.40
Chipping Sparrow	2	2	1	0.02	**0.05**	70.6	75	0.01	0.17
Fox Sparrow	22	29	11	0.18	**0.29**	34.1	318	0.15	0.55
Lincoln's Sparrow	4	6	5	0.08	**0.12**	52.5	75	0.04	0.31
Dark-eyed Junco	49	72	45	0.75	**1.50**	13.8	140	1.14	1.96
Black-headed Grosbeak	6	6	3	0.05	**0.07**	44.5	82	0.03	0.16
Brown-headed Cowbird	1	1	1	0.02	**0.01**	100.5	75	<0.01	0.07
Purple Finch	11	12	6	0.10	**0.11**	47.9	75	0.05	0.28
Pine Siskin	1	1	1	0.02	**0.03**	100.9	78	0.01	0.16
Evening Grosbeak	8	16	12	0.20	**0.15**	45.3	102	0.07	0.36

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 21. Results from 137 point counts at locations classified as Red Fir Forest.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Blue Grouse	14	14	4	0.04	**0.03**	82.3	136	0.01	0.11
Mountain Quail	19	21	2	0.02	**0.03**	27.1	253	0.02	0.05
Williamson's Sapsucker	8	9	2	0.02	**0.04**	42.3	136	0.02	0.09
Red-breasted Sapsucker	3	3	1	0.01	**0.01**	72.5	136	<0.01	0.04
Hairy Woodpecker	7	7	4	0.04	**0.04**	42.8	169	0.02	0.08
White-headed Woodpecker	12	13	5	0.05	**0.06**	36.2	202	0.03	0.11
Northern Flicker	12	13	4	0.04	**0.03**	58.2	218	0.01	0.07
Pileated Woodpecker	1	1	0	0.00	**<0.01**	100.8	136	<0.01	0.02
Olive-sided Flycatcher	26	32	4	0.04	**0.09**	22.8	227	0.06	0.13
Western Wood-Pewee	21	30	15	0.14	**0.11**	51.1	267	0.04	0.29
Hammond's Flycatcher	5	5	3	0.03	**0.03**	60.8	136	0.01	0.08
Dusky Flycatcher	24	27	14	0.13	**0.15**	41.5	487	0.07	0.32
Pacific-slope Flycatcher	2	2	2	0.02	**0.01**	78.8	136	<0.01	0.05
Cassin's Vireo	2	2	1	0.01	**0.01**	71.6	136	<0.01	0.05
Warbling Vireo	18	18	11	0.10	**0.11**	27.6	210	0.06	0.18
Steller's Jay	46	61	20	0.19	**0.18**	17.2	258	0.13	0.25
Clark's Nutcracker	16	21	5	0.05	**0.05**	34.6	303	0.03	0.10
Common Raven	5	5	1	0.01	**0.01**	48.3	178	<0.01	0.03
Mountain Chickadee	82	117	66	0.61	**0.67**	16.3	689	0.49	0.92
Red-breasted Nuthatch	75	104	26	0.24	**0.24**	80.5	451	0.06	0.97
White-breasted Nuthatch	6	6	2	0.02	**0.01**	47.7	179	0.01	0.04
Brown Creeper	32	34	30	0.28	**0.34**	22.2	298	0.22	0.53
Rock Wren	1	2	0	0.00	**0.01**	109.6	136	<0.01	0.04
House Wren	1	1	1	0.01	**0.01**	109.6	136	<0.01	0.04
Winter Wren	14	14	7	0.07	**0.08**	31.6	194	0.04	0.15
Golden-crowned Kinglet	76	104	98	0.91	**1.67**	31.6	510	0.91	3.07
Ruby-crowned Kinglet	4	5	1	0.01	**0.02**	54.5	158	0.01	0.07
Townsend's Solitaire	23	25	11	0.10	**0.08**	23.7	227	0.05	0.13
Hermit Thrush	28	37	3	0.03	**0.08**	79.3	328	0.02	0.33
American Robin	34	43	24	0.22	**0.23**	42.2	361	0.1	0.51

Table 21, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Nashville Warbler	8	13	11	0.10	**0.11**	57.4	327	0.04	0.31
Yellow-rumped Warbler	87	132	80	0.74	**0.81**	23.6	907	0.51	1.27
Black-throated Gray Warbler	1	2	2	0.02	**0.01**	101.6	144	<0.01	0.07
Hermit Warbler	10	13	5	0.05	**0.08**	52.8	270	0.03	0.20
MacGillivray's Warbler	14	14	10	0.09	**0.12**	40.9	269	0.05	0.25
Wilson's Warbler	11	11	8	0.07	**0.07**	37.7	136	0.03	0.14
Western Tanager	40	52	17	0.16	**0.25**	24.2	474	0.16	0.41
Green-tailed Towhee	8	9	4	0.04	**0.05**	53.5	184	0.02	0.12
Chipping Sparrow	8	8	6	0.06	**0.09**	37.7	136	0.04	0.19
Fox Sparrow	37	45	26	0.24	**0.22**	32.0	445	0.12	0.40
Song Sparrow	1	1	1	0.01	**0.01**	103.6	136	<0.01	0.03
Lincoln's Sparrow	2	2	0	0.00	**0.03**	70.8	136	0.01	0.09
Dark-eyed Junco	76	104	72	0.67	**1.25**	12.0	314	0.98	1.58
Black-headed Grosbeak	2	2	2	0.02	**0.02**	71.1	141	<0.01	0.05
Lazuli Bunting	1	1	1	0.01	**0.01**	104.7	136	<0.01	0.05
Brown-headed Cowbird	1	1	1	0.01	**0.01**	100.5	136	<0.01	0.04
Purple Finch	4	4	3	0.03	**0.02**	62.4	136	0.01	0.07
Cassin's Finch	27	34	10	0.09	**0.15**	42.9	322	0.07	0.34
Red Crossbill	1	2	2	0.02	**0.01**	101.6	136	<0.01	0.06
Pine Siskin	11	13	13	0.12	**0.21**	36.8	175	0.11	0.43
Evening Grosbeak	13	19	12	0.11	**0.10**	38.3	192	0.05	0.21

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 22. Results from 97 point counts at locations classified as Red Fir-White Fir Forest. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Blue Grouse	4	4	0	0.00	**0.01**	95.9	96	<0.01	0.05
Mountain Quail	24	28	4	0.05	**0.06**	24.8	212	0.04	0.10
Band-tailed Pigeon	2	2	1	0.01	**0.01**	104.3	96	<0.01	0.04
Northern Pygmy-Owl	3	4	0	0.00	**--**				
Red-breasted Sapsucker	4	4	0	0.00	**0.02**	59.6	96	0.01	0.07
Downy Woodpecker	1	1	1	0.01	**--**				
Hairy Woodpecker	5	5	2	0.03	**0.04**	46.3	117	0.02	0.10
White-headed Woodpecker	8	7	5	0.07	**0.04**	44.5	138	0.02	0.09
Northern Flicker	17	19	5	0.07	**0.06**	54.4	180	0.02	0.16
Pileated Woodpecker	5	5	1	0.01	**0.02**	45.5	96	0.01	0.05
Olive-sided Flycatcher	17	18	7	0.09	**0.07**	27.5	143	0.04	0.11
Western Wood-Pewee	20	22	10	0.13	**0.12**	50.6	254	0.05	0.31
Hammond's Flycatcher	7	8	8	0.11	**0.08**	52.2	96	0.03	0.20
Dusky Flycatcher	25	27	19	0.25	**0.24**	40.2	447	0.11	0.51
Pacific-slope Flycatcher	1	1	1	0.01	**0.01**	106.1	96	<0.01	0.05
Cassin's Vireo	6	6	4	0.05	**0.05**	45.6	96	0.02	0.12
Warbling Vireo	24	34	21	0.28	**0.30**	24.5	170	0.19	0.49
Steller's Jay	33	44	13	0.17	**0.19**	19.4	159	0.13	0.27
Clark's Nutcracker	1	1	0	0.00	**<0.01**	102.6	106	<0.01	0.02
Common Raven	9	11	4	0.05	**0.03**	41.3	139	0.01	0.07
Mountain Chickadee	50	71	43	0.56	**0.59**	17.6	409	0.42	0.84
Red-breasted Nuthatch	64	89	17	0.22	**0.28**	80.5	452	0.07	1.14
Brown Creeper	12	12	10	0.13	**0.17**	32.0	147	0.09	0.31
House Wren	4	5	4	0.05	**0.05**	68.8	96	0.02	0.18
Winter Wren	9	10	6	0.08	**0.08**	38.3	144	0.04	0.17
Golden-crowned Kinglet	73	105	102	1.34	**2.54**	31.1	483	1.4	4.62
Western Bluebird	1	1	1	0.01	**--**				
Townsend's Solitaire	9	9	2	0.03	**0.04**	34.4	127	0.02	0.08
Hermit Thrush	15	19	3	0.04	**0.07**	81.1	349	0.02	0.27
American Robin	31	38	27	0.35	**0.30**	42.3	352	0.14	0.67

Table 22, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Nashville Warbler	13	19	12	0.16	**0.19**	52.4	293	0.07	0.51
Yellow Warbler	1	1	0	0.00	**0.01**	102.4	96	<0.01	0.05
Yellow-rumped Warbler	55	84	67	0.88	**0.75**	24.4	820	0.47	1.21
Hermit Warbler	21	25	20	0.26	**0.24**	45.2	203	0.1	0.57
MacGillivray's Warbler	13	13	11	0.14	**0.16**	40.6	235	0.08	0.35
Wilson's Warbler	1	1	1	0.01	**0.01**	102.4	96	<0.01	0.05
Western Tanager	47	60	33	0.43	**0.42**	23.1	433	0.27	0.66
Green-tailed Towhee	4	4	4	0.05	**0.04**	55.9	137	0.02	0.12
Spotted Towhee	4	4	4	0.05	**0.04**	66.5	228	0.01	0.14
Chipping Sparrow	1	4	3	0.04	**0.05**	100.3	96	0.01	0.29
Fox Sparrow	37	63	52	0.68	**0.52**	30.9	405	0.29	0.94
Lincoln's Sparrow	2	2	1	0.01	**0.02**	100.3	96	<0.01	0.10
Dark-eyed Junco	50	66	52	0.68	**1.15**	14.1	173	0.87	1.52
Black-headed Grosbeak	4	4	1	0.01	**0.04**	50.1	103	0.02	0.11
Pine Grosbeak	1	1	0	0.00	**0.01**	107.0	96	<0.01	0.04
Purple Finch	4	5	2	0.03	**0.04**	64.6	96	0.01	0.12
Cassin's Finch	12	13	6	0.08	**0.10**	47.3	315	0.04	0.23
Pine Siskin	2	6	6	0.08	**0.14**	71.6	103	0.04	0.50
Evening Grosbeak	11	21	11	0.14	**0.15**	43.6	131	0.07	0.35

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 23. Results from 104 point counts at locations classified as White Fir/Sugar Pine Forest. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Blue Grouse	5	5	0	0.00	**0.02**	88.6	103	<0.01	0.07
Mountain Quail	20	21	1	0.01	**0.04**	27.3	201	0.02	0.06
Mourning Dove	1	1	1	0.01	**<0.01**	126.2	103	<0.01	0.02
White-throated Swift	2	4	0	0.00	**--**				
Rufous Hummingbird	3	3	3	0.04	**--**				
Red-breasted Sapsucker	8	9	3	0.04	**0.05**	38.1	103	0.03	0.11
Hairy Woodpecker	3	5	3	0.04	**0.04**	61.4	116	0.01	0.12
White-headed Woodpecker	12	12	5	0.06	**0.07**	35.0	166	0.03	0.13
Northern Flicker	20	21	6	0.07	**0.06**	53.0	168	0.02	0.17
Pileated Woodpecker	3	3	1	0.01	**0.01**	58.5	103	<0.01	0.03
Olive-sided Flycatcher	9	9	2	0.02	**0.03**	38.7	126	0.01	0.06
Western Wood-Pewee	11	15	5	0.06	**0.06**	57.1	289	0.02	0.18
Hammond's Flycatcher	12	12	9	0.11	**0.10**	45.5	103	0.04	0.23
Dusky Flycatcher	17	23	15	0.18	**0.18**	44.3	411	0.08	0.41
Pacific-slope Flycatcher	6	7	5	0.06	**0.06**	54.9	103	0.02	0.17
Cassin's Vireo	6	7	3	0.04	**0.04**	50.9	103	0.01	0.10
Warbling Vireo	30	35	24	0.29	**0.30**	21.5	214	0.2	0.46
Steller's Jay	35	45	21	0.26	**0.19**	19.2	173	0.13	0.27
Common Raven	9	9	3	0.04	**0.03**	37.7	153	0.01	0.06
Violet-green Swallow	1	2	0	0.00	**--**				
Mountain Chickadee	50	75	36	0.44	**0.56**	18.4	374	0.39	0.80
Red-breasted Nuthatch	59	88	22	0.27	**0.26**	80.8	456	0.06	1.05
White-breasted Nuthatch	1	1	0	0.00	**<0.01**	101.7	110	<0.01	0.02
Brown Creeper	20	20	17	0.21	**0.25**	26.0	196	0.15	0.42
Rock Wren	1	1	0	0.00	**0.00**				
Bewick's Wren	1	1	0	0.00	**0.01**	109.6	103	<0.01	0.06
Winter Wren	16	16	8	0.10	**0.10**	32.2	163	0.05	0.18
Golden-crowned Kinglet	69	95	92	1.13	**2.04**	31.5	501	1.11	3.73
Townsend's Solitaire	12	13	3	0.04	**0.05**	34.0	137	0.02	0.09
Hermit Thrush	11	12	7	0.09	**0.04**	82.5	365	0.01	0.16

Table 23, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
American Robin	28	39	25	0.31	**0.29**	43.0	364	0.13	0.65
Nashville Warbler	21	30	23	0.28	**0.36**	45.1	316	0.15	0.84
Yellow Warbler	3	4	2	0.02	**0.04**	64.6	103	0.01	0.12
Yellow-rumped Warbler	64	84	60	0.73	**0.71**	24.1	859	0.45	1.13
Black-throated Gray Warbler	2	2	2	0.02	**0.02**	72.6	116	<0.01	0.07
Hermit Warbler	32	47	29	0.36	**0.42**	43.8	189	0.18	0.95
MacGillivray's Warbler	18	20	14	0.17	**0.19**	38.8	237	0.09	0.39
Wilson's Warbler	2	2	2	0.02	**0.02**	73.7	103	<0.01	0.07
Western Tanager	50	65	40	0.49	**0.42**	23.2	441	0.27	0.66
Green-tailed Towhee	5	11	9	0.11	**0.11**	56.5	145	0.04	0.31
Spotted Towhee	6	7	5	0.06	**0.05**	62.6	253	0.02	0.15
Chipping Sparrow	5	6	4	0.05	**0.10**	46.9	103	0.04	0.25
Fox Sparrow	38	52	29	0.36	**0.34**	31.8	409	0.19	0.63
Song Sparrow	1	1	1	0.01	**0.01**	103.6	103	<0.01	0.04
Lincoln's Sparrow	5	5	1	0.01	**0.05**	57.6	103	0.02	0.15
Dark-eyed Junco	46	65	51	0.62	**1.03**	15.0	173	0.76	1.38
Black-headed Grosbeak	7	9	9	0.11	**0.09**	40.2	115	0.04	0.19
Brown-headed Cowbird	1	1	1	0.01	**0.01**	100.5	103	<0.01	0.05
Purple Finch	5	5	1	0.01	**0.03**	58.0	103	0.01	0.10
Cassin's Finch	4	4	2	0.02	**0.03**	62.2	225	0.01	0.09
Pine Siskin	2	2	1	0.01	**0.02**	100.9	107	<0.01	0.11
Evening Grosbeak	11	10	3	0.04	**0.08**	40.5	146	0.04	0.17

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 24. Results from 17 point counts at locations classified as Western Juniper Woodland. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Mountain Quail	1	1	0	0.00	**0.03**	101.4	16	<0.01	0.16
Calliope Hummingbird	2	2	2	0.15	**--**				
Rufous Hummingbird	3	3	3	0.22	**--**				
Northern Flicker	1	1	0	0.00	**0.00**				
Olive-sided Flycatcher	6	6	4	0.30	**0.13**	42.3	23	0.06	0.31
Western Wood-Pewee	3	4	0	0.00	**0.11**	74.2	16	0.03	0.43
Dusky Flycatcher	12	13	5	0.37	**0.49**	26.7	26	0.28	0.83
Warbling Vireo	4	6	5	0.37	**0.24**	65.8	18	0.07	0.85
Steller's Jay	1	1	1	0.07	**0.02**	101.8	17	<0.01	0.13
Clark's Nutcracker	3	3	2	0.15	**0.05**	55.1	17	0.02	0.14
Mountain Chickadee	9	12	7	0.52	**0.29**	51.4	108	0.11	0.75
Red-breasted Nuthatch	2	2	0	0.00	**0.03**	108.7	16	<0.01	0.21
Brown Creeper	3	3	1	0.07	**0.16**	71.5	16	0.04	0.61
Townsend's Solitaire	2	2	2	0.15	**0.14**	69.9	16	0.04	0.53
Hermit Thrush	2	2	0	0.00	**0.00**				
American Robin	3	3	2	0.15	**0.14**	55.6	18	0.05	0.42
Nashville Warbler	1	1	0	0.00	**0.09**	101.0	16	0.01	0.51
Yellow-rumped Warbler	6	7	1	0.07	**0.21**	44.3	20	0.09	0.51
MacGillivray's Warbler	2	2	1	0.07	**0.09**	101.0	17	0.01	0.51
Green-tailed Towhee	2	3	1	0.07	**0.14**	105.8	20	0.02	0.88
Chipping Sparrow	2	2	1	0.07	**0.16**	69.4	16	0.04	0.61
Fox Sparrow	7	11	5	0.37	**0.59**	47.3	35	0.24	1.48
Dark-eyed Junco	11	18	11	0.82	**0.98**	31.4	21	0.52	1.84
Pine Siskin	1	2	0	0.00	**0.14**	101.0	16	0.02	0.82

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 25. Results from 45 point counts at locations classified as Mixed Chaparral. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Mountain Quail	11	12	0	0.00	**0.10**	35.9	44	0.05	0.20
California Quail	9	10	2	0.06	**0.07**	62.2	44	0.02	0.23
Great Blue Heron	1	0	0	0.00	--				
Red-tailed Hawk	1	1	0	0.00	--				
Mourning Dove	1	1	1	0.03	**<0.01**	131.1	44	<0.01	0.04
White-throated Swift	4	2	0	0.00	--				
Anna's Hummingbird	8	12	10	0.28	--				
Calliope Hummingbird	1	1	1	0.03	--				
Acorn Woodpecker	1	2	0	0.00	**0.02**	108.7	44	<0.01	0.14
Northern Flicker	4	5	1	0.03	**0.04**	62.4	44	0.01	0.13
Olive-sided Flycatcher	2	2	0	0.00	**0.01**	101.4	47	<0.01	0.05
Western Wood-Pewee	6	7	3	0.08	**0.09**	43.3	44	0.04	0.21
Pacific-slope Flycatcher	1	1	0	0.00	**0.02**	100.8	44	<0.01	0.11
Black Phoebe	2	3	0	0.00	--				
Ash-throated Flycatcher	20	22	11	0.31	**0.35**	26.4	44	0.21	0.58
Cassin's Vireo	1	1	0	0.00	**0.02**	101.4	44	<0.01	0.10
Hutton's Vireo	2	3	3	0.08	**0.05**	75.7	44	0.01	0.21
Warbling Vireo	4	4	1	0.03	**0.04**	71.8	49	0.01	0.13
Steller's Jay	8	12	3	0.08	**0.09**	39.5	70	0.04	0.19
Western Scrub-Jay	17	18	9	0.25	**0.14**	28.3	44	0.08	0.24
Common Raven	4	4	0	0.00	**0.02**	49.5	44	0.01	0.06
Violet-green Swallow	2	1	0	0.00	--				
Cliff Swallow	1	0	0	0.00	--				
Oak Titmouse	6	6	6	0.17	**0.11**	41.8	44	0.05	0.25
Bushtit	3	6	6	0.17	**0.18**	64.6	44	0.05	0.58
Canyon Wren	3	3	1	0.03	--				
Bewick's Wren	21	38	18	0.51	**0.88**	18.8	44	0.6	1.27
House Wren	10	12	4	0.11	**0.29**	38.0	44	0.14	0.61
Blue-gray Gnatcatcher	4	4	4	0.11	**0.12**	52.5	44	0.04	0.32
American Robin	5	7	2	0.06	**0.05**	57.9	49	0.02	0.16

Table 25, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Wrentit	38	56	22	0.62	**0.76**	19.6	84	0.52	1.12
Orange-crowned Warbler	6	6	4	0.11	**0.18**	40.2	44	0.08	0.40
Nashville Warbler	8	9	4	0.11	**0.23**	43.0	44	0.1	0.53
Black-throated Gray Warbler	1	1	0	0.00	**0.01**	101.1	44	<0.01	0.07
MacGillivray's Warbler	4	4	4	0.11	**0.13**	50.3	52	0.05	0.34
Wilson's Warbler	6	6	6	0.17	**0.27**	41.8	60	0.12	0.59
Western Tanager	7	8	3	0.08	**0.09**	44.6	44	0.04	0.21
Green-tailed Towhee	1	2	2	0.06	**0.05**	105.8	55	0.01	0.31
Spotted Towhee	40	64	52	1.47	**1.88**	10.2	82	1.54	2.30
California Towhee	7	7	5	0.14	**0.20**	41.0	44	0.09	0.44
Rufous-crowned Sparrow	6	6	6	0.17	**0.19**	38.9	44	0.09	0.41
Black-chinned Sparrow	2	4	4	0.11	**--**				
Fox Sparrow	2	2	0	0.00	**0.04**	75.0	58	0.01	0.17
Dark-eyed Junco	2	3	3	0.08	**0.09**	74.8	46	0.02	0.35
Black-headed Grosbeak	30	40	13	0.37	**0.51**	21.0	44	0.34	0.78
Lazuli Bunting	15	20	15	0.42	**0.59**	28.2	44	0.34	1.03
Brown-headed Cowbird	4	4	3	0.08	**0.07**	50.0	44	0.03	0.18
Purple Finch	1	1	1	0.03	**0.03**	101.0	44	<0.01	0.14
House Finch	1	1	1	0.03	**--**				
Lesser Goldfinch	9	11	10	0.28	**0.29**	35.1	44	0.15	0.58

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 26. Results from 80 point counts at locations classified as Montane Chaparral. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Blue Grouse	3	3	0	0.00	**0.01**	110.1	79	<0.01	0.03
Mountain Quail	13	16	1	0.02	**0.08**	31.9	79	0.05	0.16
Band-tailed Pigeon	2	1	0	0.00	**<0.01**	131.1	79	<0.01	0.02
White-throated Swift	3	2	0	0.00	--				
Anna's Hummingbird	4	5	5	0.08	--				
Calliope Hummingbird	2	2	2	0.03	--				
Rufous Hummingbird	12	11	11	0.18	--				
Belted Kingfisher	1	1	0	0.00	--				
Hairy Woodpecker	5	5	1	0.02	**0.03**	61.0	79	0.01	0.10
White-headed Woodpecker	2	3	2	0.03	**0.02**	85.6	79	<0.01	0.09
Northern Flicker	11	11	0	0.00	**0.04**	40.1	79	0.02	0.09
Olive-sided Flycatcher	21	23	1	0.02	**0.11**	27.8	132	0.07	0.19
Western Wood-Pewee	18	20	3	0.05	**0.13**	27.6	79	0.07	0.22
Hammond's Flycatcher	2	2	2	0.03	**0.02**	71.4	79	0.01	0.08
Dusky Flycatcher	28	36	28	0.45	**0.41**	23.0	144	0.26	0.65
Pacific-slope Flycatcher	1	1	1	0.02	**0.01**	100.8	79	<0.01	0.06
Cassin's Vireo	3	5	3	0.05	**0.05**	61.6	79	0.02	0.16
Warbling Vireo	15	19	6	0.10	**0.19**	31.0	128	0.11	0.35
Steller's Jay	23	25	4	0.06	**0.11**	26.4	146	0.07	0.19
Clark's Nutcracker	5	5	0	0.00	**0.01**	58.0	85	<0.01	0.03
Common Raven	1	0	0	0.00	**0.00**				
Mountain Chickadee	31	44	9	0.14	**0.26**	46.2	188	0.11	0.61
Red-breasted Nuthatch	12	14	0	0.00	**0.06**	55.4	79	0.02	0.17
Brown Creeper	5	5	3	0.05	**0.07**	53.2	79	0.02	0.18
Canyon Wren	1	1	0	0.00	--				
House Wren	2	3	2	0.03	**0.05**	74.4	79	0.01	0.21
American Dipper	1	1	0	0.00	--				
Golden-crowned Kinglet	8	10	9	0.14	**0.15**	40.9	79	0.07	0.33
Townsend's Solitaire	4	5	1	0.02	**0.07**	53.9	79	0.03	0.20
Hermit Thrush	4	4	0	0.00	**0.01**	97.9	127	<0.01	0.06

Table 26, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
American Robin	4	5	3	0.05	**0.05**	53.7	89	0.02	0.14
Nashville Warbler	14	21	19	0.30	**0.39**	30.4	79	0.21	0.70
Yellow-rumped Warbler	12	17	8	0.13	**0.10**	36.6	111	0.05	0.21
Hermit Warbler	4	5	1	0.02	**0.04**	54.2	79	0.01	0.10
MacGillivray's Warbler	36	50	37	0.59	**0.85**	20.9	165	0.56	1.28
Wilson's Warbler	11	13	10	0.16	**0.30**	37.5	111	0.15	0.62
Western Tanager	9	12	4	0.06	**0.12**	38.1	79	0.06	0.25
Green-tailed Towhee	37	51	41	0.65	**0.76**	37.6	144	0.37	1.57
Spotted Towhee	4	5	2	0.03	**0.05**	57.3	81	0.02	0.16
Black-chinned Sparrow	1	1	0	0.00	**--**				
Fox Sparrow	53	123	81	1.29	**1.40**	29.6	219	0.79	2.48
White-crowned Sparrow	6	10	2	0.03	**0.07**	55.5	81	0.03	0.20
Dark-eyed Junco	41	55	35	0.56	**0.86**	18.5	193	0.6	1.24
Black-headed Grosbeak	1	1	0	0.00	**0.01**	100.9	79	<0.01	0.05
Lazuli Bunting	7	11	1	0.02	**0.13**	48.5	79	0.05	0.32
Red-winged Blackbird	1	1	0	0.00	**--**				
Brown-headed Cowbird	1	1	1	0.02	**0.01**	100.9	79	<0.01	0.05
Purple Finch	1	1	0	0.00	**0.01**	101.0	79	<0.01	0.08
Cassin's Finch	5	6	3	0.05	**0.07**	53.9	90	0.03	0.20
Red Crossbill	1	0	0	0.00	**0.00**				
Pine Siskin	1	1	1	0.02	**0.01**	101.0	79	<0.01	0.08
Lesser Goldfinch	2	2	2	0.03	**0.03**	71.6	79	0.01	0.11
Evening Grosbeak	1	0	0	0.00	**0.00**				

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 27. Results from 27 point counts at locations classified as Sagebrush-Subalpine/Alpine Shrubland. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Blue Grouse	1	1	1	0.05	**0.01**	131.1	26	<0.01	0.06
Mountain Quail	7	7	1	0.05	**0.10**	40.4	26	0.05	0.22
Anna's Hummingbird	2	1	1	0.05	--				
Calliope Hummingbird	1	0	0	0.00	--				
Rufous Hummingbird	1	1	0	0.00	--				
Northern Flicker	2	2	0	0.00	**0.02**	101.4	26	<0.01	0.09
Olive-sided Flycatcher	7	7	3	0.14	**0.12**	37.3	40	0.06	0.24
Western Wood-Pewee	2	2	0	0.00	**0.02**	101.1	26	<0.01	0.12
Hammond's Flycatcher	3	3	3	0.14	**0.10**	56.9	26	0.03	0.30
Dusky Flycatcher	9	13	5	0.24	**0.31**	37.9	33	0.15	0.65
Warbling Vireo	4	5	3	0.14	**0.15**	52.9	32	0.06	0.42
Steller's Jay	1	1	0	0.00	**0.01**	101.8	28	<0.01	0.08
Mountain Chickadee	7	12	6	0.28	**0.24**	56.3	109	0.09	0.68
Red-breasted Nuthatch	1	2	0	0.00	**0.02**	108.7	26	<0.01	0.12
Golden-crowned Kinglet	3	3	3	0.14	**0.15**	59.2	26	0.05	0.45
Mountain Bluebird	1	2	0	0.00	**0.00**				
Townsend's Solitaire	1	1	1	0.05	**0.04**	101.0	26	0.01	0.25
Hermit Thrush	3	4	0	0.00	**0.03**	103.4	101	0.01	0.18
American Robin	3	4	2	0.09	**0.12**	60.7	29	0.04	0.37
Orange-crowned Warbler	1	1	0	0.00	**0.05**	100.7	26	0.01	0.29
Nashville Warbler	1	1	1	0.05	**0.05**	101.0	26	0.01	0.31
Yellow-rumped Warbler	8	10	4	0.19	**0.20**	42.0	34	0.09	0.45
MacGillivray's Warbler	13	15	9	0.42	**0.71**	27.2	47	0.42	1.22
Wilson's Warbler	3	5	4	0.19	**0.37**	60.2	30	0.12	1.15
Western Tanager	1	1	0	0.00	**0.03**	100.9	26	0.01	0.17
Green-tailed Towhee	17	34	30	1.41	**1.54**	39.0	133	0.73	3.24
Chipping Sparrow	2	2	0	0.00	**0.10**	70.3	26	0.03	0.38
Fox Sparrow	8	10	8	0.38	**0.37**	47.1	56	0.15	0.92
Song Sparrow	1	1	0	0.00	**0.04**	103.6	26	0.01	0.22
Lincoln's Sparrow	2	3	1	0.05	**0.10**	70.3	26	0.03	0.38

Table 27, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
White-crowned Sparrow	10	16	8	0.38	**0.42**	35.8	28	0.2	0.85
Dark-eyed Junco	14	21	15	0.71	**1.02**	24.1	44	0.63	1.65
Red-winged Blackbird	1	1	0	0.00	**--**				
Brewer's Blackbird	1	0	0	0.00	**0.00**				
Gray-crowned Rosy-Finch	2	3	2	0.09	**0.12**	100.8	27	0.02	0.66
Cassin's Finch	2	2	1	0.05	**0.09**	70.7	28	0.02	0.32
Red Crossbill	1	0	0	0.00	**0.00**				
Pine Siskin	1	2	1	0.05	**0.09**	101.0	26	0.02	0.49

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 28. Results from 45 point counts at locations classified as Lower Elevation Meadow. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Blue Grouse	1	1	0	0.00	**<0.01**	131.1	44	<0.01	0.04
Mountain Quail	2	2	0	0.00	**0.02**	71.9	44	0.01	0.07
Killdeer	1	1	0	0.00	**--**				
Spotted Sandpiper	5	7	4	0.11	**0.18**	46.7	44	0.08	0.45
Band-tailed Pigeon	1	1	0	0.00	**<0.01**	131.1	44	<0.01	0.04
Calliope Hummingbird	1	1	1	0.03	**--**				
Rufous Hummingbird	2	3	3	0.08	**--**				
Williamson's Sapsucker	3	2	1	0.03	**0.02**	81.9	44	0.01	0.10
Red-breasted Sapsucker	1	1	0	0.00	**0.01**	108.7	44	<0.01	0.07
White-headed Woodpecker	1	1	1	0.03	**0.01**	108.7	44	<0.01	0.07
Northern Flicker	6	7	3	0.08	**0.06**	48.3	44	0.02	0.15
Olive-sided Flycatcher	3	3	1	0.03	**0.03**	58.9	52	0.01	0.09
Western Wood-Pewee	7	7	0	0.00	**0.09**	38.2	44	0.04	0.20
Hammond's Flycatcher	1	1	1	0.03	**0.02**	100.8	44	<0.01	0.11
Dusky Flycatcher	19	25	7	0.20	**0.47**	23.8	80	0.29	0.75
Cassin's Vireo	1	1	0	0.00	**0.02**	101.4	44	<0.01	0.10
Warbling Vireo	13	16	8	0.23	**0.27**	31.6	76	0.15	0.51
Steller's Jay	9	16	6	0.17	**0.11**	44.8	63	0.05	0.25
Clark's Nutcracker	4	4	2	0.06	**0.02**	49.5	49	0.01	0.06
Common Raven	1	3	0	0.00	**0.02**	100.6	44	<0.01	0.09
Mountain Chickadee	20	26	7	0.20	**0.29**	48.0	188	0.12	0.71
Red-breasted Nuthatch	8	13	2	0.06	**0.13**	58.1	44	0.04	0.39
Brown Creeper	6	6	5	0.14	**0.15**	47.4	44	0.06	0.36
House Wren	1	1	0	0.00	**0.03**	100.2	44	0.01	0.17
Golden-crowned Kinglet	9	12	10	0.28	**0.35**	38.4	44	0.17	0.75
Ruby-crowned Kinglet	7	9	2	0.06	**0.11**	43.8	44	0.05	0.25
Mountain Bluebird	2	2	2	0.06	**0.08**	75.0	44	0.02	0.31
Townsend's Solitaire	5	5	0	0.00	**0.08**	58.1	44	0.03	0.23
Hermit Thrush	8	9	1	0.03	**0.04**	90.8	100	0.01	0.18
American Robin	24	37	16	0.45	**0.60**	33.6	60	0.31	1.16

Table 28, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Yellow Warbler	1	1	1	0.03	**0.01**	101.1	44	<0.01	0.07
Yellow-rumped Warbler	22	33	17	0.48	**0.42**	23.2	109	0.27	0.67
MacGillivray's Warbler	9	14	12	0.34	**0.43**	35.3	62	0.22	0.85
Common Yellowthroat	1	1	1	0.03	**--**				
Wilson's Warbler	13	17	12	0.34	**0.71**	30.3	77	0.39	1.28
Western Tanager	9	9	4	0.11	**0.16**	36.5	44	0.08	0.33
Green-tailed Towhee	5	8	6	0.17	**0.22**	59.3	91	0.07	0.65
Chipping Sparrow	2	2	2	0.06	**0.06**	70.9	44	0.02	0.22
Fox Sparrow	5	5	3	0.08	**0.11**	50.5	83	0.04	0.29
Song Sparrow	10	12	6	0.17	**0.27**	42.2	44	0.12	0.61
Lincoln's Sparrow	20	34	18	0.51	**0.89**	24.0	44	0.55	1.43
White-crowned Sparrow	13	19	7	0.20	**0.28**	28.8	49	0.16	0.50
Dark-eyed Junco	33	51	30	0.85	**1.47**	17.8	123	1.04	2.09
Lazuli Bunting	3	4	2	0.06	**0.13**	61.7	44	0.04	0.41
Red-winged Blackbird	1	1	0	0.00	**--**				
Brewer's Blackbird	5	16	2	0.06	**0.65**	60.8	44	0.21	2.02
Pine Grosbeak	1	1	0	0.00	**0.02**	100.9	44	<0.01	0.10
Cassin's Finch	5	11	8	0.23	**0.29**	60.0	49	0.09	0.88
Red Crossbill	1	3	0	0.00	**0.08**	101.0	44	0.01	0.43
Pine Siskin	4	3	0	0.00	**0.08**	75.2	44	0.02	0.30
Evening Grosbeak	6	8	2	0.06	**0.13**	53.2	44	0.05	0.36

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 29. Results from 24 point counts at locations classified as Mid Elevation Meadow. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Spotted Sandpiper	2	2	0	0.00	**0.12**	70.1	23	0.03	0.43
Band-tailed Pigeon	1	1	0	0.00	**0.01**	131.1	23	<0.01	0.07
Rufous Hummingbird	1	1	1	0.05	**--**				
Hairy Woodpecker	1	1	0	0.00	**0.00**				
White-headed Woodpecker	1	1	0	0.00	**0.00**				
Northern Flicker	3	3	1	0.05	**0.06**	57.7	23	0.02	0.17
Dusky Flycatcher	12	13	8	0.42	**0.42**	25.9	39	0.25	0.71
Cassin's Vireo	1	1	0	0.00	**0.03**	101.4	23	0.01	0.19
Clark's Nutcracker	7	7	2	0.11	**0.08**	40.0	27	0.03	0.17
Mountain Chickadee	7	8	2	0.11	**0.18**	55.0	107	0.07	0.50
Brown Creeper	3	3	3	0.16	**0.17**	58.9	23	0.05	0.51
Ruby-crowned Kinglet	3	3	0	0.00	**0.07**	57.2	23	0.02	0.22
Mountain Bluebird	1	1	1	0.05	**0.08**	103.6	23	0.01	0.45
Townsend's Solitaire	1	1	0	0.00	**0.05**	101.0	23	0.01	0.28
Hermit Thrush	6	8	0	0.00	**0.07**	93.3	101	0.02	0.36
American Robin	9	10	7	0.37	**0.30**	34.0	31	0.15	0.59
Yellow-rumped Warbler	13	17	9	0.48	**0.42**	26.3	48	0.25	0.71
MacGillivray's Warbler	2	2	0	0.00	**0.12**	70.6	25	0.03	0.46
Wilson's Warbler	2	2	1	0.05	**0.08**	101.3	24	0.01	0.47
Western Tanager	1	1	1	0.05	**0.03**	100.9	23	0.01	0.19
Green-tailed Towhee	3	8	4	0.21	**0.31**	77.3	35	0.08	1.22
Chipping Sparrow	2	2	1	0.05	**0.12**	70.1	23	0.03	0.43
Fox Sparrow	1	1	0	0.00	**0.04**	103.6	26	0.01	0.24
Song Sparrow	1	1	0	0.00	**0.00**				
Lincoln's Sparrow	2	3	0	0.00	**0.12**	100.7	23	0.02	0.65
White-crowned Sparrow	13	30	17	0.90	**0.88**	26.5	26	0.51	1.50
Dark-eyed Junco	17	22	13	0.69	**1.21**	20.8	48	0.8	1.83
Cassin's Finch	7	8	6	0.32	**0.39**	37.3	31	0.19	0.82

Table 29, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Red Crossbill	1	1	0	0.00	**0.05**	101.0	23	0.01	0.28
Pine Siskin	3	3	3	0.16	**0.15**	74.5	23	0.04	0.59

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 30. Results from 56 point counts at locations classified as Higher Elevation Meadow. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha)[5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Spotted Sandpiper	1	1	0	0.00	**0.00**				
Anna's Hummingbird	1	2	2	0.05	**--**				
Rufous Hummingbird	1	1	1	0.02	**--**				
Northern Flicker	2	3	0	0.00	**0.02**	72.1	55	<0.01	0.06
Olive-sided Flycatcher	1	1	0	0.00	**0.01**	101.4	58	<0.01	0.04
Dusky Flycatcher	7	7	4	0.09	**0.11**	37.8	69	0.06	0.24
Steller's Jay	4	4	0	0.00	**0.01**	72.6	63	<0.01	0.05
Clark's Nutcracker	15	22	0	0.00	**0.10**	28.9	74	0.06	0.17
Common Raven	1	1	0	0.00	**0.00**				
Mountain Chickadee	6	9	4	0.09	**0.08**	69.5	125	0.02	0.27
Red-breasted Nuthatch	1	1	0	0.00	**0.00**				
White-breasted Nuthatch	5	6	1	0.02	**0.03**	71.0	55	0.01	0.10
Brown Creeper	2	2	0	0.00	**0.05**	73.0	55	0.01	0.18
Rock Wren	6	9	1	0.02	**0.08**	57.0	55	0.03	0.23
American Dipper	1	1	1	0.02	**--**				
Mountain Bluebird	5	8	4	0.09	**0.13**	66.1	55	0.04	0.44
Hermit Thrush	13	16	2	0.05	**0.06**	89.2	95	0.01	0.27
American Robin	2	3	1	0.02	**0.04**	75.1	58	0.01	0.16
American Pipit	21	42	25	0.57	**1.21**	34.2	105	0.63	2.34
Orange-crowned Warbler	1	1	1	0.02	**0.02**	100.7	55	<0.01	0.13
Nashville Warbler	1	1	1	0.02	**0.03**	101.0	55	<0.01	0.14
Yellow-rumped Warbler	4	6	3	0.07	**0.05**	67.3	61	0.02	0.18
Wilson's Warbler	2	3	2	0.05	**0.07**	72.0	61	0.02	0.26
Chipping Sparrow	1	1	0	0.00	**0.02**	100.7	55	<0.01	0.13
Fox Sparrow	1	3	3	0.07	**0.05**	103.6	63	0.01	0.30
Lincoln's Sparrow	1	1	1	0.02	**0.02**	100.7	55	<0.01	0.13
White-crowned Sparrow	45	119	49	1.11	**1.32**	13.3	99	1.01	1.71
Dark-eyed Junco	18	24	12	0.27	**0.52**	26.7	83	0.31	0.87
Brewer's Blackbird	3	3	1	0.02	**0.10**	78.8	55	0.02	0.40
Gray-crowned Rosy-Finch	17	68	53	1.21	**1.79**	40.0	79	0.83	3.86

Table 30, continued.

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Cassin's Finch	4	4	2	0.05	**0.06**	58.4	62	0.02	0.19
Pine Siskin	2	1	0	0.00	**0.02**	101.0	55	<0.01	0.11

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 31. Results from 6 point counts at locations classified as Post-fire. An entry of '--' for the Adjusted Density Estimate indicates a species for which we did not estimate adjusted density (generally because we amassed fewer than 10 detections across all habitats).

Species[1]	Points with Detections[2]	Non-flyover Detections[3]	Non-flyover Detections within 50 m[4]	Unadjusted Density (birds/ha) [5]	Adjusted Density[6]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Mountain Quail	4	4	0	0.00	**0.30**	35.9	5	0.12	0.74
Red-tailed Hawk	1	1	0	0.00	**--**				
Downy Woodpecker	1	0	0	0.00	**--**				
Hairy Woodpecker	1	1	0	0.00	**0.09**	108.7	5	0.01	0.88
Olive-sided Flycatcher	1	1	1	0.21	**0.08**	101.4	5	0.01	0.63
Western Wood-Pewee	2	2	0	0.00	**0.20**	65.0	5	0.04	0.91
Hammond's Flycatcher	1	1	1	0.21	**0.15**	100.8	5	0.02	1.32
Dusky Flycatcher	3	3	1	0.21	**0.31**	64.5	5	0.07	1.35
Warbling Vireo	1	1	1	0.21	**0.14**	101.4	5	0.02	1.15
Steller's Jay	2	5	1	0.21	**0.31**	80.7	6	0.05	1.78
Northern Rough-winged Swallow	1	1	1	0.21	**--**				
Mountain Chickadee	2	4	0	0.00	**0.27**	80.6	10	0.06	1.32
Red-breasted Nuthatch	3	2	0	0.00	**0.09**	108.7	5	0.01	0.88
Brown Creeper	2	2	1	0.21	**0.44**	66.5	5	0.09	2.10
Golden-crowned Kinglet	2	2	1	0.21	**0.44**	66.5	5	0.09	2.10
Hermit Thrush	1	1	0	0.00	**0.04**	131.1	14	<0.01	0.32
American Robin	1	1	1	0.21	**0.13**	100.9	5	0.02	1.12
Wrentit	1	2	2	0.42	**0.23**	101.4	5	0.03	1.92
Yellow-rumped Warbler	1	1	0	0.00	**0.10**	101.1	5	0.01	0.84
MacGillivray's Warbler	2	2	1	0.21	**0.49**	64.8	6	0.11	2.16
Western Tanager	2	2	2	0.42	**0.27**	64.6	5	0.06	1.21
Spotted Towhee	2	4	4	0.85	**0.97**	63.5	5	0.22	4.31
Fox Sparrow	2	3	0	0.00	**0.17**	103.6	6	0.02	1.39
Dark-eyed Junco	4	8	4	0.85	**1.61**	47.9	6	0.52	4.99
Black-headed Grosbeak	2	2	2	0.42	**0.27**	64.6	5	0.06	1.21
Cassin's Finch	1	1	1	0.21	**0.20**	101.0	5	0.02	1.66
Red Crossbill	1	0	0	0.00	**0.00**				

[1]Includes all species detected during point counts in the habitat.
[2]Number of points where the species was detected, including flyovers.
[3] Number of individual birds detected at any distance during point counts, excluding flyovers.
[4] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[5] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[6] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 32. Habitat-specific density estimates of Blue Grouse in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	5.9	2	1	0.04	**0.01**	109.7	33	<0.01	0.08
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	3.0	1	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	10.0	1	0	0.00	**0.03**	126.2	9	<0.01	0.31
Lodgepole Pine Forest	2.4	9	3	0.01	**0.01**	83.7	372	<0.01	0.03
Ponderosa Pine Woodland	6.3	1	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	5.7	3	0	0.00	**0.01**	104.1	52	<0.01	0.07
Jeffrey Pine Woodland	11.0	10	1	0.02	**0.04**	84.7	81	0.01	0.16
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	1.3	1	0	0.00	**<0.01**	126.2	75	<0.01	0.03
Red Fir Forest	10.2	14	4	0.04	**0.03**	82.3	136	0.01	0.11
Red Fir/White Fir Forest	4.1	4	0	0.00	**0.01**	95.9	96	<0.01	0.05
White Fir/Sugar Pine Forest	4.8	5	0	0.00	**0.02**	88.6	103	<0.01	0.07
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	3.8	3	0	0.00	**0.01**	110.1	79	<0.01	0.03
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	3.7	1	1	0.05	**0.01**	131.1	26	<0.01	0.06
Lower Elevation Meadow	2.2	1	0	0.00	**<0.01**	131.1	44	<0.01	0.04
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 33. Habitat-specific density estimates of Mountain Quail in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	16.7	1	1	0.21	**0.08**	101.4	5	0.01	0.65
Mid Elevation Rock/Sparsely Vegetated	14.7	6	0	0.00	**0.07**	53.6	33	0.02	0.18
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	12.5	10	1	0.02	**0.02**	44.3	83	0.01	0.05
Int. Live Oak/Cny. Live Oak/CA Buckeye	3.7	1	0	0.00	**0.01**	101.3	27	<0.01	0.04
Aspen Forest	4.5	1	0	0.00	**0.02**	101.4	21	<0.01	0.12
California Black Oak Forest	39.4	15	1	0.04	**0.09**	28.5	65	0.05	0.16
Blue Oak Forest	21.1	4	0	0.00	**0.04**	48.4	23	0.02	0.11
Undifferentiated Riparian	10.0	1	0	0.00	**0.02**	101.3	9	<0.01	0.14
Lodgepole Pine Forest	2.1	8	0	0.00	**<0.01**	40.8	480	<0.01	0.01
Ponderosa Pine Woodland	25.0	4	0	0.00	**0.04**	56.1	18	0.01	0.12
Ponderosa Pine/Incense-cedar Forest	22.6	12	0	0.00	**0.04**	32.9	86	0.02	0.07
Jeffrey Pine Woodland	19.5	20	4	0.06	**0.05**	29.0	151	0.03	0.09
Western White Pine Woodland	10.0	2	0	0.00	**0.02**	70.7	21	0.01	0.08
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.6	1	1	0.01	**<0.01**	101.3	164	<0.01	0.01
Giant Sequoia Forest	21.1	17	1	0.02	**0.04**	30.8	131	0.02	0.07
Red Fir Forest	13.9	21	2	0.02	**0.03**	27.1	253	0.02	0.05
Red Fir/White Fir Forest	24.7	28	4	0.05	**0.06**	24.8	212	0.04	0.10
White Fir/Sugar Pine Forest	19.2	21	1	0.01	**0.04**	27.3	201	0.02	0.06
Western Juniper Woodland	5.9	1	0	0.00	**0.03**	101.4	16	<0.01	0.16
Mixed Chaparral	24.4	12	0	0.00	**0.10**	35.9	44	0.05	0.20
Montane Chaparral	16.3	16	1	0.02	**0.08**	31.9	79	0.05	0.16
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	25.9	7	1	0.05	**0.10**	40.4	26	0.05	0.22
Lower Elevation Meadow	4.4	2	0	0.00	**0.02**	71.9	44	0.01	0.07
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	66.7	4	0	0.00	**0.30**	35.9	5	0.12	0.74

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 34. Habitat-specific density estimates of California Quail in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	3.7	1	0	0.00	**0.03**	100.9	26	0.01	0.18
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	57.9	17	6	0.40	**0.60**	36.1	18	0.29	1.25
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	20.0	10	2	0.06	**0.07**	62.2	44	0.02	0.23
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 35. Habitat-specific density estimates of Spotted Sandpiper in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	2.9	1	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	1.1	5	4	0.01	**0.02**	61.5	372	0.01	0.06
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	1.9	1	0	0.00	**0.00**				
Foxtail Pine	0.6	1	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	11.1	7	4	0.11	**0.18**	46.7	44	0.08	0.45
Mid Elevation Meadow	8.3	2	0	0.00	**0.12**	70.1	23	0.03	0.43
Higher Elevation Meadow	1.8	1	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 36. Habitat-specific density estimates of Band-tailed Pigeon in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	3.0	1	0	0.00	**0.01**	126.2	32	<0.01	0.08
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.6	1	0	0.00	**0.00**				
Giant Sequoia Forest	2.6	2	1	0.02	**0.01**	104.2	75	<0.01	0.05
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	2.1	2	1	0.01	**0.01**	104.3	96	<0.01	0.04
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	2.5	1	0	0.00	**<0.01**	131.1	79	<0.01	0.02
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	2.2	1	0	0.00	**<0.01**	131.1	44	<0.01	0.04
Mid Elevation Meadow	4.2	1	0	0.00	**0.01**	131.1	23	<0.01	0.07
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 37. Habitat-specific density estimates of Mourning Dove in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	7.4	2	1	0.05	**0.03**	103.6	26	<0.01	0.15
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	3.0	1	1	0.04	**0.01**	126.2	32	<0.01	0.08
Blue Oak Forest	26.3	8	2	0.13	**0.14**	87.6	18	0.03	0.70
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	6.3	1	0	0.00	**0.02**	126.2	15	<0.01	0.17
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	1.0	1	1	0.01	**<0.01**	126.2	103	<0.01	0.02
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	2.2	1	1	0.03	**<0.01**	131.1	44	<0.01	0.04
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 38. Habitat-specific density estimates of Acorn Woodpecker in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	3.1	2	1	0.02	**0.02**	73.0	63	0.01	0.07
Int. Live Oak/Cny. Live Oak/CA Buckeye	7.4	4	2	0.09	**0.07**	76.1	26	0.02	0.29
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	3.0	1	0	0.00	**0.02**	102.0	32	<0.01	0.11
Blue Oak Forest	84.2	32	10	0.67	**0.88**	26.9	18	0.51	1.53
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	6.3	1	1	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	2.2	2	0	0.00	**0.02**	108.7	44	<0.01	0.14
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 39. Habitat-specific density estimates of Williamson's Sapsucker in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	2.9	1	0	0.00	**0.02**	108.7	33	<0.01	0.10
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	4.5	1	0	0.00	**0.02**	108.7	21	<0.01	0.16
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	3.2	13	7	0.02	**0.02**	33.9	372	0.01	0.05
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	1.2	1	0	0.00	**0.01**	101.4	81	<0.01	0.05
Western White Pine Woodland	10.0	2	2	0.13	**0.07**	70.9	19	0.02	0.27
Whitebark Pine Woodland	5.8	9	2	0.02	**0.03**	40.8	156	0.01	0.07
Foxtail Pine	5.7	9	2	0.02	**0.01**	101.4	75	<0.01	0.05
Giant Sequoia Forest	5.8	9	2	0.02	**0.04**	42.3	136	0.02	0.09
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	6.7	2	1	0.03	**0.02**	81.9	44	0.01	0.10
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 40. Habitat-specific density estimates of Red-breasted Sapsucker in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	4.5	1	1	0.06	**0.02**	108.7	21	<0.01	0.16
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	10.0	1	1	0.13	**0.07**	101.4	9	0.01	0.48
Lodgepole Pine Forest	0.5	1	1	0.00	**<0.01**	72.6	372	<0.01	0.01
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	2.4	2	2	0.03	**0.02**	72.3	81	<0.01	0.06
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	9.2	8	3	0.05	**0.08**	41.7	75	0.03	0.17
Red Fir Forest	2.2	3	1	0.01	**0.01**	72.5	136	<0.01	0.04
Red Fir/White Fir Forest	4.1	4	0	0.00	**0.02**	59.6	96	0.01	0.07
White Fir/Sugar Pine Forest	7.7	9	3	0.04	**0.05**	38.1	103	0.03	0.11
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	2.2	1	0	0.00	**0.01**	108.7	44	<0.01	0.07
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 41. Habitat-specific density estimates of Nuttall's Woodpecker in Sequoia and Kings Canyon National Parks. An entry of '--' for the Adjusted Density Estimate indicates a habitat for which we did not model detectability.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	--				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	--				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	--				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	--				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	21.1	7	1	0.07	**0.17**	52.9	18	0.06	0.48
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	--				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	--				
Mixed Chaparral	0.0	0	0	0.00	--				
Montane Chaparral	0.0	0	0	0.00	--				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	--				
Lower Elevation Meadow	0.0	0	0	0.00	--				
Mid Elevation Meadow	0.0	0	0	0.00	--				
Higher Elevation Meadow	0.0	0	0	0.00	--				
Undifferentiated Post-fire	0.0	0	0	0.00	--				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 42. Habitat-specific density estimates of Hairy Woodpecker in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen/Shrub Willow Riparian	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	9.1	4	2	0.08	**0.10**	61.5	36	0.03	0.32
Blue Oak/Herbaceous	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	10.0	1	0	0.00	**0.08**	101.1	9	0.01	0.55
Lodgepole Pine Forest	4.0	16	7	0.02	**0.04**	30.1	376	0.02	0.06
Ponderosa Pine Woodland	12.5	2	0	0.00	**0.05**	101.1	16	0.01	0.31
Ponderosa Pine/Incense-cedar Forest	5.7	4	3	0.07	**0.06**	62.1	59	0.02	0.20
Jeffrey Pine Woodland	9.8	8	5	0.08	**0.08**	37.0	110	0.04	0.17
Western White Pine Woodland	10.0	1	1	0.06	**0.08**	70.5	21	0.02	0.32
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	1.9	3	0	0.00	**0.00**				
Giant Sequoia Forest	5.3	4	2	0.03	**0.04**	51.3	89	0.02	0.12
Red Fir Forest	5.1	7	4	0.04	**0.04**	42.8	169	0.02	0.08
Red Fir/White Fir Forest	5.2	5	2	0.03	**0.04**	46.3	117	0.02	0.10
White Fir/Sugar Pine Forest	2.9	5	3	0.04	**0.04**	61.4	116	0.01	0.12
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	6.3	5	1	0.02	**0.03**	61.0	79	0.01	0.10
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	4.2	1	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	16.7	1	0	0.00	**0.09**	108.7	5	0.01	0.88

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 43. Habitat-specific density estimates of White-headed Woodpecker in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	16.7	1	0	0.00	**0.09**	108.7	5	0.01	0.88
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	4.5	1	1	0.06	**0.02**	108.7	21	<0.01	0.16
California Black Oak Forest	3.0	1	0	0.00	**0.02**	102.0	35	<0.01	0.11
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.8	3	2	0.01	**0.01**	61.0	432	<0.01	0.02
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	7.5	5	4	0.10	**0.06**	55.4	68	0.02	0.17
Jeffrey Pine Woodland	9.8	10	3	0.05	**0.07**	40.7	126	0.03	0.15
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	1.3	3	2	0.02	**0.01**	77.0	177	<0.01	0.05
Giant Sequoia Forest	22.4	18	7	0.12	**0.14**	30.6	140	0.08	0.26
Red Fir Forest	8.8	13	5	0.05	**0.06**	36.2	202	0.03	0.11
Red Fir/White Fir Forest	8.2	7	5	0.07	**0.04**	44.5	138	0.02	0.09
White Fir/Sugar Pine Forest	11.5	12	5	0.06	**0.07**	35.0	166	0.03	0.13
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	2.5	3	2	0.03	**0.02**	85.6	79	<0.01	0.09
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	2.2	1	1	0.03	**0.01**	108.7	44	<0.01	0.07
Mid Elevation Meadow	4.2	1	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 44. Habitat-specific density estimates of Northern Flicker in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	2.9	1	0	0.00	**0.01**	101.4	33	<0.01	0.07
Higher Elevation Rock/Sparsely Vegetated	2.1	1	0	0.00	**0.01**	101.4	47	<0.01	0.05
Canyon Live Oak Forest	6.3	4	1	0.02	**0.01**	74.9	149	<0.01	0.06
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	9.1	2	1	0.06	**0.04**	71.1	21	0.01	0.16
California Black Oak Forest	6.1	2	1	0.04	**0.02**	85.0	67	<0.01	0.08
Blue Oak Forest	10.5	2	0	0.00	**0.03**	84.3	39	0.01	0.15
Undifferentiated Riparian	20.0	3	0	0.00	**0.09**	86.3	19	0.02	0.45
Lodgepole Pine Forest	5.6	22	2	0.01	**0.02**	54.5	191	0.01	0.04
Ponderosa Pine Woodland	12.5	2	1	0.08	**0.04**	83.9	33	0.01	0.17
Ponderosa Pine/Incense-cedar Forest	13.2	8	3	0.07	**0.05**	61.5	172	0.02	0.15
Jeffrey Pine Woodland	14.6	14	1	0.02	**0.05**	56.2	189	0.02	0.14
Western White Pine Woodland	10.0	2	0	0.00	**0.03**	84.4	41	0.01	0.14
Whitebark Pine Woodland	1.9	1	0	0.00	**0.00**				
Foxtail Pine	4.5	8	2	0.02	**0.01**	63.2	257	<0.01	0.04
Giant Sequoia Forest	26.3	22	4	0.07	**0.08**	53.8	171	0.03	0.21
Red Fir Forest	8.8	13	4	0.04	**0.03**	58.2	218	0.01	0.07
Red Fir/White Fir Forest	17.5	19	5	0.07	**0.06**	54.4	180	0.02	0.16
White Fir/Sugar Pine Forest	19.2	21	6	0.07	**0.06**	53.0	168	0.02	0.17
Western Juniper Woodland	5.9	1	0	0.00	**0.00**				
Mixed Chaparral	8.9	5	1	0.03	**0.04**	62.4	44	0.01	0.13
Montane Chaparral	13.8	11	0	0.00	**0.04**	40.1	79	0.02	0.09
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	7.4	2	0	0.00	**0.02**	101.4	26	<0.01	0.09
Lower Elevation Meadow	13.3	7	3	0.08	**0.06**	48.3	44	0.02	0.15
Mid Elevation Meadow	12.5	3	1	0.05	**0.06**	57.7	23	0.02	0.17
Higher Elevation Meadow	3.6	3	0	0.00	**0.02**	72.1	55	<0.01	0.06
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 45. Habitat-specific density estimates of Pileated Woodpecker in Sequoia and Kings Canyon National Parks. An entry of '--' for the Adjusted Density Estimate indicates a habitat for which we did not model detectability.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	--				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	--				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	--				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	--				
California Black Oak Forest	3.0	1	0	0.00	**0.01**	100.8	32	<0.01	0.07
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.3	1	0	0.00	**0.00**				
Ponderosa Pine Woodland	6.3	1	0	0.00	**0.03**	100.8	15	<0.01	0.15
Ponderosa Pine/Incense-cedar Forest	1.9	1	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	--				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	5.3	5	2	0.03	**0.03**	53.4	75	0.01	0.07
Red Fir Forest	0.7	1	0	0.00	**<0.01**	100.8	136	<0.01	0.02
Red Fir/White Fir Forest	5.2	5	1	0.01	**0.02**	45.5	96	0.01	0.05
White Fir/Sugar Pine Forest	2.9	3	1	0.01	**0.01**	58.5	103	<0.01	0.03
Western Juniper Woodland	0.0	0	0	0.00	--				
Mixed Chaparral	0.0	0	0	0.00	--				
Montane Chaparral	0.0	0	0	0.00	--				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	--				
Lower Elevation Meadow	0.0	0	0	0.00	--				
Mid Elevation Meadow	0.0	0	0	0.00	--				
Higher Elevation Meadow	0.0	0	0	0.00	--				
Undifferentiated Post-fire	0.0	0	0	0.00	--				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 46. Habitat-specific density estimates of Olive-sided Flycatcher in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	16.7	1	0	0.00	**0.08**	101.4	5	0.01	0.63
Mid Elevation Rock/Sparsely Vegetated	11.8	4	0	0.00	**0.05**	50.6	42	0.02	0.14
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	3.1	2	0	0.00	**0.01**	71.2	67	<0.01	0.05
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	45.5	13	4	0.23	**0.25**	31.3	40	0.13	0.46
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	10.0	1	0	0.00	**0.04**	100.8	9	0.01	0.27
Lodgepole Pine Forest	7.8	30	9	0.03	**0.03**	22.3	479	0.02	0.05
Ponderosa Pine Woodland	25.0	4	0	0.00	**0.10**	46.4	17	0.04	0.26
Ponderosa Pine/Incense-cedar Forest	7.5	4	1	0.02	**0.02**	57.9	57	0.01	0.07
Jeffrey Pine Woodland	26.8	26	10	0.16	**0.12**	23.7	139	0.08	0.20
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	2.5	4	1	0.01	**0.01**	51.0	175	<0.01	0.03
Giant Sequoia Forest	1.3	1	0	0.00	**0.01**	100.8	77	<0.01	0.03
Red Fir Forest	19.0	32	4	0.04	**0.09**	22.8	227	0.06	0.13
Red Fir/White Fir Forest	17.5	18	7	0.09	**0.07**	27.5	143	0.04	0.11
White Fir/Sugar Pine Forest	8.7	9	2	0.02	**0.03**	38.7	126	0.01	0.06
Western Juniper Woodland	35.3	6	4	0.30	**0.13**	42.3	23	0.06	0.31
Mixed Chaparral	4.4	2	0	0.00	**0.01**	101.4	47	<0.01	0.05
Montane Chaparral	26.3	23	1	0.02	**0.11**	27.8	132	0.07	0.19
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	25.9	7	3	0.14	**0.12**	37.3	40	0.06	0.24
Lower Elevation Meadow	6.7	3	1	0.03	**0.03**	58.9	52	0.01	0.09
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	1.8	1	0	0.00	**0.01**	101.4	58	<0.01	0.04
Undifferentiated Post-fire	16.7	1	1	0.21	**0.08**	101.4	5	0.01	0.63

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 47. Habitat-specific density estimates of Western Wood-Pewee in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	16.7	1	0	0.00	**0.10**	101.1	5	0.01	0.86
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	12.5	12	8	0.16	**0.09**	63.0	198	0.03	0.27
Int. Live Oak/Cny. Live Oak/CA Buckeye	11.1	4	0	0.00	**0.08**	74.8	63	0.02	0.31
Aspen Forest	27.3	7	2	0.12	**0.11**	48.7	21	0.04	0.28
California Black Oak Forest	24.2	9	4	0.15	**0.15**	56.4	167	0.05	0.43
Blue Oak Forest	5.3	1	0	0.00	**0.03**	110.0	26	<0.01	0.18
Undifferentiated Riparian	60.0	6	3	0.38	**0.33**	53.2	95	0.12	0.90
Lodgepole Pine Forest	7.0	30	17	0.06	**0.04**	50.2	265	0.02	0.11
Ponderosa Pine Woodland	50.0	9	4	0.32	**0.31**	53.6	128	0.12	0.84
Ponderosa Pine/Incense-cedar Forest	28.3	17	7	0.17	**0.17**	51.1	238	0.06	0.43
Jeffrey Pine Woodland	34.1	33	9	0.14	**0.20**	48.9	232	0.08	0.49
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.6	1	1	0.01	**<0.01**	110.0	220	<0.01	0.02
Giant Sequoia Forest	17.1	16	5	0.08	**0.11**	53.9	261	0.04	0.30
Red Fir Forest	15.3	30	15	0.14	**0.11**	51.1	267	0.04	0.29
Red Fir/White Fir Forest	20.6	22	10	0.13	**0.12**	50.6	254	0.05	0.31
White Fir/Sugar Pine Forest	10.6	15	5	0.06	**0.06**	57.1	289	0.02	0.18
Western Juniper Woodland	17.6	4	0	0.00	**0.11**	74.2	16	0.03	0.43
Mixed Chaparral	13.3	7	3	0.08	**0.09**	43.3	44	0.04	0.21
Montane Chaparral	22.5	20	3	0.05	**0.13**	27.6	79	0.07	0.22
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	7.4	2	0	0.00	**0.02**	101.1	26	<0.01	0.12
Lower Elevation Meadow	15.6	7	0	0.00	**0.09**	38.2	44	0.04	0.20
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	33.3	2	0	0.00	**0.20**	65.0	5	0.04	0.91

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 48. Habitat-specific density estimates of Hammond's Flycatcher in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	3.0	1	0	0.00	**0.03**	106.1	32	<0.01	0.16
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	10.0	1	1	0.13	**0.09**	106.1	9	0.01	0.66
Lodgepole Pine Forest	0.5	2	2	0.01	**0.01**	79.0	372	<0.01	0.02
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	1.2	1	1	0.02	**0.01**	106.1	81	<0.01	0.06
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	1.3	2	2	0.02	**0.01**	78.9	156	<0.01	0.05
Giant Sequoia Forest	6.6	5	3	0.05	**0.06**	56.1	75	0.02	0.17
Red Fir Forest	3.6	5	3	0.03	**0.03**	60.8	136	0.01	0.08
Red Fir/White Fir Forest	7.2	8	8	0.11	**0.08**	52.2	96	0.03	0.20
White Fir/Sugar Pine Forest	11.5	12	9	0.11	**0.10**	45.5	103	0.04	0.23
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	2.5	2	2	0.03	**0.02**	71.4	79	0.01	0.08
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	11.1	3	3	0.14	**0.10**	56.9	26	0.03	0.30
Lower Elevation Meadow	2.2	1	1	0.03	**0.02**	100.8	44	<0.01	0.11
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	16.7	1	1	0.21	**0.15**	100.8	5	0.02	1.32

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 49. Habitat-specific density estimates of Dusky Flycatcher in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	16.7	1	1	0.21	**0.15**	100.8	5	0.02	1.29
Mid Elevation Rock/Sparsely Vegetated	17.6	7	1	0.04	**0.14**	52.3	37	0.05	0.37
Higher Elevation Rock/Sparsely Vegetated	10.4	5	2	0.05	**0.10**	44.6	55	0.04	0.22
Canyon Live Oak Forest	1.6	1	1	0.02	**0.01**	106.1	80	<0.01	0.08
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	22.7	5	4	0.23	**0.21**	42.1	25	0.09	0.48
California Black Oak Forest	6.1	2	2	0.08	**0.06**	78.1	50	0.01	0.22
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	34.8	153	98	0.33	**0.36**	36.2	386	0.18	0.72
Ponderosa Pine Woodland	6.3	1	1	0.08	**0.06**	106.1	19	0.01	0.35
Ponderosa Pine/Incense-cedar Forest	9.4	5	3	0.07	**0.05**	66.8	98	0.02	0.17
Jeffrey Pine Woodland	30.5	33	23	0.36	**0.32**	40.2	428	0.15	0.67
Western White Pine Woodland	25.0	5	4	0.25	**0.23**	53.2	59	0.08	0.63
Whitebark Pine Woodland	37.7	21	16	0.38	**0.36**	22.3	103	0.24	0.56
Foxtail Pine	49.7	95	53	0.43	**0.50**	36.6	399	0.25	1.00
Giant Sequoia Forest	22.4	19	17	0.28	**0.22**	42.5	381	0.1	0.49
Red Fir Forest	17.5	27	14	0.13	**0.15**	41.5	487	0.07	0.32
Red Fir/White Fir Forest	25.8	27	19	0.25	**0.24**	40.2	447	0.11	0.51
White Fir/Sugar Pine Forest	16.3	23	15	0.18	**0.18**	44.3	411	0.08	0.41
Western Juniper Woodland	70.6	13	5	0.37	**0.49**	26.7	26	0.28	0.83
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	35.0	36	28	0.45	**0.41**	23.0	144	0.26	0.65
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	33.3	13	5	0.24	**0.31**	37.9	33	0.15	0.65
Lower Elevation Meadow	42.2	25	7	0.20	**0.47**	23.8	80	0.29	0.75
Mid Elevation Meadow	50.0	13	8	0.42	**0.42**	25.9	39	0.25	0.71
Higher Elevation Meadow	12.5	7	4	0.09	**0.11**	37.8	69	0.06	0.24
Undifferentiated Post-fire	50.0	3	1	0.21	**0.31**	64.5	5	0.07	1.35

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 50. Habitat-specific density estimates of Pacific-slope Flycatcher in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	17.2	11	10	0.20	**0.16**	44.9	63	0.07	0.37
Int. Live Oak/Cny. Live Oak/CA Buckeye	3.7	1	1	0.05	**0.03**	106.1	26	0.01	0.20
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	9.1	3	3	0.12	**0.08**	66.2	32	0.02	0.29
Blue Oak Forest	5.3	1	1	0.07	**0.05**	106.1	18	0.01	0.30
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	5.7	3	1	0.02	**0.03**	78.5	52	0.01	0.14
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	15.8	14	9	0.15	**0.17**	45.3	75	0.07	0.40
Red Fir Forest	1.5	2	2	0.02	**0.01**	78.8	136	<0.01	0.05
Red Fir/White Fir Forest	1.0	1	1	0.01	**0.01**	106.1	96	<0.01	0.05
White Fir/Sugar Pine Forest	5.8	7	5	0.06	**0.06**	54.9	103	0.02	0.17
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	2.2	1	0	0.00	**0.02**	100.8	44	<0.01	0.11
Montane Chaparral	1.3	1	1	0.02	**0.01**	100.8	79	<0.01	0.06
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 51. Habitat-specific density estimates of Ash-throated Flycatcher in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	1.6	1	0	0.00	**0.01**	110.0	63	<0.01	0.05
Int. Live Oak/Cny. Live Oak/CA Buckeye	25.9	9	6	0.28	**0.19**	58.1	26	0.06	0.56
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	78.9	21	14	0.94	**0.59**	48.2	18	0.22	1.53
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	44.4	22	11	0.31	**0.35**	26.4	44	0.21	0.58
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 52. Habitat-specific density estimates of Cassin's Vireo in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	12.5	9	8	0.16	**0.14**	37.2	63	0.07	0.28
Int. Live Oak/Cny. Live Oak/CA Buckeye	3.7	1	0	0.00	**0.04**	100.8	26	0.01	0.20
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	12.1	5	3	0.12	**0.15**	52.3	32	0.05	0.41
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	20.0	2	2	0.25	**0.20**	67.9	9	0.05	0.79
Lodgepole Pine Forest	1.1	4	2	0.01	**0.01**	59.0	372	<0.01	0.02
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	13.2	7	3	0.07	**0.13**	37.8	52	0.06	0.27
Jeffrey Pine Woodland	2.4	2	2	0.03	**0.02**	71.4	81	0.01	0.09
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	1.9	1	0	0.00	**0.02**	101.4	52	<0.01	0.08
Foxtail Pine	0.6	1	0	0.00	**0.01**	100.8	156	<0.01	0.03
Giant Sequoia Forest	2.6	2	0	0.00	**0.01**	100.8	75	<0.01	0.07
Red Fir Forest	1.5	2	1	0.01	**0.01**	71.6	136	<0.01	0.05
Red Fir/White Fir Forest	6.2	6	4	0.05	**0.05**	45.6	96	0.02	0.12
White Fir/Sugar Pine Forest	5.8	7	3	0.04	**0.04**	50.9	103	0.01	0.10
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	2.2	1	0	0.00	**0.02**	101.4	44	<0.01	0.10
Montane Chaparral	3.8	5	3	0.05	**0.05**	61.6	79	0.02	0.16
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	2.2	1	0	0.00	**0.02**	101.4	44	<0.01	0.10
Mid Elevation Meadow	4.2	1	0	0.00	**0.03**	101.4	23	0.01	0.19
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 53. Habitat-specific density estimates of Hutton's Vireo in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	6.3	4	3	0.06	**0.06**	50.5	63	0.02	0.16
Int. Live Oak/Cny. Live Oak/CA Buckeye	3.7	1	1	0.05	**0.04**	100.8	26	0.01	0.20
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	3.0	1	1	0.04	**0.03**	100.8	32	0.01	0.16
Blue Oak Forest	10.5	3	2	0.13	**0.16**	74.0	18	0.04	0.62
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	6.3	1	1	0.08	**0.06**	100.8	15	0.01	0.37
Ponderosa Pine/Incense-cedar Forest	1.9	1	0	0.00	**0.02**	100.8	52	<0.01	0.10
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	4.4	3	3	0.08	**0.05**	75.7	44	0.01	0.21
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 54. Habitat-specific density estimates of Warbling Vireo in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	16.7	1	1	0.21	**0.14**	101.4	5	0.02	1.15
Mid Elevation Rock/Sparsely Vegetated	5.9	3	1	0.04	**0.02**	101.4	35	<0.01	0.13
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	15.6	11	8	0.16	**0.14**	37.2	81	0.07	0.28
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	31.8	14	10	0.58	**0.48**	38.3	31	0.23	1.03
California Black Oak Forest	15.2	5	2	0.08	**0.09**	57.4	35	0.03	0.26
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	80.0	16	12	1.53	**1.58**	26.5	15	0.9	2.74
Lodgepole Pine Forest	9.9	48	34	0.12	**0.12**	21.2	561	0.08	0.18
Ponderosa Pine Woodland	31.3	6	2	0.16	**0.25**	46.5	18	0.1	0.63
Ponderosa Pine/Incense-cedar Forest	17.0	11	6	0.14	**0.19**	34.6	69	0.1	0.36
Jeffrey Pine Woodland	14.6	17	13	0.20	**0.19**	32.7	112	0.1	0.36
Western White Pine Woodland	5.0	1	0	0.00	**0.00**				
Whitebark Pine Woodland	1.9	1	0	0.00	**0.02**	101.4	55	<0.01	0.08
Foxtail Pine	0.6	1	1	0.01	**0.01**	100.8	161	<0.01	0.03
Giant Sequoia Forest	15.8	13	9	0.15	**0.17**	30.5	109	0.09	0.30
Red Fir Forest	13.1	18	11	0.10	**0.11**	27.6	210	0.06	0.18
Red Fir/White Fir Forest	24.7	34	21	0.28	**0.3**	24.5	170	0.19	0.49
White Fir/Sugar Pine Forest	28.8	35	24	0.29	**0.3**	21.5	214	0.2	0.46
Western Juniper Woodland	23.5	6	5	0.37	**0.24**	65.8	18	0.07	0.85
Mixed Chaparral	8.9	4	1	0.03	**0.04**	71.8	49	0.01	0.13
Montane Chaparral	18.8	19	6	0.10	**0.19**	31.0	128	0.11	0.35
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	14.8	5	3	0.14	**0.15**	52.9	32	0.06	0.42
Lower Elevation Meadow	28.9	16	8	0.23	**0.27**	31.6	76	0.15	0.51
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	16.7	1	1	0.21	**0.14**	101.4	5	0.02	1.15

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 55. Habitat-specific density estimates of Steller's Jay in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	33.3	3	1	0.21	**0.18**	70.9	6	0.04	0.88
Mid Elevation Rock/Sparsely Vegetated	8.8	3	0	0.00	**0.02**	72.1	38	0.01	0.08
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	25.0	21	7	0.14	**0.13**	27.3	81	0.08	0.22
Int. Live Oak/Cny. Live Oak/CA Buckeye	14.8	4	2	0.09	**0.07**	47.9	28	0.03	0.18
Aspen Forest	27.3	6	0	0.00	**0.10**	40.3	34	0.05	0.22
California Black Oak Forest	36.4	14	4	0.15	**0.18**	28.5	40	0.1	0.32
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	40.0	6	3	0.38	**0.28**	51.8	10	0.09	0.83
Lodgepole Pine Forest	9.4	46	19	0.06	**0.06**	20.3	561	0.04	0.08
Ponderosa Pine Woodland	68.8	16	4	0.32	**0.41**	24.9	20	0.25	0.68
Ponderosa Pine/Incense-cedar Forest	56.6	52	21	0.50	**0.41**	18.5	92	0.29	0.60
Jeffrey Pine Woodland	47.6	66	24	0.37	**0.33**	17.2	158	0.24	0.46
Western White Pine Woodland	35.0	7	1	0.06	**0.16**	32.6	23	0.08	0.32
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	5.1	10	2	0.02	**0.03**	40.5	174	0.01	0.06
Giant Sequoia Forest	63.2	64	15	0.25	**0.35**	15.0	186	0.26	0.47
Red Fir Forest	33.6	61	20	0.19	**0.18**	17.2	258	0.13	0.25
Red Fir/White Fir Forest	34.0	44	13	0.17	**0.19**	19.4	159	0.13	0.27
White Fir/Sugar Pine Forest	33.7	45	21	0.26	**0.19**	19.2	173	0.13	0.27
Western Juniper Woodland	5.9	1	1	0.07	**0.02**	101.8	17	<0.01	0.13
Mixed Chaparral	17.8	12	3	0.08	**0.09**	39.5	70	0.04	0.19
Montane Chaparral	28.8	25	4	0.06	**0.11**	26.4	146	0.07	0.19
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	3.7	1	0	0.00	**0.01**	101.8	28	<0.01	0.08
Lower Elevation Meadow	20.0	16	6	0.17	**0.11**	44.8	63	0.05	0.25
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	7.1	4	0	0.00	**0.01**	72.6	63	<0.01	0.05
Undifferentiated Post-fire	33.3	5	1	0.21	**0.31**	80.7	6	0.05	1.78

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 56. Habitat-specific density estimates of Western Scrub-Jay in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	9.4	6	4	0.08	**0.04**	40.3	63	0.02	0.09
Int. Live Oak/Cny. Live Oak/CA Buckeye	29.6	11	6	0.28	**0.19**	34.1	26	0.1	0.38
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	9.1	2	1	0.04	**0.03**	70.2	32	0.01	0.10
Blue Oak Forest	47.4	15	8	0.54	**0.37**	31.4	18	0.19	0.70
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	37.8	18	9	0.25	**0.14**	28.3	44	0.08	0.24
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 57. Habitat-specific density estimates of Clark's Nutcracker in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	14.7	9	2	0.07	**0.07**	52.4	36	0.03	0.19
Higher Elevation Rock/Sparsely Vegetated	27.1	17	2	0.05	**0.06**	38.9	55	0.03	0.13
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	4.5	1	0	0.00	**0.01**	100.6	22	<0.01	0.07
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	19.8	104	25	0.09	**0.09**	25.9	322	0.05	0.14
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	3.7	3	1	0.02	**0.01**	61.4	108	<0.01	0.04
Western White Pine Woodland	40.0	11	5	0.32	**0.20**	40.0	41	0.09	0.44
Whitebark Pine Woodland	49.1	49	16	0.38	**0.23**	23.0	83	0.15	0.37
Foxtail Pine	36.3	84	14	0.11	**0.15**	27.1	330	0.09	0.25
Giant Sequoia Forest	1.3	1	0	0.00	**<0.01**	102.6	83	<0.01	0.02
Red Fir Forest	11.7	21	5	0.05	**0.05**	34.6	303	0.03	0.10
Red Fir/White Fir Forest	1.0	1	0	0.00	**<0.01**	102.6	106	<0.01	0.02
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	17.6	3	2	0.15	**0.05**	55.1	17	0.02	0.14
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	6.3	5	0	0.00	**0.01**	58.0	85	<0.01	0.03
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	8.9	4	2	0.06	**0.02**	49.5	49	0.01	0.06
Mid Elevation Meadow	29.2	7	2	0.11	**0.08**	40.0	27	0.03	0.17
Higher Elevation Meadow	26.8	22	0	0.00	**0.10**	28.9	74	0.06	0.17
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 58. Habitat-specific density estimates of Common Raven in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	2.1	2	0	0.00	**0.01**	100.6	47	<0.01	0.03
Canyon Live Oak Forest	1.6	2	2	0.04	**0.01**	102.0	68	<0.01	0.05
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	9.1	3	0	0.00	**0.03**	59.3	40	0.01	0.09
Blue Oak Forest	10.5	2	0	0.00	**0.02**	102.0	19	<0.01	0.10
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	1.9	7	0	0.00	**0.01**	45.1	405	<0.01	0.01
Ponderosa Pine Woodland	6.3	1	1	0.08	**0.02**	102.0	16	<0.01	0.12
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	4.9	4	0	0.00	**0.02**	52.9	105	0.01	0.04
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	1.9	1	0	0.00	**<0.01**	100.6	52	<0.01	0.03
Foxtail Pine	1.3	2	0	0.00	**<0.01**	102.0	168	<0.01	0.01
Giant Sequoia Forest	17.1	12	4	0.07	**0.05**	36.7	120	0.02	0.09
Red Fir Forest	3.6	5	1	0.01	**0.01**	48.3	178	<0.01	0.03
Red Fir/White Fir Forest	9.3	11	4	0.05	**0.03**	41.3	139	0.01	0.07
White Fir/Sugar Pine Forest	8.7	9	3	0.04	**0.03**	37.7	153	0.01	0.06
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	8.9	4	0	0.00	**0.02**	49.5	44	0.01	0.06
Montane Chaparral	1.3	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	2.2	3	0	0.00	**0.02**	100.6	44	<0.01	0.09
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	1.8	1	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 59. Habitat-specific density estimates of Mountain Chickadee in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	16.7	2	1	0.21	**0.18**	108.7	7	0.02	1.46
Mid Elevation Rock/Sparsely Vegetated	23.5	11	4	0.15	**0.16**	56.3	129	0.06	0.45
Higher Elevation Rock/Sparsely Vegetated	12.5	7	0	0.00	**0.07**	62.3	133	0.02	0.21
Canyon Live Oak Forest	9.4	9	5	0.10	**0.10**	47.9	74	0.04	0.24
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	13.6	3	2	0.12	**0.07**	69.6	51	0.02	0.26
California Black Oak Forest	9.1	3	1	0.04	**0.08**	57.4	36	0.03	0.23
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	10.0	1	0	0.00	**0.09**	100.9	9	0.01	0.57
Lodgepole Pine Forest	45.5	263	169	0.58	**0.58**	14.8	1096	0.43	0.77
Ponderosa Pine Woodland	62.5	12	3	0.24	**0.49**	26.3	27	0.29	0.83
Ponderosa Pine/Incense-cedar Forest	22.6	17	6	0.14	**0.26**	31.9	75	0.14	0.49
Jeffrey Pine Woodland	53.7	67	33	0.51	**0.66**	19.6	247	0.45	0.97
Western White Pine Woodland	65.0	21	12	0.76	**0.87**	24.4	38	0.54	1.42
Whitebark Pine Woodland	30.2	25	18	0.43	**0.26**	48.7	196	0.1	0.64
Foxtail Pine	59.9	152	78	0.63	**0.72**	16.0	783	0.52	0.98
Giant Sequoia Forest	50.0	58	28	0.47	**0.56**	20.2	215	0.38	0.83
Red Fir Forest	59.9	117	66	0.61	**0.67**	16.3	689	0.49	0.92
Red Fir/White Fir Forest	51.5	71	43	0.56	**0.59**	17.6	409	0.42	0.84
White Fir/Sugar Pine Forest	48.1	75	36	0.44	**0.56**	18.4	374	0.39	0.80
Western Juniper Woodland	52.9	12	7	0.52	**0.29**	51.4	108	0.11	0.75
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	38.8	44	9	0.14	**0.26**	46.2	188	0.11	0.61
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	25.9	12	6	0.28	**0.24**	56.3	109	0.09	0.68
Lower Elevation Meadow	44.4	26	7	0.20	**0.29**	48.0	188	0.12	0.71
Mid Elevation Meadow	29.2	8	2	0.11	**0.18**	55.0	107	0.07	0.50
Higher Elevation Meadow	10.7	9	4	0.09	**0.08**	69.5	125	0.02	0.27
Undifferentiated Post-fire	33.3	4	0	0.00	**0.27**	80.6	10	0.06	1.32

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 60. Habitat-specific density estimates of Oak Titmouse in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	1.6	1	1	0.02	**0.01**	101.6	63	<0.01	0.08
Int. Live Oak/Cny. Live Oak/CA Buckeye	29.6	11	10	0.47	**0.38**	39.5	26	0.17	0.83
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	68.4	18	14	0.94	**0.89**	27.2	18	0.51	1.55
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	13.3	6	6	0.17	**0.11**	41.8	44	0.05	0.25
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 61. Habitat-specific density estimates of Bushtit in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	1.6	1	1	0.02	**0.04**	100.9	63	0.01	0.19
Int. Live Oak/Cny. Live Oak/CA Buckeye	3.7	1	1	0.05	**0.08**	100.9	26	0.01	0.47
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	10.5	5	5	0.34	**0.60**	71.5	18	0.15	2.30
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	6.7	6	6	0.17	**0.18**	64.6	44	0.05	0.58
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 62. Habitat-specific density estimates of Red-breasted Nuthatch in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	16.7	1	0	0.00	**0.09**	108.7	5	0.01	0.88
Mid Elevation Rock/Sparsely Vegetated	5.9	2	0	0.00	**0.02**	108.7	33	<0.01	0.10
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	1.6	1	0	0.00	**0.01**	128.0	160	<0.01	0.04
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	4.5	2	1	0.06	**0.05**	108.7	21	0.01	0.31
California Black Oak Forest	15.2	5	2	0.08	**0.04**	93.0	296	0.01	0.19
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	9.1	37	6	0.02	**0.03**	81.9	481	0.01	0.13
Ponderosa Pine Woodland	18.8	3	2	0.16	**0.06**	96.3	133	0.01	0.32
Ponderosa Pine/Incense-cedar Forest	17.0	9	0	0.00	**0.04**	87.5	473	0.01	0.20
Jeffrey Pine Woodland	30.5	30	5	0.08	**0.11**	82.5	487	0.03	0.44
Western White Pine Woodland	25.0	6	4	0.25	**0.10**	90.6	253	0.02	0.47
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	6.4	13	2	0.02	**0.03**	86.4	554	0.01	0.12
Giant Sequoia Forest	82.9	100	15	0.25	**0.40**	80.4	448	0.1	1.61
Red Fir Forest	54.7	104	26	0.24	**0.24**	80.5	451	0.06	0.97
Red Fir/White Fir Forest	66.0	89	17	0.22	**0.28**	80.5	452	0.07	1.14
White Fir/Sugar Pine Forest	56.7	88	22	0.27	**0.26**	80.8	456	0.06	1.05
Western Juniper Woodland	11.8	2	0	0.00	**0.03**	108.7	16	<0.01	0.21
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	15.0	14	0	0.00	**0.06**	55.4	79	0.02	0.17
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	3.7	2	0	0.00	**0.02**	108.7	26	<0.01	0.12
Lower Elevation Meadow	17.8	13	2	0.06	**0.13**	58.1	44	0.04	0.39
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	1.8	1	0	0.00	**0.00**				
Undifferentiated Post-fire	50.0	2	0	0.00	**0.09**	108.7	5	0.01	0.88

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 63. Habitat-specific density estimates of White-breasted Nuthatch in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	6.3	3	0	0.00	**0.01**	108.7	47	<0.01	0.07
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	36.8	9	0	0.00	**0.19**	38.4	30	0.09	0.41
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	7.5	35	14	0.05	**0.04**	27.2	349	0.02	0.06
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	6.1	4	0	0.00	**0.02**	47.3	109	0.01	0.06
Western White Pine Woodland	25.0	5	3	0.19	**0.10**	43.7	28	0.04	0.24
Whitebark Pine Woodland	5.7	3	0	0.00	**0.02**	82.0	52	<0.01	0.09
Foxtail Pine	26.8	54	15	0.12	**0.12**	24.5	229	0.07	0.19
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	4.4	6	2	0.02	**0.01**	47.7	179	0.01	0.04
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	1.0	1	0	0.00	**<0.01**	101.7	110	<0.01	0.02
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	8.9	6	1	0.02	**0.03**	71.0	55	0.01	0.10
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 64. Habitat-specific density estimates of Brown Creeper in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	7.8	6	5	0.10	**0.11**	53.8	73	0.04	0.31
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	9.1	2	1	0.06	**0.06**	102.1	21	0.01	0.35
California Black Oak Forest	6.1	2	2	0.08	**0.09**	71.1	35	0.02	0.33
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	10.0	1	1	0.13	**0.15**	101.0	9	0.02	0.97
Lodgepole Pine Forest	15.0	62	60	0.20	**0.24**	19.4	467	0.17	0.36
Ponderosa Pine Woodland	18.8	5	3	0.24	**0.28**	74.0	16	0.07	1.11
Ponderosa Pine/Incense-cedar Forest	17.0	9	7	0.17	**0.19**	38.4	70	0.09	0.41
Jeffrey Pine Woodland	9.8	7	6	0.09	**0.14**	36.8	112	0.07	0.29
Western White Pine Woodland	25.0	5	5	0.32	**0.37**	42.3	24	0.16	0.85
Whitebark Pine Woodland	3.8	2	2	0.05	**0.05**	73.0	52	0.01	0.19
Foxtail Pine	8.9	14	10	0.08	**0.10**	32.6	231	0.06	0.19
Giant Sequoia Forest	40.8	34	28	0.47	**0.58**	21.4	199	0.38	0.88
Red Fir Forest	23.4	34	30	0.28	**0.34**	22.2	298	0.22	0.53
Red Fir/White Fir Forest	12.4	12	10	0.13	**0.17**	32.0	147	0.09	0.31
White Fir/Sugar Pine Forest	19.2	20	17	0.21	**0.25**	26.0	196	0.15	0.42
Western Juniper Woodland	17.6	3	1	0.07	**0.16**	71.5	16	0.04	0.61
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	6.3	5	3	0.05	**0.07**	53.2	79	0.02	0.18
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	13.3	6	5	0.14	**0.15**	47.4	44	0.06	0.36
Mid Elevation Meadow	12.5	3	3	0.16	**0.17**	58.9	23	0.05	0.51
Higher Elevation Meadow	3.6	2	0	0.00	**0.05**	73.0	55	0.01	0.18
Undifferentiated Post-fire	33.3	2	1	0.21	**0.44**	66.5	5	0.09	2.10

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 65. Habitat-specific density estimates of Rock Wren in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	29.4	11	3	0.11	**0.30**	34.7	33	0.15	0.60
Higher Elevation Rock/Sparsely Vegetated	22.9	14	4	0.11	**0.15**	59.1	47	0.05	0.46
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	1.9	7	0	0.00	**0.01**	72.9	372	<0.01	0.03
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	1.2	1	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	11.3	6	1	0.02	**0.08**	56.9	52	0.03	0.24
Foxtail Pine	7.0	13	7	0.06	**0.06**	57.9	156	0.02	0.19
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.7	2	0	0.00	**0.01**	109.6	136	<0.01	0.04
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	1.0	1	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	10.7	9	1	0.02	**0.08**	57.0	55	0.03	0.23
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 66. Habitat-specific density estimates of Bewick's Wren in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	4.7	3	2	0.04	**0.05**	72.3	63	0.01	0.17
Int. Live Oak/Cny. Live Oak/CA Buckeye	11.1	5	4	0.19	**0.15**	74.2	26	0.04	0.59
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	9.1	3	2	0.08	**0.09**	71.6	32	0.02	0.34
Blue Oak Forest	15.8	3	2	0.13	**0.11**	82.0	18	0.02	0.48
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	1.0	1	0	0.00	**0.01**	109.6	103	<0.01	0.06
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	46.7	38	18	0.51	**0.88**	18.8	44	0.6	1.27
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 67. Habitat-specific density estimates of House Wren in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	9.4	7	6	0.12	**0.09**	64.0	63	0.03	0.31
Int. Live Oak/Cny. Live Oak/CA Buckeye	25.9	8	4	0.19	**0.30**	56.9	26	0.1	0.89
Aspen Forest	4.5	1	1	0.06	**0.07**	100.2	21	0.01	0.38
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	36.8	16	12	0.80	**0.80**	55.6	18	0.27	2.38
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.3	1	1	0.00	**<0.01**	109.6	372	<0.01	0.02
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	2.4	2	0	0.00	**0.01**	109.6	81	<0.01	0.07
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.7	1	1	0.01	**0.01**	109.6	136	<0.01	0.04
Red Fir/White Fir Forest	4.1	5	4	0.05	**0.05**	68.8	96	0.02	0.18
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	22.2	12	4	0.11	**0.29**	38.0	44	0.14	0.61
Montane Chaparral	2.5	3	2	0.03	**0.05**	74.4	79	0.01	0.21
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	2.2	1	0	0.00	**0.03**	100.2	44	0.01	0.17
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 68. Habitat-specific density estimates of Winter Wren in Sequoia and Kings Canyon National Parks. An entry of '--' for the Adjusted Density Estimate indicates a habitat for which we did not model detectability.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	--				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	--				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	--				
Canyon Live Oak Forest	3.1	3	3	0.06	**0.04**	76.4	71	0.01	0.14
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	--				
California Black Oak Forest	3.0	1	1	0.04	**0.02**	101.8	34	<0.01	0.13
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.3	1	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	--				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	27.6	23	10	0.17	**0.20**	28.8	135	0.12	0.35
Red Fir Forest	10.2	14	7	0.07	**0.08**	31.6	194	0.04	0.15
Red Fir/White Fir Forest	9.3	10	6	0.08	**0.08**	38.3	144	0.04	0.17
White Fir/Sugar Pine Forest	15.4	16	8	0.10	**0.10**	32.2	163	0.05	0.18
Western Juniper Woodland	0.0	0	0	0.00	--				
Mixed Chaparral	0.0	0	0	0.00	--				
Montane Chaparral	0.0	0	0	0.00	--				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	--				
Lower Elevation Meadow	0.0	0	0	0.00	--				
Mid Elevation Meadow	0.0	0	0	0.00	--				
Higher Elevation Meadow	0.0	0	0	0.00	--				
Undifferentiated Post-fire	0.0	0	0	0.00	--				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 69. Habitat-specific density estimates of Golden-crowned Kinglet in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	5.9	2	1	0.04	**0.08**	72.6	33	0.02	0.29
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	1.6	1	1	0.02	**0.04**	104.4	75	0.01	0.22
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	3.0	1	1	0.04	**0.08**	104.4	38	0.01	0.43
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	8.6	39	31	0.11	**0.21**	36.7	750	0.1	0.42
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	11.3	8	8	0.19	**0.38**	51.2	117	0.14	0.98
Jeffrey Pine Woodland	28.0	30	28	0.43	**0.82**	36.0	444	0.41	1.63
Western White Pine Woodland	5.0	1	1	0.06	**0.12**	104.4	23	0.02	0.74
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.6	1	1	0.01	**0.02**	104.4	185	<0.01	0.09
Giant Sequoia Forest	85.5	97	93	1.56	**2.92**	30.9	472	1.61	5.28
Red Fir Forest	55.5	104	98	0.91	**1.67**	31.6	510	0.91	3.07
Red Fir/White Fir Forest	75.3	105	102	1.34	**2.54**	31.1	483	1.4	4.62
White Fir/Sugar Pine Forest	66.3	95	92	1.13	**2.04**	31.5	501	1.11	3.73
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	10.0	10	9	0.14	**0.15**	40.9	79	0.07	0.33
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	11.1	3	3	0.14	**0.15**	59.2	26	0.05	0.45
Lower Elevation Meadow	20.0	12	10	0.28	**0.35**	38.4	44	0.17	0.75
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	33.3	2	1	0.21	**0.44**	66.5	5	0.09	2.10

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 70. Habitat-specific density estimates of Ruby-crowned Kinglet in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	2.9	1	0	0.00	**0.02**	101.1	33	<0.01	0.10
Higher Elevation Rock/Sparsely Vegetated	2.1	1	0	0.00	**0.01**	101.1	47	<0.01	0.07
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	14.2	69	37	0.13	**0.12**	20.8	276	0.08	0.17
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	10.0	2	1	0.06	**0.07**	70.4	21	0.02	0.25
Whitebark Pine Woodland	3.8	2	1	0.02	**0.02**	71.6	52	0.01	0.08
Foxtail Pine	14.6	25	7	0.06	**0.08**	28.3	239	0.05	0.14
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	2.9	5	1	0.01	**0.02**	54.5	158	0.01	0.07
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	15.6	9	2	0.06	**0.11**	43.8	44	0.05	0.25
Mid Elevation Meadow	12.5	3	0	0.00	**0.07**	57.2	23	0.02	0.22
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 71. Habitat-specific density estimates of Blue-gray Gnatcatcher in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	1.6	1	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	14.8	4	2	0.09	**0.18**	75.6	26	0.05	0.73
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	36.8	7	6	0.40	**0.79**	45.9	18	0.31	1.97
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	1.2	1	1	0.02	**0.03**	104.4	81	0.01	0.17
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	8.9	4	4	0.11	**0.12**	52.5	44	0.04	0.32
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 72. Habitat-specific density estimates of Mountain Bluebird in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	8.3	5	1	0.03	**0.11**	78.7	47	0.03	0.46
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	1.6	10	8	0.03	**0.05**	60.0	372	0.02	0.14
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	10.0	3	3	0.19	**0.34**	74.2	19	0.08	1.36
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	10.2	24	13	0.11	**0.23**	46.5	156	0.1	0.55
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	3.7	2	0	0.00	**0.00**				
Lower Elevation Meadow	4.4	2	2	0.06	**0.08**	75.0	44	0.02	0.31
Mid Elevation Meadow	4.2	1	1	0.05	**0.08**	103.6	23	0.01	0.45
Higher Elevation Meadow	8.9	8	4	0.09	**0.13**	66.1	55	0.04	0.44
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 73. Habitat-specific density estimates of Townsend's Solitaire in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	14.7	5	0	0.00	**0.10**	57.7	33	0.04	0.31
Higher Elevation Rock/Sparsely Vegetated	2.1	1	0	0.00	**0.02**	101.0	47	<0.01	0.13
Canyon Live Oak Forest	1.6	1	0	0.00	**0.01**	100.8	65	<0.01	0.04
Int. Live Oak/Cny. Live Oak/CA Buckeye	3.7	1	0	0.00	**0.00**				
Aspen Forest	6.1	2	0	0.00	**0.01**	100.8	33	<0.01	0.07
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	8.3	34	9	0.03	**0.04**	22.0	459	0.03	0.06
Ponderosa Pine Woodland	12.5	2	1	0.08	**0.03**	100.8	16	<0.01	0.16
Ponderosa Pine/Incense-cedar Forest	1.9	1	0	0.00	**0.00**				
Jeffrey Pine Woodland	12.2	10	4	0.06	**0.05**	34.2	108	0.02	0.09
Western White Pine Woodland	45.0	11	5	0.32	**0.24**	30.7	28	0.13	0.44
Whitebark Pine Woodland	3.8	2	1	0.02	**0.04**	71.4	52	0.01	0.16
Foxtail Pine	10.8	21	2	0.02	**0.04**	30.8	216	0.02	0.08
Giant Sequoia Forest	2.6	2	0	0.00	**0.01**	71.4	80	<0.01	0.04
Red Fir Forest	16.8	25	11	0.10	**0.08**	23.7	227	0.05	0.13
Red Fir/White Fir Forest	9.3	9	2	0.03	**0.04**	34.4	127	0.02	0.08
White Fir/Sugar Pine Forest	11.5	13	3	0.04	**0.05**	34.0	137	0.02	0.09
Western Juniper Woodland	11.8	2	2	0.15	**0.14**	69.9	16	0.04	0.53
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	5.0	5	1	0.02	**0.07**	53.9	79	0.03	0.20
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	3.7	1	1	0.05	**0.04**	101.0	26	0.01	0.25
Lower Elevation Meadow	11.1	5	0	0.00	**0.08**	58.1	44	0.03	0.23
Mid Elevation Meadow	4.2	1	0	0.00	**0.05**	101.0	23	0.01	0.28
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 74. Habitat-specific density estimates of Hermit Thrush in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	14.7	8	0	0.00	**0.05**	97.3	110	0.01	0.26
Higher Elevation Rock/Sparsely Vegetated	16.7	9	1	0.03	**0.03**	96.2	115	0.01	0.14
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	13.6	3	0	0.00	**0.02**	109.3	82	<0.01	0.12
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	40.1	189	42	0.14	**0.16**	77.4	300	0.04	0.62
Ponderosa Pine Woodland	12.5	3	0	0.00	**0.06**	105.8	64	0.01	0.36
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	6.1	5	1	0.02	**0.02**	88.5	373	<0.01	0.09
Western White Pine Woodland	25.0	5	0	0.00	**0.09**	86.6	225	0.02	0.37
Whitebark Pine Woodland	43.4	27	1	0.02	**0.11**	86.7	86	0.02	0.48
Foxtail Pine	27.4	61	4	0.03	**0.10**	78.8	322	0.02	0.37
Giant Sequoia Forest	1.3	1	0	0.00	**<0.01**	126.2	175	<0.01	0.03
Red Fir Forest	20.4	37	3	0.03	**0.08**	79.3	328	0.02	0.33
Red Fir/White Fir Forest	15.5	19	3	0.04	**0.07**	81.1	349	0.02	0.27
White Fir/Sugar Pine Forest	10.6	12	7	0.09	**0.04**	82.5	365	0.01	0.16
Western Juniper Woodland	11.8	2	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	5.0	4	0	0.00	**0.01**	97.9	127	<0.01	0.06
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	11.1	4	0	0.00	**0.03**	103.4	101	0.01	0.18
Lower Elevation Meadow	17.8	9	1	0.03	**0.04**	90.8	100	0.01	0.18
Mid Elevation Meadow	25.0	8	0	0.00	**0.07**	93.3	101	0.02	0.36
Higher Elevation Meadow	23.2	16	2	0.05	**0.06**	89.2	95	0.01	0.27
Undifferentiated Post-fire	16.7	1	0	0.00	**0.04**	131.1	14	<0.01	0.32

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 75. Habitat-specific density estimates of American Robin in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	33.3	2	1	0.21	**0.13**	100.9	5	0.02	1.12
Mid Elevation Rock/Sparsely Vegetated	8.8	3	0	0.00	**0.07**	57.5	37	0.02	0.21
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	14.1	10	6	0.12	**0.11**	52.0	231	0.04	0.29
Int. Live Oak/Cny. Live Oak/CA Buckeye	18.5	5	2	0.09	**0.09**	67.6	56	0.03	0.30
Aspen Forest	22.7	8	6	0.35	**0.29**	48.1	24	0.11	0.74
California Black Oak Forest	24.2	10	6	0.23	**0.24**	51.2	142	0.09	0.62
Blue Oak Forest	5.3	1	0	0.00	**0.00**				
Undifferentiated Riparian	60.0	11	5	0.64	**0.87**	48.0	64	0.35	2.16
Lodgepole Pine Forest	13.9	58	32	0.11	**0.11**	41.4	355	0.05	0.24
Ponderosa Pine Woodland	25.0	5	3	0.24	**0.20**	59.1	44	0.07	0.60
Ponderosa Pine/Incense-cedar Forest	32.1	22	12	0.29	**0.28**	46.0	285	0.12	0.67
Jeffrey Pine Woodland	15.9	13	7	0.11	**0.13**	47.6	329	0.05	0.31
Western White Pine Woodland	10.0	2	0	0.00	**0.08**	78.9	33	0.02	0.33
Whitebark Pine Woodland	11.3	6	1	0.02	**0.09**	41.0	64	0.04	0.20
Foxtail Pine	8.3	16	6	0.05	**0.05**	55.1	392	0.02	0.14
Giant Sequoia Forest	30.3	32	18	0.30	**0.28**	43.9	347	0.12	0.64
Red Fir Forest	24.8	43	24	0.22	**0.23**	42.2	361	0.10	0.51
Red Fir/White Fir Forest	32.0	38	27	0.35	**0.30**	42.3	352	0.14	0.67
White Fir/Sugar Pine Forest	26.9	39	25	0.31	**0.29**	43.0	364	0.13	0.65
Western Juniper Woodland	17.6	3	2	0.15	**0.14**	55.6	18	0.05	0.42
Mixed Chaparral	11.1	7	2	0.06	**0.05**	57.9	49	0.02	0.16
Montane Chaparral	5.0	5	3	0.05	**0.05**	53.7	89	0.02	0.14
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	11.1	4	2	0.09	**0.12**	60.7	29	0.04	0.37
Lower Elevation Meadow	53.3	37	16	0.45	**0.60**	33.6	60	0.31	1.16
Mid Elevation Meadow	37.5	10	7	0.37	**0.30**	34.0	31	0.15	0.59
Higher Elevation Meadow	3.6	3	1	0.02	**0.04**	75.1	58	0.01	0.16
Undifferentiated Post-fire	16.7	1	1	0.21	**0.13**	100.9	5	0.02	1.12

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 76. Habitat-specific density estimates of Wrentit in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	15.6	12	1	0.02	**0.11**	41.2	63	0.05	0.25
Int. Live Oak/Cny. Live Oak/CA Buckeye	33.3	15	8	0.38	**0.39**	46.1	26	0.16	0.96
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	27.3	10	2	0.08	**0.15**	46.2	32	0.06	0.36
Blue Oak Forest	26.3	6	0	0.00					
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	12.5	2	0	0.00	**0.05**	103.6	15	0.01	0.31
Ponderosa Pine/Incense-cedar Forest	5.7	3	1	0.02	**0.05**	62.7	52	0.01	0.15
Jeffrey Pine Woodland	3.7	5	1	0.02	**0.03**	78.9	81	0.01	0.12
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	84.4	56	22	0.62	**0.76**	19.6	84	0.52	1.12
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	16.7	2	2	0.42	**0.23**	101.4	5	0.03	1.92

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 77. Habitat-specific density estimates of American Pipit in Sequoia and Kings Canyon National Parks. An entry of '--' for the Adjusted Density Estimate indicates a habitat for which we did not model detectability.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	31.3	22	11	0.29	**0.80**	37.1	103	0.39	1.63
Canyon Live Oak Forest	0.0	0	0	0.00	--				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	--				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	--				
Blue Oak Forest	0.0	0	0	0.00	--				
Undifferentiated Riparian	0.0	0	0	0.00	--				
Lodgepole Pine Forest	0.0	0	0	0.00	--				
Ponderosa Pine Woodland	0.0	0	0	0.00	--				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	--				
Jeffrey Pine Woodland	0.0	0	0	0.00	--				
Western White Pine Woodland	0.0	0	0	0.00	--				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	--				
Giant Sequoia Forest	0.0	0	0	0.00	--				
Red Fir Forest	0.0	0	0	0.00	--				
Red Fir/White Fir Forest	0.0	0	0	0.00	--				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	--				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	37.5	42	25	0.57	**1.21**	34.2	105	0.63	2.34
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 78. Habitat-specific density estimates of Orange-crowned Warbler in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	9.4	7	2	0.04	**0.14**	52.3	63	0.05	0.37
Int. Live Oak/Cny. Live Oak/CA Buckeye	37.0	16	12	0.57	**0.99**	30.2	26	0.54	1.81
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	9.1	3	2	0.08	**0.16**	56.4	32	0.06	0.47
Blue Oak Forest	5.3	1	0	0.00	**0.09**	100.3	18	0.02	0.54
Undifferentiated Riparian	10.0	1	1	0.13	**0.18**	100.3	9	0.03	1.17
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.6	1	1	0.01	**0.01**	100.3	156	<0.01	0.06
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	13.3	6	4	0.11	**0.18**	40.2	44	0.08	0.40
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	3.7	1	0	0.00	**0.05**	100.7	26	0.01	0.29
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	1.8	1	1	0.02	**0.02**	100.7	55	<0.01	0.13
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 79. Habitat-specific density estimates of Nashville Warbler in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	50.0	4	3	0.64	**0.98**	52.0	5	0.28	3.46
Mid Elevation Rock/Sparsely Vegetated	5.9	2	0	0.00	**0.04**	101.0	33	0.01	0.24
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	37.5	35	28	0.56	**0.67**	44.2	285	0.29	1.53
Int. Live Oak/Cny. Live Oak/CA Buckeye	18.5	7	5	0.24	**0.28**	58.9	79	0.09	0.83
Aspen Forest	9.1	3	3	0.17	**0.20**	74.5	21	0.05	0.80
California Black Oak Forest	81.8	47	37	1.43	**1.63**	41.9	254	0.74	3.61
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	20.0	3	1	0.13	**0.38**	81.3	15	0.08	1.71
Lodgepole Pine Forest	2.4	9	8	0.03	**0.03**	52.7	518	0.01	0.07
Ponderosa Pine Woodland	18.8	4	3	0.24	**0.23**	82.5	25	0.05	1.04
Ponderosa Pine/Incense-cedar Forest	41.5	34	27	0.65	**0.73**	43.8	274	0.32	1.67
Jeffrey Pine Woodland	29.3	37	28	0.43	**0.49**	44.3	298	0.21	1.12
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	7.9	9	6	0.10	**0.13**	60.3	192	0.04	0.40
Red Fir Forest	5.8	13	11	0.10	**0.11**	57.4	327	0.04	0.31
Red Fir/White Fir Forest	13.4	19	12	0.16	**0.19**	52.4	293	0.07	0.51
White Fir/Sugar Pine Forest	20.2	30	23	0.28	**0.36**	45.1	316	0.15	0.84
Western Juniper Woodland	5.9	1	0	0.00	**0.09**	101.0	16	0.01	0.51
Mixed Chaparral	17.8	9	4	0.11	**0.23**	43.0	44	0.1	0.53
Montane Chaparral	17.5	21	19	0.30	**0.39**	30.4	79	0.21	0.70
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	3.7	1	1	0.05	**0.05**	101.0	26	0.01	0.31
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	1.8	1	1	0.02	**0.03**	101.0	55	<0.01	0.14

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 80. Habitat-specific density estimates of Yellow Warbler in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	1.6	1	1	0.02	**0.01**	102.4	63	<0.01	0.08
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	4.5	1	1	0.06	**0.03**	101.1	21	<0.01	0.16
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	5.7	3	3	0.07	**0.05**	60.7	52	0.02	0.16
Jeffrey Pine Woodland	3.7	3	3	0.05	**0.03**	61.1	81	0.01	0.11
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	1.0	1	0	0.00	**0.01**	102.4	96	<0.01	0.05
White Fir/Sugar Pine Forest	2.9	4	2	0.02	**0.04**	64.6	103	0.01	0.12
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	2.2	1	1	0.03	**0.01**	101.1	44	<0.01	0.07
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 81. Habitat-specific density estimates of Yellow-rumped Warbler in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	16.7	1	0	0.00	**0.10**	101.1	5	0.01	0.84
Mid Elevation Rock/Sparsely Vegetated	23.5	13	1	0.04	**0.12**	47.3	41	0.05	0.30
Higher Elevation Rock/Sparsely Vegetated	4.2	2	1	0.03	**0.01**	101.1	49	<0.01	0.07
Canyon Live Oak Forest	4.7	3	2	0.04	**0.03**	73.5	76	0.01	0.11
Int. Live Oak/Cny. Live Oak/CA Buckeye	3.7	1	1	0.05	**0.03**	102.4	29	0.01	0.20
Aspen Forest	59.1	14	7	0.41	**0.38**	24.6	50	0.23	0.62
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	5.3	1	1	0.07	**0.05**	102.4	20	0.01	0.29
Undifferentiated Riparian	20.0	2	2	0.25	**0.19**	70.2	11	0.05	0.75
Lodgepole Pine Forest	60.2	335	223	0.76	**0.76**	22.7	864	0.49	1.18
Ponderosa Pine Woodland	31.3	7	3	0.24	**0.23**	49.8	23	0.09	0.62
Ponderosa Pine/Incense-cedar Forest	9.4	5	3	0.07	**0.09**	48.3	82	0.04	0.22
Jeffrey Pine Woodland	23.2	23	16	0.25	**0.23**	33.5	237	0.12	0.43
Western White Pine Woodland	50.0	17	14	0.89	**0.80**	34.1	55	0.41	1.54
Whitebark Pine Woodland	30.2	19	13	0.31	**0.21**	27.2	99	0.13	0.36
Foxtail Pine	54.1	109	57	0.46	**0.55**	24.1	930	0.35	0.88
Giant Sequoia Forest	53.9	59	28	0.47	**0.66**	25.4	647	0.41	1.09
Red Fir Forest	63.5	132	80	0.74	**0.81**	23.6	907	0.51	1.27
Red Fir/White Fir Forest	56.7	84	67	0.88	**0.75**	24.4	820	0.47	1.21
White Fir/Sugar Pine Forest	61.5	84	60	0.73	**0.71**	24.1	859	0.45	1.13
Western Juniper Woodland	35.3	7	1	0.07	**0.21**	44.3	20	0.09	0.51
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	15.0	17	8	0.13	**0.10**	36.6	111	0.05	0.21
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	29.6	10	4	0.19	**0.20**	42.0	34	0.09	0.45
Lower Elevation Meadow	48.9	33	17	0.48	**0.42**	23.2	109	0.27	0.67
Mid Elevation Meadow	54.2	17	9	0.48	**0.42**	26.3	48	0.25	0.71
Higher Elevation Meadow	7.1	6	3	0.07	**0.05**	67.3	61	0.02	0.18
Undifferentiated Post-fire	16.7	1	0	0.00	**0.10**	101.1	5	0.01	0.84

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 82. Habitat-specific density estimates of Black-throated Gray Warbler in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	31.3	29	17	0.34	**0.42**	27.4	117	0.25	0.72
Int. Live Oak/Cny. Live Oak/CA Buckeye	22.2	8	4	0.19	**0.21**	53.1	33	0.08	0.57
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	12.1	4	4	0.15	**0.11**	50.8	41	0.04	0.30
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	12.5	3	3	0.24	**0.18**	74.7	17	0.04	0.72
Ponderosa Pine/Incense-cedar Forest	15.1	10	4	0.10	**0.16**	42.0	74	0.07	0.35
Jeffrey Pine Woodland	2.4	2	0	0.00	**0.01**	101.6	86	<0.01	0.06
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.7	2	2	0.02	**0.01**	101.6	144	<0.01	0.07
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	1.9	2	2	0.02	**0.02**	72.6	116	<0.01	0.07
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	2.2	1	0	0.00	**0.01**	101.1	44	<0.01	0.07
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 83. Habitat-specific density estimates of Hermit Warbler in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	1.6	1	1	0.02	**0.01**	107.8	84	<0.01	0.08
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	3.0	1	1	0.04	**0.03**	107.8	43	<0.01	0.17
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	2.4	12	10	0.03	**0.03**	53.3	356	0.01	0.08
Ponderosa Pine Woodland	6.3	2	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	5.7	3	1	0.02	**0.02**	107.8	70	<0.01	0.10
Jeffrey Pine Woodland	7.3	6	3	0.05	**0.06**	59.3	196	0.02	0.17
Western White Pine Woodland	5.0	1	1	0.06	**0.05**	107.8	26	0.01	0.29
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	36.8	42	25	0.42	**0.48**	44.2	189	0.21	1.12
Red Fir Forest	7.3	13	5	0.05	**0.08**	52.8	270	0.03	0.20
Red Fir/White Fir Forest	21.6	25	20	0.26	**0.24**	45.2	203	0.1	0.57
White Fir/Sugar Pine Forest	30.8	47	29	0.36	**0.42**	43.8	189	0.18	0.95
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	5.0	5	1	0.02	**0.04**	54.2	79	0.01	0.10
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 84. Habitat-specific density estimates of MacGillivray's Warbler in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	16.7	1	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	8.8	4	1	0.04	**0.13**	57.7	37	0.04	0.39
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	4.7	3	3	0.06	**0.06**	64.8	102	0.02	0.19
Int. Live Oak/Cny. Live Oak/CA Buckeye	7.4	2	2	0.09	**0.09**	76.0	37	0.02	0.36
Aspen Forest	18.2	6	4	0.23	**0.40**	51.3	25	0.15	1.09
California Black Oak Forest	27.3	9	6	0.23	**0.33**	42.5	114	0.15	0.75
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	20.0	3	1	0.13	**0.25**	73.6	13	0.06	1.01
Lodgepole Pine Forest	4.5	23	12	0.04	**0.06**	44.0	403	0.03	0.14
Ponderosa Pine Woodland	18.8	4	3	0.24	**0.31**	65.6	25	0.09	1.05
Ponderosa Pine/Incense-cedar Forest	15.1	13	9	0.22	**0.25**	48.8	126	0.1	0.63
Jeffrey Pine Woodland	18.3	17	14	0.22	**0.25**	39.8	220	0.12	0.54
Western White Pine Woodland	5.0	1	0	0.00	**0.06**	104.7	23	0.01	0.36
Whitebark Pine Woodland	1.9	1	1	0.02	**0.03**	101.0	54	0.01	0.15
Foxtail Pine	1.3	2	1	0.01	**0.02**	77.1	214	<0.01	0.06
Giant Sequoia Forest	34.2	33	20	0.34	**0.48**	36.2	206	0.24	0.97
Red Fir Forest	10.2	14	10	0.09	**0.12**	40.9	269	0.05	0.25
Red Fir/White Fir Forest	13.4	13	11	0.14	**0.16**	40.6	235	0.08	0.35
White Fir/Sugar Pine Forest	17.3	20	14	0.17	**0.19**	38.8	237	0.09	0.39
Western Juniper Woodland	11.8	2	1	0.07	**0.09**	101.0	17	0.01	0.51
Mixed Chaparral	8.9	4	4	0.11	**0.13**	50.3	52	0.05	0.34
Montane Chaparral	45.0	50	37	0.59	**0.85**	20.9	165	0.56	1.28
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	48.1	15	9	0.42	**0.71**	27.2	47	0.42	1.22
Lower Elevation Meadow	20.0	14	12	0.34	**0.43**	35.3	62	0.22	0.85
Mid Elevation Meadow	8.3	2	0	0.00	**0.12**	70.6	25	0.03	0.46
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	33.3	2	1	0.21	**0.49**	64.8	6	0.11	2.16

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 85. Habitat-specific density estimates of Wilson's Warbler in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	17.6	6	5	0.19	**0.35**	41.0	46	0.16	0.78
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	13.6	4	4	0.23	**0.36**	61.0	24	0.11	1.16
California Black Oak Forest	3.0	1	1	0.04	**0.03**	102.4	32	0.01	0.16
Blue Oak Forest	5.3	1	1	0.07	**0.05**	102.4	18	0.01	0.29
Undifferentiated Riparian	50.0	6	5	0.64	**0.56**	42.9	9	0.22	1.42
Lodgepole Pine Forest	5.9	24	17	0.06	**0.06**	30.7	372	0.03	0.11
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	1.9	1	1	0.02	**0.02**	102.4	52	<0.01	0.10
Jeffrey Pine Woodland	2.4	2	1	0.02	**0.01**	102.4	81	<0.01	0.06
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	3.8	3	1	0.02	**0.04**	101.3	55	0.01	0.20
Foxtail Pine	0.6	1	1	0.01	**0.01**	102.4	156	<0.01	0.03
Giant Sequoia Forest	2.6	2	2	0.03	**0.02**	73.6	75	0.01	0.09
Red Fir Forest	8.0	11	8	0.07	**0.07**	37.7	136	0.03	0.14
Red Fir/White Fir Forest	1.0	1	1	0.01	**0.01**	102.4	96	<0.01	0.05
White Fir/Sugar Pine Forest	1.9	2	2	0.02	**0.02**	73.7	103	<0.01	0.07
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	13.3	6	6	0.17	**0.27**	41.8	60	0.12	0.59
Montane Chaparral	13.8	13	10	0.16	**0.30**	37.5	111	0.15	0.62
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	11.1	5	4	0.19	**0.37**	60.2	30	0.12	1.15
Lower Elevation Meadow	28.9	17	12	0.34	**0.71**	30.3	77	0.39	1.28
Mid Elevation Meadow	8.3	2	1	0.05	**0.08**	101.3	24	0.01	0.47
Higher Elevation Meadow	3.6	3	2	0.05	**0.07**	72.0	61	0.02	0.26
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 86. Habitat-specific density estimates of Western Tanager in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	16.7	1	1	0.21	**0.13**	100.9	5	0.02	1.15
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	43.8	35	13	0.26	**0.31**	26.5	234	0.19	0.52
Int. Live Oak/Cny. Live Oak/CA Buckeye	29.6	9	8	0.38	**0.25**	37.4	48	0.12	0.51
Aspen Forest	4.5	1	0	0.00	**0.04**	100.9	21	0.01	0.21
California Black Oak Forest	51.5	25	9	0.35	**0.54**	27.9	110	0.31	0.92
Blue Oak Forest	10.5	2	0	0.00	**0.08**	71.4	21	0.02	0.30
Undifferentiated Riparian	30.0	3	0	0.00	**0.15**	69.4	11	0.04	0.59
Lodgepole Pine Forest	2.9	12	8	0.03	**0.02**	37.7	604	0.01	0.04
Ponderosa Pine Woodland	50.0	8	1	0.08	**0.28**	38.5	27	0.13	0.59
Ponderosa Pine/Incense-cedar Forest	30.2	17	11	0.26	**0.22**	30.0	142	0.13	0.40
Jeffrey Pine Woodland	36.6	40	21	0.33	**0.33**	25.6	312	0.2	0.55
Western White Pine Woodland	5.0	1	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.6	1	0	0.00	**<0.01**	101.9	168	<0.01	0.02
Giant Sequoia Forest	68.4	68	36	0.60	**0.61**	21.8	426	0.4	0.94
Red Fir Forest	29.2	52	17	0.16	**0.25**	24.2	474	0.16	0.41
Red Fir/White Fir Forest	48.5	60	33	0.43	**0.42**	23.1	433	0.27	0.66
White Fir/Sugar Pine Forest	48.1	65	40	0.49	**0.42**	23.2	441	0.27	0.66
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	15.6	8	3	0.08	**0.09**	44.6	44	0.04	0.21
Montane Chaparral	11.3	12	4	0.06	**0.12**	38.1	79	0.06	0.25
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	3.7	1	0	0.00	**0.03**	100.9	26	0.01	0.17
Lower Elevation Meadow	20.0	9	4	0.11	**0.16**	36.5	44	0.08	0.33
Mid Elevation Meadow	4.2	1	1	0.05	**0.03**	100.9	23	0.01	0.19
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	33.3	2	2	0.42	**0.27**	64.6	5	0.06	1.21

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 87. Habitat-specific density estimates of Green-tailed Towhee in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	20.6	10	0	0.00	**0.11**	65.7	60	0.03	0.36
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	7.4	2	1	0.05	**0.08**	74.2	34	0.02	0.30
Aspen Forest	13.6	5	0	0.00	**0.22**	68.1	37	0.06	0.78
California Black Oak Forest	3.0	2	2	0.08	**0.06**	103.4	37	0.01	0.35
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	40.0	7	7	0.89	**0.73**	54.7	15	0.24	2.16
Lodgepole Pine Forest	0.5	4	4	0.01	**0.01**	75.4	420	<0.01	0.04
Ponderosa Pine Woodland	12.5	2	0	0.00	**0.13**	73.3	20	0.03	0.51
Ponderosa Pine/Incense-cedar Forest	1.9	1	1	0.02	**0.02**	103.4	59	<0.01	0.11
Jeffrey Pine Woodland	11.0	13	4	0.06	**0.13**	42.3	129	0.06	0.28
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.6	1	0	0.00	**0.01**	103.4	176	<0.01	0.04
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	5.8	9	4	0.04	**0.05**	53.5	184	0.02	0.12
Red Fir/White Fir Forest	4.1	4	4	0.05	**0.04**	55.9	137	0.02	0.12
White Fir/Sugar Pine Forest	4.8	11	9	0.11	**0.11**	56.5	145	0.04	0.31
Western Juniper Woodland	11.8	3	1	0.07	**0.14**	105.8	20	0.02	0.88
Mixed Chaparral	2.2	2	2	0.06	**0.05**	105.8	55	0.01	0.31
Montane Chaparral	46.3	51	41	0.65	**0.76**	37.6	144	0.37	1.57
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	63.0	34	30	1.41	**1.54**	39.0	133	0.73	3.24
Lower Elevation Meadow	11.1	8	6	0.17	**0.22**	59.3	91	0.07	0.65
Mid Elevation Meadow	12.5	8	4	0.21	**0.31**	77.3	35	0.08	1.22
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 88. Habitat-specific density estimates of Spotted Towhee in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	16.7	2	2	0.42	**0.49**	100.2	5	0.06	4.13
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	32.8	26	21	0.42	**0.38**	49.1	211	0.15	0.95
Int. Live Oak/Cny. Live Oak/CA Buckeye	70.4	34	22	1.04	**1.20**	48.5	187	0.49	2.97
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	63.6	30	25	0.96	**0.86**	48.7	193	0.35	2.14
Blue Oak Forest	52.6	12	4	0.27	**0.37**	58.2	87	0.13	1.09
Undifferentiated Riparian	10.0	3	1	0.13	**0.30**	109.6	13	0.04	2.07
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	31.3	9	6	0.48	**0.51**	65.8	48	0.15	1.69
Ponderosa Pine/Incense-cedar Forest	39.6	28	19	0.46	**0.52**	48.8	205	0.21	1.28
Jeffrey Pine Woodland	15.9	16	12	0.19	**0.19**	52.3	237	0.07	0.49
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	13.2	11	5	0.08	**0.15**	54.4	236	0.05	0.40
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	4.1	4	4	0.05	**0.04**	66.5	228	0.01	0.14
White Fir/Sugar Pine Forest	5.8	7	5	0.06	**0.05**	62.6	253	0.02	0.15
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	88.9	64	52	1.47	**1.88**	10.2	82	1.54	2.30
Montane Chaparral	5.0	5	2	0.03	**0.05**	57.3	81	0.02	0.16
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	33.3	4	4	0.85	**0.97**	63.5	5	0.22	4.31

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 89. Habitat-specific density estimates of California Towhee in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	4.7	3	2	0.04	**0.06**	64.8	63	0.02	0.19
Int. Live Oak/Cny. Live Oak/CA Buckeye	33.3	10	5	0.24	**0.45**	42.8	26	0.2	1.05
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	52.6	10	2	0.13	**0.45**	43.9	18	0.19	1.09
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	15.6	7	5	0.14	**0.20**	41.0	44	0.09	0.44
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 90. Habitat-specific density estimates of Rufous-crowned Sparrow in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	21.1	4	1	0.07	**0.16**	70.5	18	0.04	0.61
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	13.3	6	6	0.17	**0.19**	38.9	44	0.09	0.41
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 91. Habitat-specific density estimates of Chipping Sparrow in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	6.1	2	1	0.04	**0.11**	70.0	32	0.03	0.39
Blue Oak Forest	10.5	2	1	0.07	**0.19**	69.1	18	0.05	0.69
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	4.0	15	9	0.03	**0.06**	28.2	372	0.04	0.11
Ponderosa Pine Woodland	6.3	2	2	0.16	**0.22**	100.3	15	0.04	1.31
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	2.4	3	1	0.02	**0.07**	74.5	81	0.02	0.24
Western White Pine Woodland	5.0	1	1	0.06	**0.09**	100.3	19	0.02	0.51
Whitebark Pine Woodland	3.8	2	2	0.05	**0.05**	71.0	52	0.01	0.19
Foxtail Pine	3.8	6	2	0.02	**0.02**	70.9	156	0.01	0.08
Giant Sequoia Forest	2.6	2	1	0.02	**0.05**	70.6	75	0.01	0.17
Red Fir Forest	5.8	8	6	0.06	**0.09**	37.7	136	0.04	0.19
Red Fir/White Fir Forest	1.0	4	3	0.04	**0.05**	100.3	96	0.01	0.29
White Fir/Sugar Pine Forest	4.8	6	4	0.05	**0.10**	46.9	103	0.04	0.25
Western Juniper Woodland	11.8	2	1	0.07	**0.16**	69.4	16	0.04	0.61
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	7.4	2	0	0.00	**0.10**	70.3	26	0.03	0.38
Lower Elevation Meadow	4.4	2	2	0.06	**0.06**	70.9	44	0.02	0.22
Mid Elevation Meadow	8.3	2	1	0.05	**0.12**	70.1	23	0.03	0.43
Higher Elevation Meadow	1.8	1	0	0.00	**0.02**	100.7	55	<0.01	0.13
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 92. Habitat-specific density estimates of Fox Sparrow in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	33.3	5	3	0.64	**0.67**	68.8	7	0.15	2.93
Mid Elevation Rock/Sparsely Vegetated	14.7	5	2	0.07	**0.09**	62.2	50	0.03	0.28
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	50.0	14	9	0.52	**0.64**	36.4	88	0.32	1.30
California Black Oak Forest	3.0	1	1	0.04	**0.02**	103.6	37	<0.01	0.14
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	10.0	1	1	0.13	**0.08**	103.6	10	0.01	0.54
Lodgepole Pine Forest	6.1	37	20	0.07	**0.08**	35.4	641	0.04	0.15
Ponderosa Pine Woodland	31.3	8	5	0.40	**0.35**	49.5	30	0.14	0.92
Ponderosa Pine/Incense-cedar Forest	18.9	17	7	0.17	**0.17**	46.2	114	0.07	0.40
Jeffrey Pine Woodland	59.8	92	54	0.84	**0.84**	30.0	390	0.47	1.50
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	5.7	3	2	0.05	**0.06**	62.8	77	0.02	0.18
Foxtail Pine	1.3	2	0	0.00	**0.01**	103.6	179	<0.01	0.03
Giant Sequoia Forest	28.9	29	11	0.18	**0.29**	34.1	318	0.15	0.55
Red Fir Forest	27.0	45	26	0.24	**0.22**	32.0	445	0.12	0.40
Red Fir/White Fir Forest	38.1	63	52	0.68	**0.52**	30.9	405	0.29	0.94
White Fir/Sugar Pine Forest	36.5	52	29	0.36	**0.34**	31.8	409	0.19	0.63
Western Juniper Woodland	41.2	11	5	0.37	**0.59**	47.3	35	0.24	1.48
Mixed Chaparral	4.4	2	0	0.00	**0.04**	75.0	58	0.01	0.17
Montane Chaparral	66.3	123	81	1.29	**1.40**	29.6	219	0.79	2.48
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	29.6	10	8	0.38	**0.37**	47.1	56	0.15	0.92
Lower Elevation Meadow	11.1	5	3	0.08	**0.11**	50.5	83	0.04	0.29
Mid Elevation Meadow	4.2	1	0	0.00	**0.04**	103.6	26	0.01	0.24
Higher Elevation Meadow	1.8	3	3	0.07	**0.05**	103.6	63	0.01	0.30
Undifferentiated Post-fire	33.3	3	0	0.00	**0.17**	103.6	6	0.02	1.39

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 93. Habitat-specific density estimates of Song Sparrow in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	1.6	1	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	40.0	5	0	0.00	**0.24**	57.6	9	0.07	0.82
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	1.9	1	1	0.02	**0.02**	103.6	52	<0.01	0.08
Jeffrey Pine Woodland	1.2	1	0	0.00	**0.01**	103.6	81	<0.01	0.05
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.7	1	1	0.01	**0.01**	103.6	136	<0.01	0.03
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	1.0	1	1	0.01	**0.01**	103.6	103	<0.01	0.04
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	3.7	1	0	0.00	**0.04**	103.6	26	0.01	0.22
Lower Elevation Meadow	22.2	12	6	0.17	**0.27**	42.2	44	0.12	0.61
Mid Elevation Meadow	4.2	1	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 94. Habitat-specific density estimates of Lincoln's Sparrow in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	9.1	3	3	0.17	**0.19**	74.0	21	0.05	0.74
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	2.4	11	6	0.02	**0.04**	43.7	372	0.02	0.09
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	5.3	6	5	0.08	**0.12**	52.5	75	0.04	0.31
Red Fir Forest	1.5	2	0	0.00	**0.03**	70.8	136	0.01	0.09
Red Fir/White Fir Forest	2.1	2	1	0.01	**0.02**	100.3	96	<0.01	0.10
White Fir/Sugar Pine Forest	4.8	5	1	0.01	**0.05**	57.6	103	0.02	0.15
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	7.4	3	1	0.05	**0.10**	70.3	26	0.03	0.38
Lower Elevation Meadow	44.4	34	18	0.51	**0.89**	24.0	44	0.55	1.43
Mid Elevation Meadow	8.3	3	0	0.00	**0.12**	100.7	23	0.02	0.65
Higher Elevation Meadow	1.8	1	1	0.02	**0.02**	100.7	55	<0.01	0.13
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 95. Habitat-specific density estimates of White-crowned Sparrow in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	29.4	13	5	0.19	**0.27**	32.0	36	0.14	0.51
Higher Elevation Rock/Sparsely Vegetated	43.8	45	11	0.29	**0.53**	27.6	53	0.31	0.91
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	13.6	4	2	0.12	**0.13**	59.2	22	0.04	0.40
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	10.0	1	1	0.13	**0.08**	103.6	9	0.01	0.56
Lodgepole Pine Forest	8.3	41	21	0.07	**0.08**	33.8	372	0.04	0.16
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	69.8	65	32	0.77	**0.81**	15.0	82	0.6	1.09
Foxtail Pine	3.8	8	3	0.02	**0.03**	63.4	156	0.01	0.10
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	7.5	10	2	0.03	**0.07**	55.5	81	0.03	0.20
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	37.0	16	8	0.38	**0.42**	35.8	28	0.2	0.85
Lower Elevation Meadow	28.9	19	7	0.20	**0.28**	28.8	49	0.16	0.50
Mid Elevation Meadow	54.2	30	17	0.90	**0.88**	26.5	26	0.51	1.50
Higher Elevation Meadow	80.4	119	49	1.11	**1.32**	13.3	99	1.01	1.71
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 96. Habitat-specific density estimates of Dark-eyed Junco in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	16.7	2	1	0.21	**0.46**	100.7	5	0.05	3.89
Mid Elevation Rock/Sparsely Vegetated	67.6	38	25	0.94	**1.42**	22.3	61	0.92	2.21
Higher Elevation Rock/Sparsely Vegetated	22.9	12	7	0.19	**0.35**	30.3	64	0.19	0.62
Canyon Live Oak Forest	9.4	7	4	0.08	**0.17**	46.4	66	0.07	0.40
Int. Live Oak/Cny. Live Oak/CA Buckeye	11.1	3	1	0.05	**0.13**	69.7	27	0.04	0.48
Aspen Forest	77.3	25	18	1.04	**1.38**	21.9	40	0.89	2.14
California Black Oak Forest	36.4	15	11	0.42	**0.70**	32.0	36	0.37	1.32
Blue Oak Forest	15.8	4	4	0.27	**0.37**	58.8	19	0.12	1.17
Undifferentiated Riparian	40.0	6	6	0.76	**1.07**	45.0	9	0.41	2.80
Lodgepole Pine Forest	57.5	331	230	0.78	**1.41**	9.6	1082	1.17	1.69
Ponderosa Pine Woodland	50.0	8	4	0.32	**0.67**	34.1	16	0.33	1.34
Ponderosa Pine/Incense-cedar Forest	47.2	38	34	0.82	**1.27**	18.1	74	0.89	1.82
Jeffrey Pine Woodland	40.2	46	29	0.45	**0.93**	18.1	114	0.65	1.33
Western White Pine Woodland	70.0	22	15	0.95	**1.87**	23.5	23	1.16	3.01
Whitebark Pine Woodland	49.1	32	23	0.55	**0.78**	22.1	97	0.51	1.20
Foxtail Pine	25.5	58	37	0.30	**0.55**	17.6	223	0.39	0.78
Giant Sequoia Forest	64.5	72	45	0.75	**1.50**	13.8	140	1.14	1.96
Red Fir Forest	55.5	104	72	0.67	**1.25**	12.0	314	0.98	1.58
Red Fir/White Fir Forest	51.5	66	52	0.68	**1.15**	14.1	173	0.87	1.52
White Fir/Sugar Pine Forest	44.2	65	51	0.62	**1.03**	15.0	173	0.76	1.38
Western Juniper Woodland	64.7	18	11	0.82	**0.98**	31.4	21	0.52	1.84
Mixed Chaparral	4.4	3	3	0.08	**0.09**	74.8	46	0.02	0.35
Montane Chaparral	51.3	55	35	0.56	**0.86**	18.5	193	0.6	1.24
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	51.9	21	15	0.71	**1.02**	24.1	44	0.63	1.65
Lower Elevation Meadow	73.3	51	30	0.85	**1.47**	17.8	123	1.04	2.09
Mid Elevation Meadow	70.8	22	13	0.69	**1.21**	20.8	48	0.8	1.83
Higher Elevation Meadow	32.1	24	12	0.27	**0.52**	26.7	83	0.31	0.87
Undifferentiated Post-fire	66.7	8	4	0.85	**1.61**	47.9	6	0.52	4.99

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 97. Habitat-specific density estimates of Black-headed Grosbeak in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	46.9	53	31	0.62	**0.80**	18.7	109	0.55	1.15
Int. Live Oak/Cny. Live Oak/CA Buckeye	59.3	24	19	0.90	**0.81**	25.9	35	0.48	1.36
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	66.7	36	16	0.62	**1.01**	18.5	57	0.7	1.45
Blue Oak Forest	26.3	6	2	0.13	**0.33**	43.4	20	0.14	0.78
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	18.8	4	2	0.16	**0.26**	58.5	16	0.08	0.82
Ponderosa Pine/Incense-cedar Forest	35.8	23	12	0.29	**0.41**	24.8	71	0.25	0.67
Jeffrey Pine Woodland	2.4	2	2	0.03	**0.03**	70.9	84	0.01	0.09
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	1.3	1	1	0.02	**0.01**	100.5	75	<0.01	0.07
Red Fir Forest	0.7	1	1	0.01	**0.01**	100.5	136	<0.01	0.04
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	1.0	1	1	0.01	**0.01**	100.5	103	<0.01	0.05
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	8.9	4	3	0.08	**0.07**	50.0	44	0.03	0.18
Montane Chaparral	1.3	1	1	0.02	**0.01**	100.9	79	<0.01	0.05
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 98. Habitat-specific density estimates of Lazuli Bunting in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	10.9	8	7	0.14	**0.15**	49.0	63	0.06	0.39
Int. Live Oak/Cny. Live Oak/CA Buckeye	25.9	8	5	0.24	**0.36**	47.0	26	0.14	0.91
Aspen Forest	4.5	2	2	0.12	**0.13**	101.0	21	0.02	0.77
California Black Oak Forest	12.1	4	3	0.12	**0.15**	56.9	32	0.05	0.44
Blue Oak Forest	10.5	2	2	0.13	**0.13**	75.5	18	0.03	0.53
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.8	3	3	0.01	**0.01**	65.5	372	<0.01	0.03
Ponderosa Pine Woodland	6.3	1	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	5.7	4	4	0.10	**0.09**	67.8	52	0.03	0.32
Jeffrey Pine Woodland	4.9	5	5	0.08	**0.07**	60.7	81	0.02	0.23
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.7	1	1	0.01	**0.01**	104.7	136	<0.01	0.05
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	33.3	20	15	0.42	**0.59**	28.2	44	0.34	1.03
Montane Chaparral	8.8	11	1	0.02	**0.13**	48.5	79	0.05	0.32
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	6.7	4	2	0.06	**0.13**	61.7	44	0.04	0.41
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 99. Habitat-specific density estimates of Brewer's Blackbird in Sequoia and Kings Canyon National Parks. An entry of '--' for the Adjusted Density Estimate indicates a habitat for which we did not model detectability.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	--				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	--				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	--				
Blue Oak Forest	0.0	0	0	0.00	--				
Undifferentiated Riparian	10.0	0	0	0.00	--				
Lodgepole Pine Forest	0.3	0	0	0.00	--				
Ponderosa Pine Woodland	0.0	0	0	0.00	--				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	--				
Jeffrey Pine Woodland	1.2	0	0	0.00	--				
Western White Pine Woodland	0.0	0	0	0.00	--				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.6	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	--				
Red Fir/White Fir Forest	0.0	0	0	0.00	--				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	--				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	0.0	0	0	0.00	**0.01**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	3.7	0	0	0.00	**0.00**				
Lower Elevation Meadow	11.1	16	2	0.06	**0.65**	60.8	44	0.21	2.02
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	5.4	3	1	0.02	**0.10**	78.8	55	0.02	0.40
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 100. Habitat-specific density estimates of Brown-headed Cowbird in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	6.3	4	3	0.06	**0.06**	49.7	63	0.03	0.17
Int. Live Oak/Cny. Live Oak/CA Buckeye	14.8	4	4	0.19	**0.15**	48.0	26	0.06	0.39
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	3.0	1	1	0.04	**0.03**	100.5	32	0.01	0.17
Blue Oak Forest	36.8	9	5	0.34	**0.49**	35.0	18	0.24	1.01
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	6.3	1	1	0.08	**0.06**	100.5	15	0.01	0.39
Ponderosa Pine/Incense-cedar Forest	1.9	1	1	0.02	**0.02**	100.5	52	<0.01	0.10
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	1.3	1	1	0.02	**0.01**	100.5	75	<0.01	0.07
Red Fir Forest	0.7	1	1	0.01	**0.01**	100.5	136	<0.01	0.04
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	1.0	1	1	0.01	**0.01**	100.5	103	<0.01	0.05
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	8.9	4	3	0.08	**0.07**	50.0	44	0.03	0.18
Montane Chaparral	1.3	1	1	0.02	**0.01**	100.9	79	<0.01	0.05
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 101. Habitat-specific density estimates of Gray-crowned Rosy-Finch in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	2.9	1	1	0.04	**0.05**	100.8	34	0.01	0.26
Higher Elevation Rock/Sparsely Vegetated	22.9	30	24	0.64	**1.04**	41.1	75	0.41	2.30
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	1.1	6	3	0.01	**0.02**	75.6	372	<0.01	0.07
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	26.4	22	13	0.31	**0.58**	31.0	74	0.32	1.06
Foxtail Pine	1.9	4	3	0.02	**0.04**	75.5	156	0.01	0.16
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	7.4	3	2	0.09	**0.12**	100.8	27	0.02	0.66
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	30.4	68	53	1.21	**1.79**	40.0	79	0.83	3.86
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 102. Habitat-specific density estimates of Pine Grosbeak in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	1.1	6	6	0.02	**0.01**	64.8	372	<0.01	0.04
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	1.3	4	1	0.01	**0.02**	87.6	156	<0.01	0.08
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	1.0	1	0	0.00	**0.01**	107.0	96	<0.01	0.04
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	0.0	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	2.2	1	0	0.00	**0.02**	100.9	44	<0.01	0.10
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 103. Habitat-specific density estimates of Purple Finch in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	16.7	1	1	0.21	**0.20**	101.0	5	0.02	1.70
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	4.7	3	3	0.06	**0.03**	68.4	63	0.01	0.12
Int. Live Oak/Cny. Live Oak/CA Buckeye	7.4	2	1	0.05	**0.05**	79.1	26	0.01	0.22
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	9.1	4	2	0.08	**0.07**	82.8	32	0.01	0.28
Blue Oak Forest	10.5	2	2	0.13	**0.08**	78.5	18	0.02	0.32
Undifferentiated Riparian	10.0	1	1	0.13	**0.07**	107.0	9	0.01	0.52
Lodgepole Pine Forest	1.6	9	6	0.02	**0.02**	59.3	372	0.01	0.05
Ponderosa Pine Woodland	12.5	2	1	0.08	**0.09**	78.2	15	0.02	0.39
Ponderosa Pine/Incense-cedar Forest	5.7	4	1	0.02	**0.03**	79.7	52	0.01	0.11
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	3.8	2	2	0.05	**0.04**	71.4	52	0.01	0.16
Foxtail Pine	0.6	1	0	0.00	**<0.01**	107.0	156	<0.01	0.03
Giant Sequoia Forest	14.5	12	6	0.10	**0.11**	47.9	75	0.05	0.28
Red Fir Forest	2.9	4	3	0.03	**0.02**	62.4	136	0.01	0.07
Red Fir/White Fir Forest	4.1	5	2	0.03	**0.04**	64.6	96	0.01	0.12
White Fir/Sugar Pine Forest	4.8	5	1	0.01	**0.03**	58.0	103	0.01	0.10
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	2.2	1	1	0.03	**0.03**	101.0	44	<0.01	0.14
Montane Chaparral	1.3	1	0	0.00	**0.01**	101.0	79	<0.01	0.08
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 104. Habitat-specific density estimates of Cassin's Finch in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	17.6	7	3	0.11	**0.17**	52.7	38	0.06	0.47
Higher Elevation Rock/Sparsely Vegetated	12.5	7	3	0.08	**0.12**	53.3	54	0.05	0.34
Canyon Live Oak Forest	3.1	2	1	0.02	**0.02**	79.8	103	0.01	0.09
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	4.5	1	0	0.00	**0.05**	101.0	22	0.01	0.31
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	20.1	99	55	0.19	**0.18**	40.0	273	0.08	0.38
Ponderosa Pine Woodland	12.5	2	0	0.00	**0.04**	107.0	20	0.01	0.28
Ponderosa Pine/Incense-cedar Forest	1.9	1	1	0.02	**0.01**	107.0	68	<0.01	0.08
Jeffrey Pine Woodland	13.4	11	5	0.08	**0.09**	48.3	285	0.04	0.22
Western White Pine Woodland	30.0	6	4	0.25	**0.22**	51.7	80	0.08	0.57
Whitebark Pine Woodland	13.2	9	7	0.17	**0.20**	40.5	66	0.09	0.44
Foxtail Pine	35.0	77	48	0.39	**0.31**	40.5	281	0.14	0.66
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	19.7	34	10	0.09	**0.15**	42.9	322	0.07	0.34
Red Fir/White Fir Forest	12.4	13	6	0.08	**0.10**	47.3	315	0.04	0.23
White Fir/Sugar Pine Forest	3.8	4	2	0.02	**0.03**	62.2	225	0.01	0.09
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	6.3	6	3	0.05	**0.07**	53.9	90	0.03	0.20
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	7.4	2	1	0.05	**0.09**	70.7	28	0.02	0.32
Lower Elevation Meadow	11.1	11	8	0.23	**0.29**	60.0	49	0.09	0.88
Mid Elevation Meadow	29.2	8	6	0.32	**0.39**	37.3	31	0.19	0.82
Higher Elevation Meadow	7.1	4	2	0.05	**0.06**	58.4	62	0.02	0.19
Undifferentiated Post-fire	16.7	1	1	0.21	**0.20**	101.0	5	0.02	1.66

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 105. Habitat-specific density estimates of Red Crossbill in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	4.3	13	7	0.02	**0.03**	40.8	372	0.01	0.06
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	0.0	0	0	0.00	**0.00**				
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	7.6	4	3	0.02	**0.02**	80.9	156	0.01	0.09
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.7	2	2	0.02	**0.01**	101.6	136	<0.01	0.06
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	1.3	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	3.7	0	0	0.00	**0.00**				
Lower Elevation Meadow	2.2	3	0	0.00	**0.08**	101.0	44	0.01	0.43
Mid Elevation Meadow	4.2	1	0	0.00	**0.05**	101.0	23	0.01	0.28
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	16.7	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 106. Habitat-specific density estimates of Pine Siskin in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	5.9	2	1	0.04	**0.07**	71.0	33	0.02	0.26
Higher Elevation Rock/Sparsely Vegetated	2.1	1	1	0.03	**0.02**	101.0	47	<0.01	0.13
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	13.6	4	3	0.17	**0.16**	101.0	21	0.03	0.92
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	13.4	70	60	0.20	**0.38**	23.2	437	0.24	0.60
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	1.2	2	2	0.03	**0.06**	100.9	84	0.01	0.29
Western White Pine Woodland	40.0	11	10	0.64	**1.25**	48.5	22	0.48	3.23
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	5.7	7	3	0.02	**0.07**	54.1	176	0.03	0.20
Giant Sequoia Forest	1.3	1	1	0.02	**0.03**	100.9	78	0.01	0.16
Red Fir Forest	8.0	13	13	0.12	**0.21**	36.8	175	0.11	0.43
Red Fir/White Fir Forest	2.1	6	6	0.08	**0.14**	71.6	103	0.04	0.50
White Fir/Sugar Pine Forest	1.9	2	1	0.01	**0.02**	100.9	107	<0.01	0.11
Western Juniper Woodland	5.9	2	0	0.00	**0.14**	101.0	16	0.02	0.82
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	1.3	1	1	0.02	**0.01**	101.0	79	<0.01	0.08
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	3.7	2	1	0.05	**0.09**	101.0	26	0.02	0.49
Lower Elevation Meadow	8.9	3	0	0.00	**0.08**	75.2	44	0.02	0.30
Mid Elevation Meadow	12.5	3	3	0.16	**0.15**	74.5	23	0.04	0.59
Higher Elevation Meadow	3.6	1	0	0.00	**0.02**	101.0	55	<0.01	0.11
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 107. Habitat-specific density estimates of Lesser Goldfinch in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	2.9	1	0	0.00	**0.03**	101.0	33	0.01	0.19
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	3.1	4	3	0.06	**0.11**	100.9	63	0.02	0.57
Int. Live Oak/Cny. Live Oak/CA Buckeye	25.9	9	7	0.33	**0.75**	38.2	26	0.35	1.61
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	6.1	2	2	0.08	**0.14**	70.9	32	0.04	0.50
Blue Oak Forest	63.2	21	20	1.34	**2.50**	29.0	18	1.38	4.55
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	0.0	0	0	0.00	**0.00**				
Ponderosa Pine Woodland	6.3	1	1	0.08	**0.14**	100.9	15	0.02	0.84
Ponderosa Pine/Incense-cedar Forest	1.9	1	1	0.02	**0.04**	100.9	52	0.01	0.23
Jeffrey Pine Woodland	1.2	2	2	0.03	**0.06**	100.9	81	0.01	0.29
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	0.0	0	0	0.00	**0.00**				
Giant Sequoia Forest	0.0	0	0	0.00	**0.00**				
Red Fir Forest	0.0	0	0	0.00	**0.00**				
Red Fir/White Fir Forest	0.0	0	0	0.00	**0.00**				
White Fir/Sugar Pine Forest	0.0	0	0	0.00	**0.00**				
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	20.0	11	10	0.28	**0.29**	35.1	44	0.15	0.58
Montane Chaparral	2.5	2	2	0.03	**0.03**	71.6	79	0.01	0.11
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	0.0	0	0	0.00	**0.00**				
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 108. Habitat-specific density estimates of Evening Grosbeak in Sequoia and Kings Canyon National Parks.

Habitat	Percent of Points with Detections[1]	Non-flyover Detections[2]	Non-flyover Detections within 50 m[3]	Unadjusted Density (birds/ha)[4]	Adjusted Density[5]				
					Estimate (birds/ha)	CV	df	Lower 95% CI	Upper 95% CI
Lower Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Mid Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Higher Elevation Rock/Sparsely Vegetated	0.0	0	0	0.00	**0.00**				
Canyon Live Oak Forest	0.0	0	0	0.00	**0.00**				
Int. Live Oak/Cny. Live Oak/CA Buckeye	0.0	0	0	0.00	**0.00**				
Aspen Forest	0.0	0	0	0.00	**0.00**				
California Black Oak Forest	0.0	0	0	0.00	**0.00**				
Blue Oak Forest	0.0	0	0	0.00	**0.00**				
Undifferentiated Riparian	0.0	0	0	0.00	**0.00**				
Lodgepole Pine Forest	1.6	5	3	0.01	**0.01**	48.0	438	<0.01	0.03
Ponderosa Pine Woodland	0.0	0	0	0.00	**0.00**				
Ponderosa Pine/Incense-cedar Forest	0.0	0	0	0.00	**0.00**				
Jeffrey Pine Woodland	1.2	1	1	0.02	**0.01**	101.6	86	<0.01	0.05
Western White Pine Woodland	0.0	0	0	0.00	**0.00**				
Whitebark Pine Woodland	0.0	0	0	0.00	**0.00**				
Foxtail Pine	1.9	3	1	0.01	**0.02**	60.1	184	0.01	0.05
Giant Sequoia Forest	10.5	16	12	0.20	**0.15**	45.3	102	0.07	0.36
Red Fir Forest	9.5	19	12	0.11	**0.10**	38.3	192	0.05	0.21
Red Fir/White Fir Forest	11.3	21	11	0.14	**0.15**	43.6	131	0.07	0.35
White Fir/Sugar Pine Forest	10.6	10	3	0.04	**0.08**	40.5	146	0.04	0.17
Western Juniper Woodland	0.0	0	0	0.00	**0.00**				
Mixed Chaparral	0.0	0	0	0.00	**0.00**				
Montane Chaparral	1.3	0	0	0.00	**0.00**				
Sagebrush/Subalp. & Alp. Dwarf Shrblnd.	0.0	0	0	0.00	**0.00**				
Lower Elevation Meadow	13.3	8	2	0.06	**0.13**	53.2	44	0.05	0.36
Mid Elevation Meadow	0.0	0	0	0.00	**0.00**				
Higher Elevation Meadow	0.0	0	0	0.00	**0.00**				
Undifferentiated Post-fire	0.0	0	0	0.00	**0.00**				

[1]Number of points where the species was detected, including flyovers.
[2] Number of individual birds detected at any distance during point counts, excluding flyovers.
[3] Number of individual birds detected within 50 m of the observer during point counts, excluding flyovers.
[4] Based on number of detections within 50 m of the observer, with no adjustment for detectability.
[5] Estimates and statistics calculated using the software Distance 4.0 Release 2 (Thomas et al. 2003). See Methods for details.

Table 109. Species whose distribution and abundance maps predict occurrence in the drainage of the lower South Fork of the Kern River, but which we never detected during point counts in Sequoia National Park east of the Great Western Divide.

Blue Grouse
Acorn Woodpecker
Pacific-slope Flycatcher
Ash-throated Flycatcher
Western Scrub-Jay
Oak Titmouse
Bushtit
Winter Wren
Blue-gray Gnatcatcher
Wrentit
Yellow Warbler
Black-throated Gray Warbler
Hermit Warbler
Spotted Towhee
California Towhee
Black-headed Grosbeak
Lazuli Bunting
Brown-headed Cowbird
Purple Finch
Lesser Goldfinch

Table 110. Number of species estimated to occur at a density $\geq$ 0.01 birds/ha in each habitat at Sequoia and Kings Canyon National Parks.

Habitat	No. of Points Surveyed	Species Richness
Red Fir Forest	137	50
Jeffrey Pine Woodland	82	47
Lodgepole Pine Forest	374	46
White Fir/Sugar Pine Forest	104	46
Red Fir/White Fir Forest	97	45
Sagebrush Shrubland/Alpine and Subalpine Dwarf Shrubland	27	45
California Black Oak Forest	33	44
Lower Elevation Meadow	45	44
Canyon Live Oak Forest	64	43
Giant Sequoia Forest	76	40
Ponderosa Pine/Incense-cedar Forest	53	38
Mixed Chaparral	45	38
Foxtail Pine	157	36
Ponderosa Pine Woodland	16	34
Interior Live Oak/Canyon Live Oak/Ca Buckeye	27	33
Blue Oak Woodland	19	32
Aspen Forest	22	31
Mid Elevation Rock/Sparsely Vegetated	34	29
Undifferentiated Riparian	10	27
Montane Chaparral	80	26
Mid Elevation Meadow	24	26
Higher Elevation Meadow	56	26
Western White Pine Woodland	20	24
Lower Elevation Rock/Sparsely Vegetated	6	23
Whitebark Pine Woodland	53	22
Western Juniper Woodland	17	20
Higher Elevation Rock/Sparsely Vegetated	48	18
Undifferentiated Post-fire	6	17

Transect Starting Points

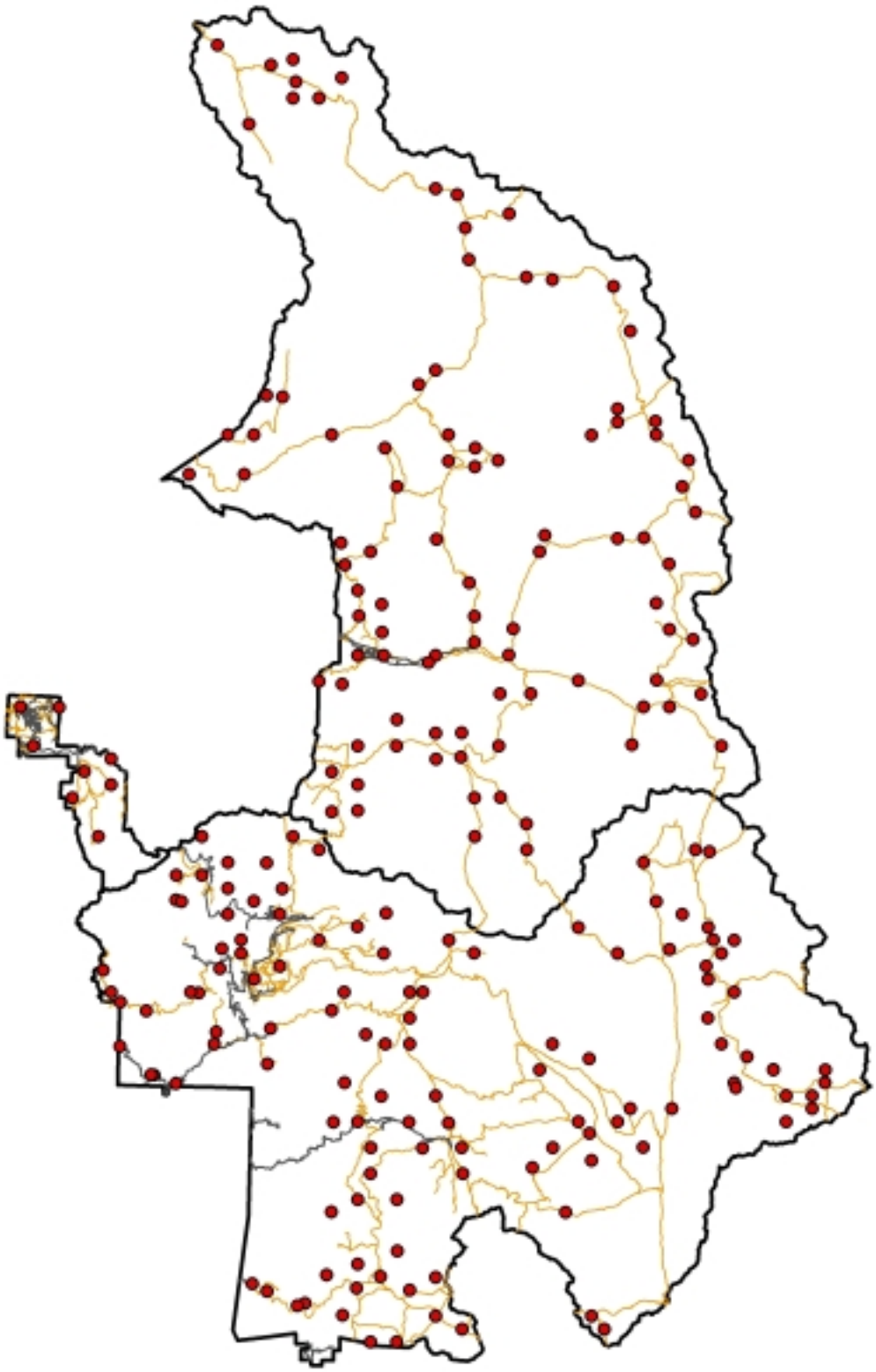

Figure 1. Location of starting points for all 224 point count transects conducted at Sequoia and Kings Canyon National Parks in 2003 and 2004. Gold lines indicate trails, gray lines indicate roads.

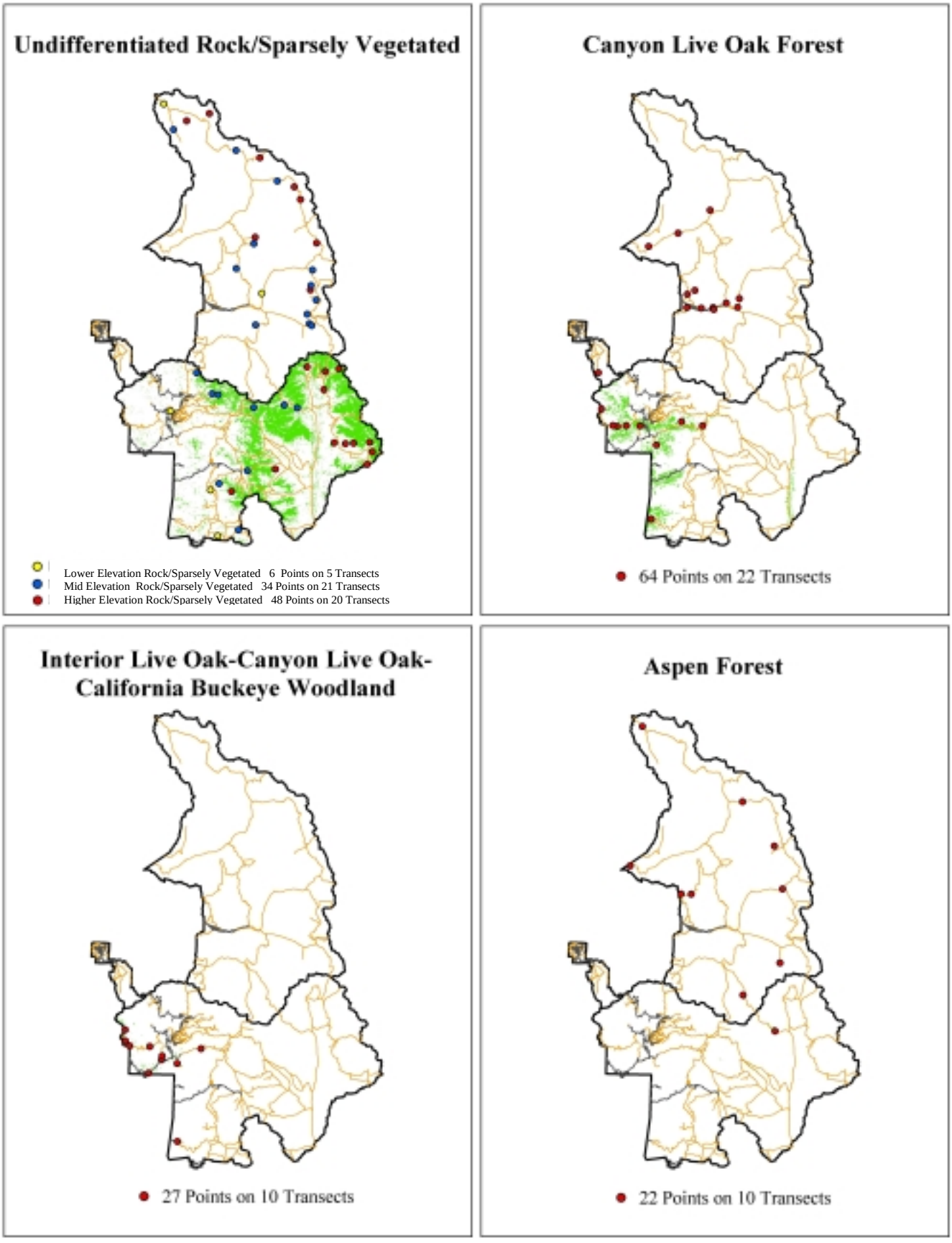

Figure 2. Green shading indicates areas within Sequoia National Park classified as the habitat indicated in the map title (habitat map not yet available for Kings Canyon). Colored dots indicate starting points of transects that included at least one point classified as the indicated habitat.

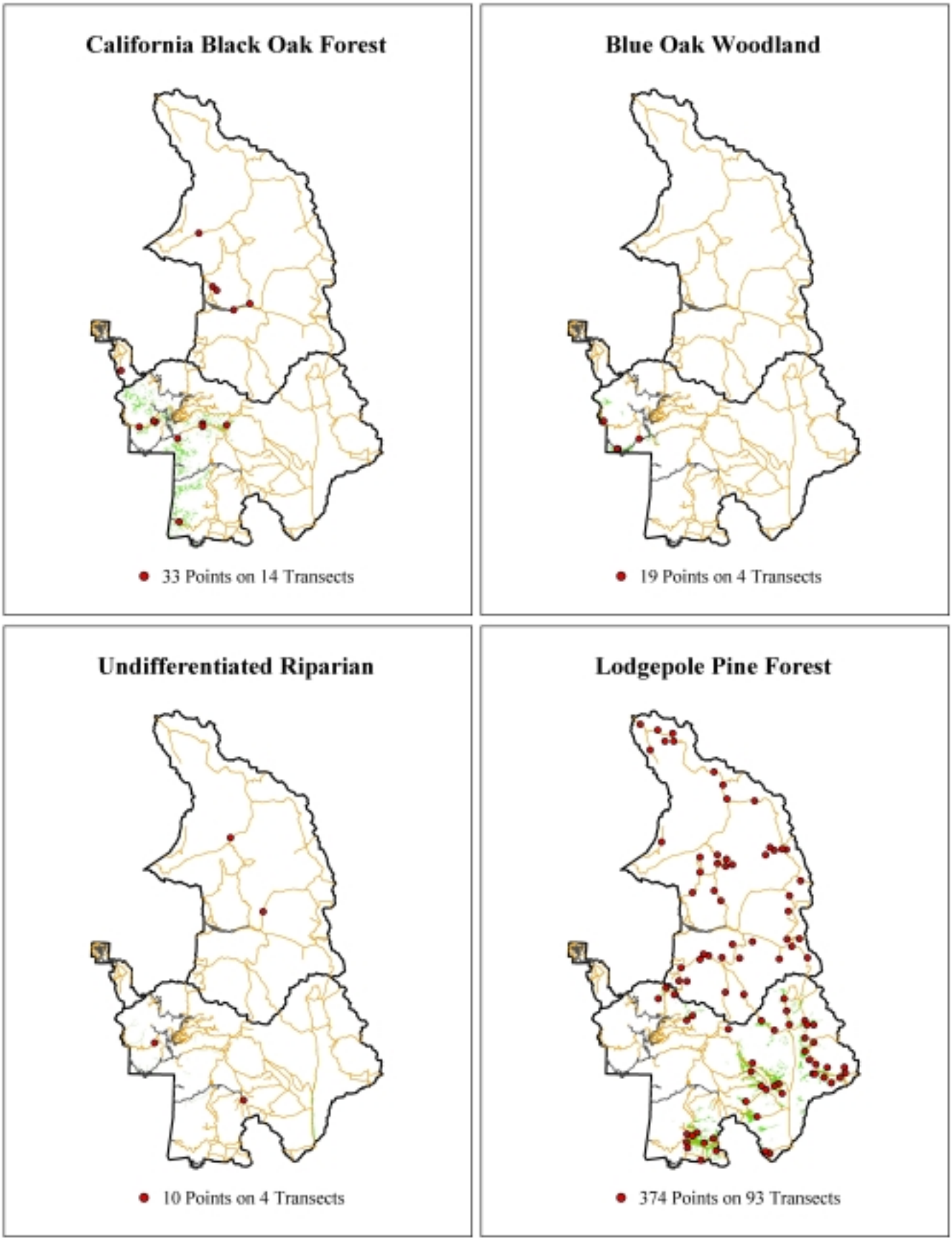

Figure 3. Green shading indicates areas within Sequoia National Park classified as the habitat indicated in the map title (habitat map not yet available for Kings Canyon). Colored dots indicate starting points of transects that included at least one point classified as the indicated habitat.

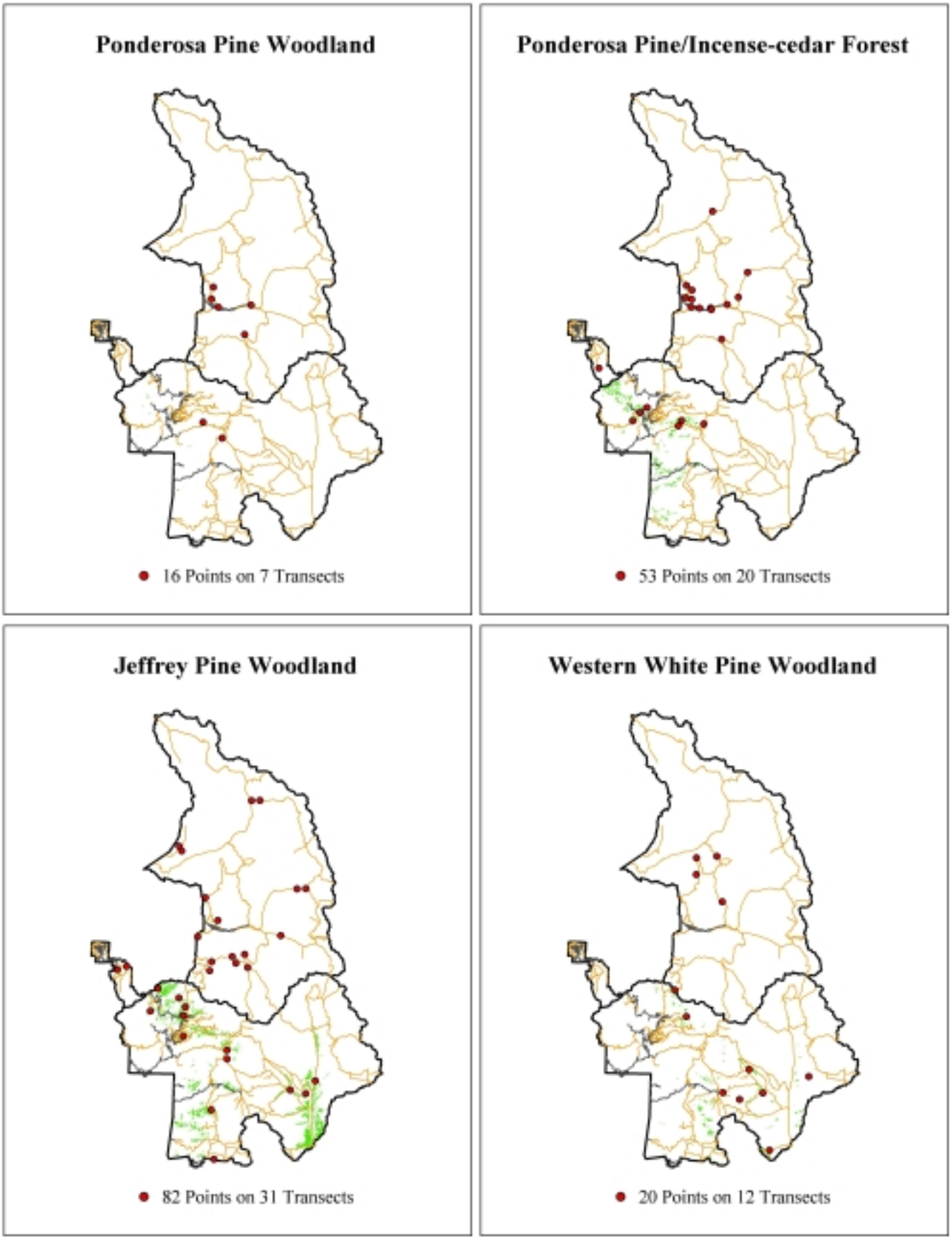

Figure 4. Green shading indicates areas within Sequoia National Park classified as the habitat indicated in the map title (habitat map not yet available for Kings Canyon). Colored dots indicate starting points of transects that included at least one point classified as the indicated habitat.

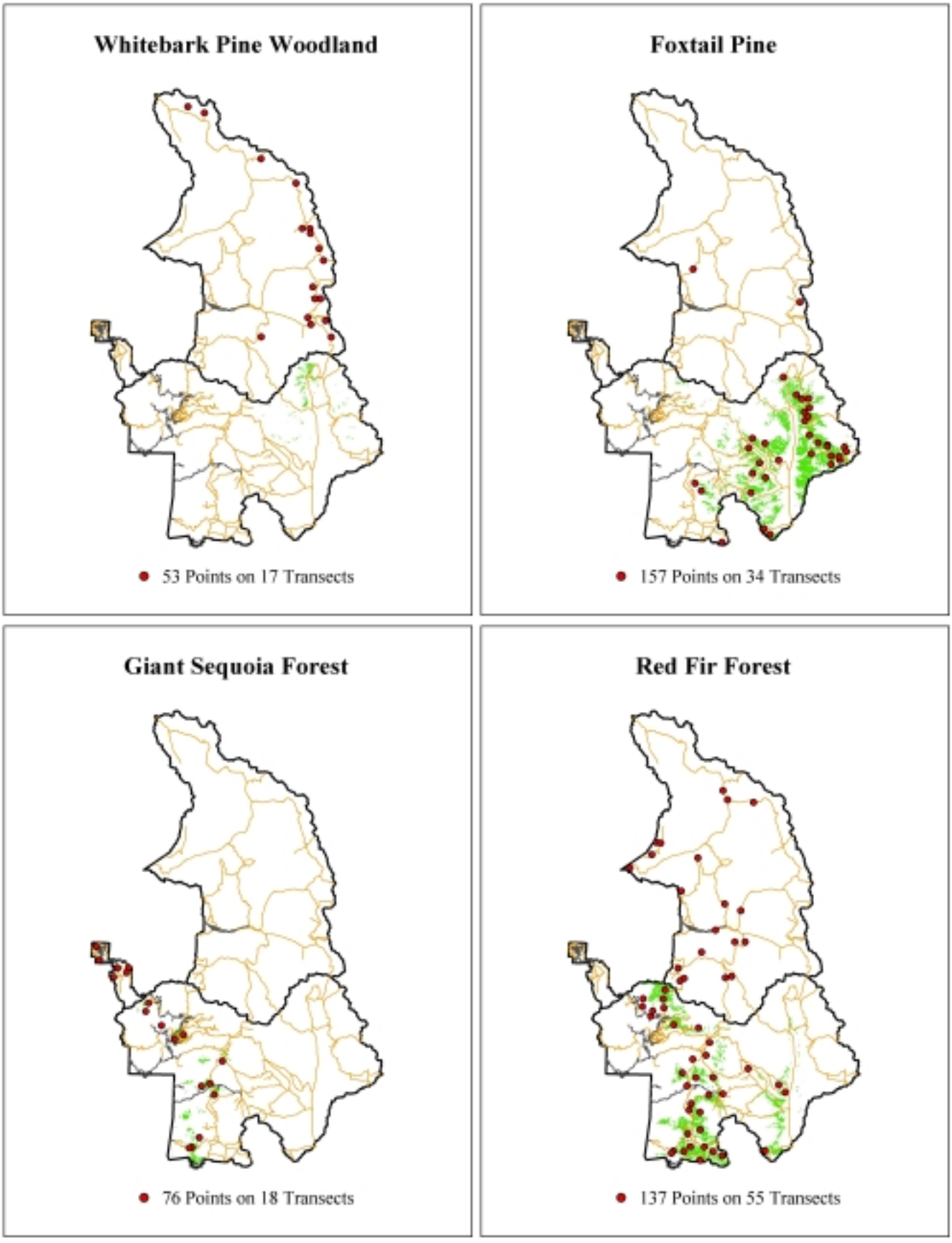

Figure 5. Green shading indicates areas within Sequoia National Park classified as the habitat indicated in the map title (habitat map not yet available for Kings Canyon). Colored dots indicate starting points of transects that included at least one point classified as the indicated habitat.

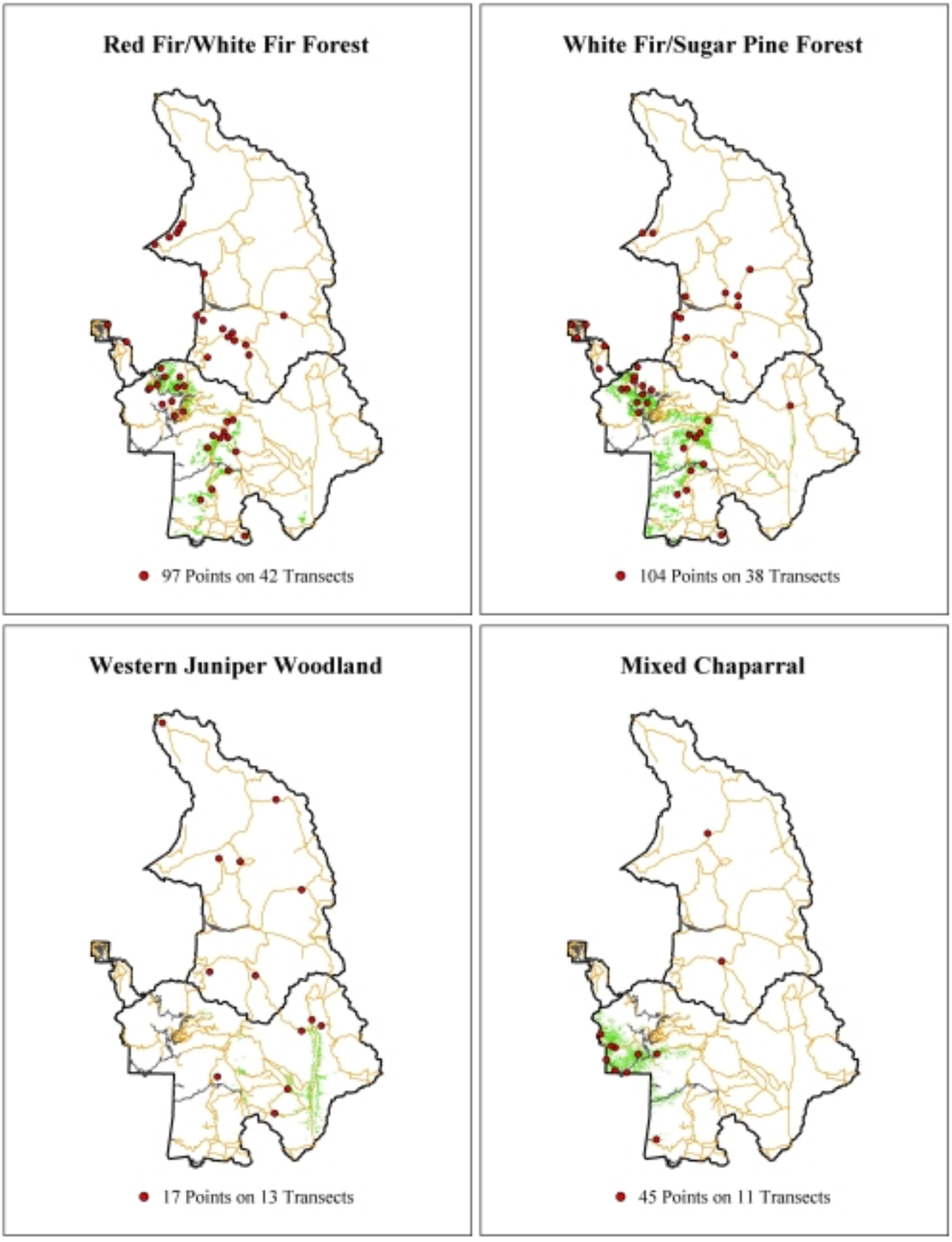

Figure 6. Green shading indicates areas within Sequoia National Park classified as the habitat indicated in the map title (habitat map not yet available for Kings Canyon). Colored dots indicate starting points of transects that included at least one point classified as the indicated habitat.

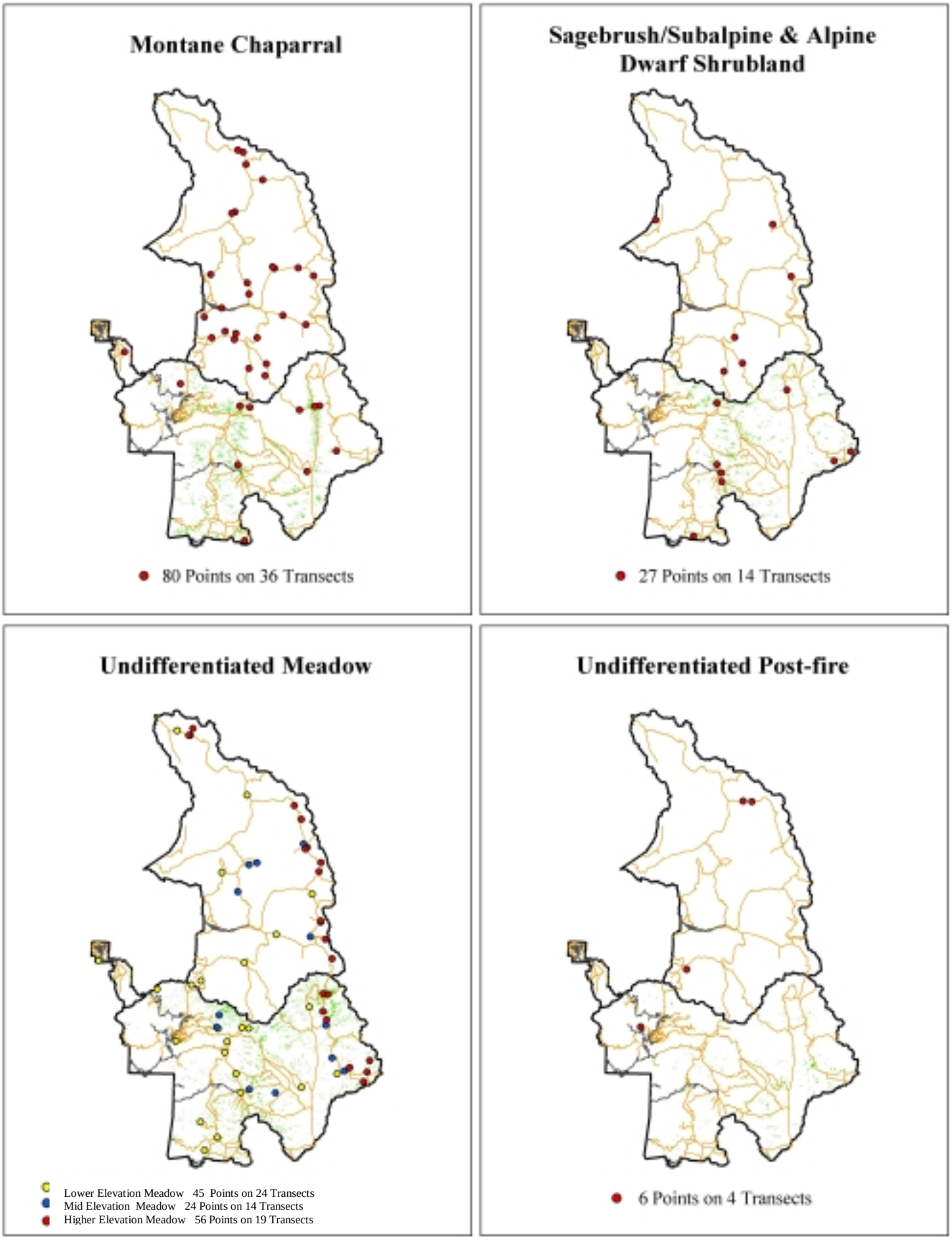

Figure 7. Green shading indicates areas within Sequoia National Park classified as the habitat indicated in the map title (habitat map not yet available for Kings Canyon). Colored dots indicate starting points of transects that included at least one point classified as the indicated habitat.

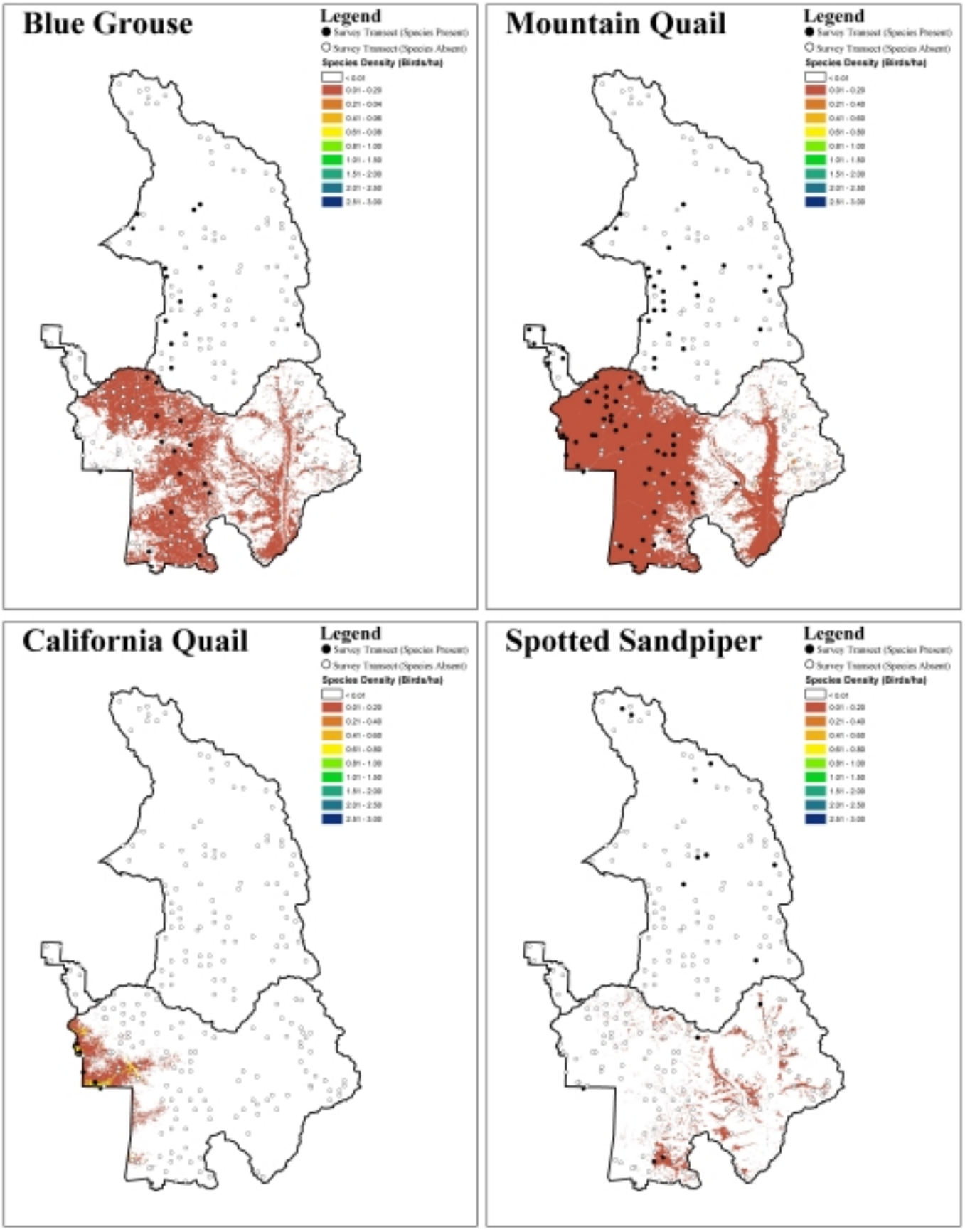

Figure 8. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Blue Grouse, Mountain Quail, California Quail, and Spotted Sandpiper.

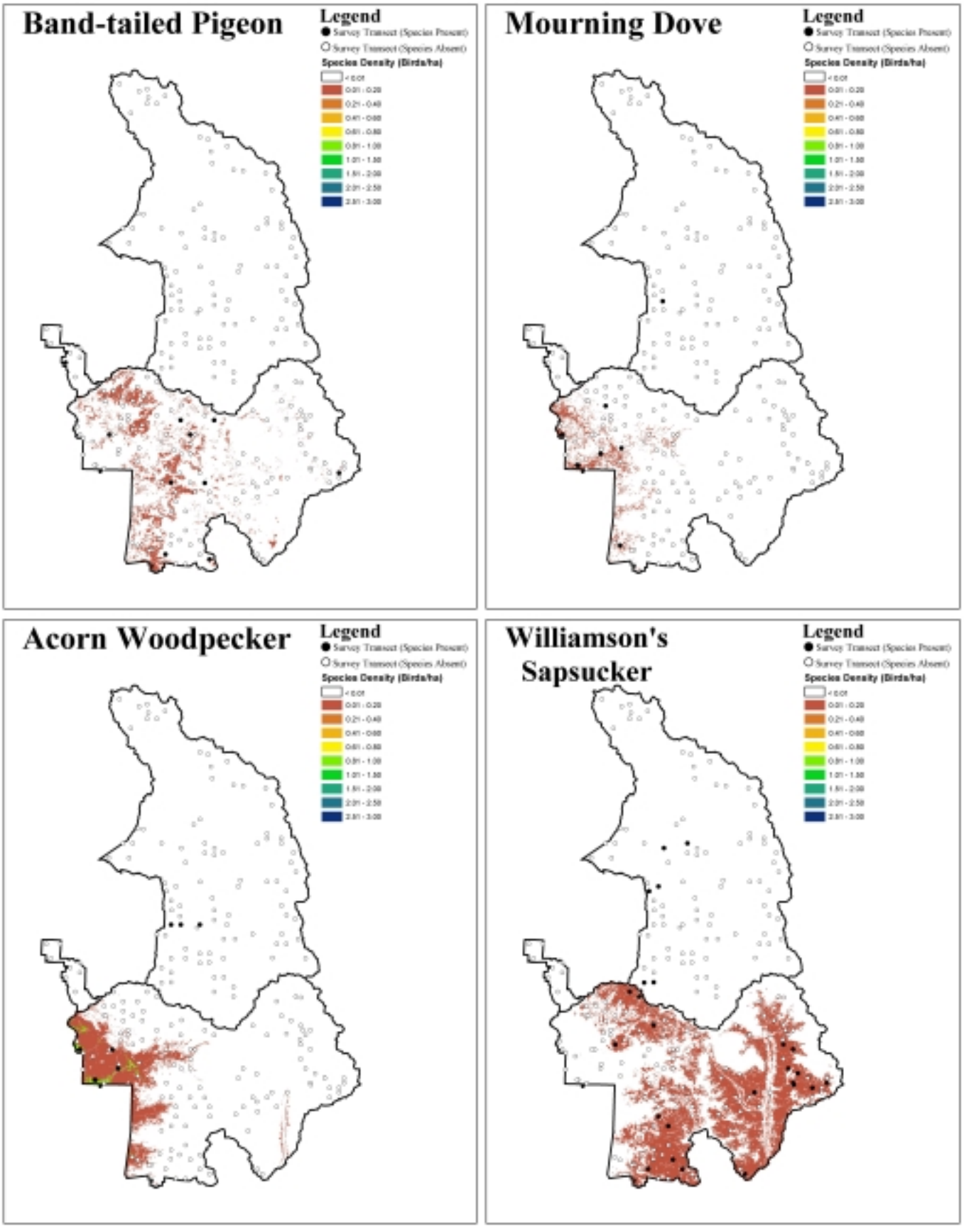

Figure 9. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Band-tailed Pigeon, Mourning Dove, Acorn Woodpecker, and Williamson's Sapsucker.

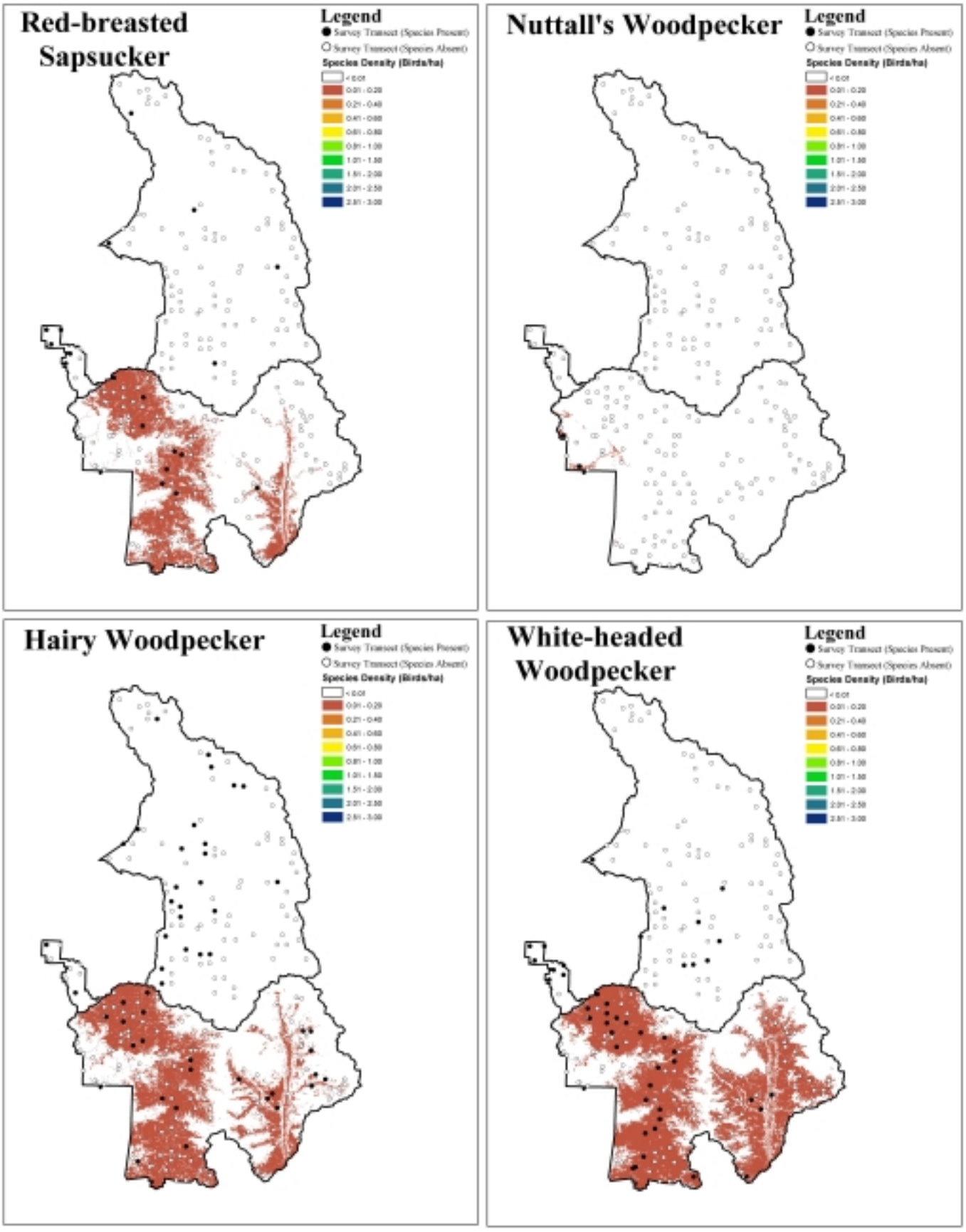

Figure 10. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Red-breasted Sapsucker, Nuttall's Woodpecker, Hairy Woodpecker, and White-headed Woodpecker.

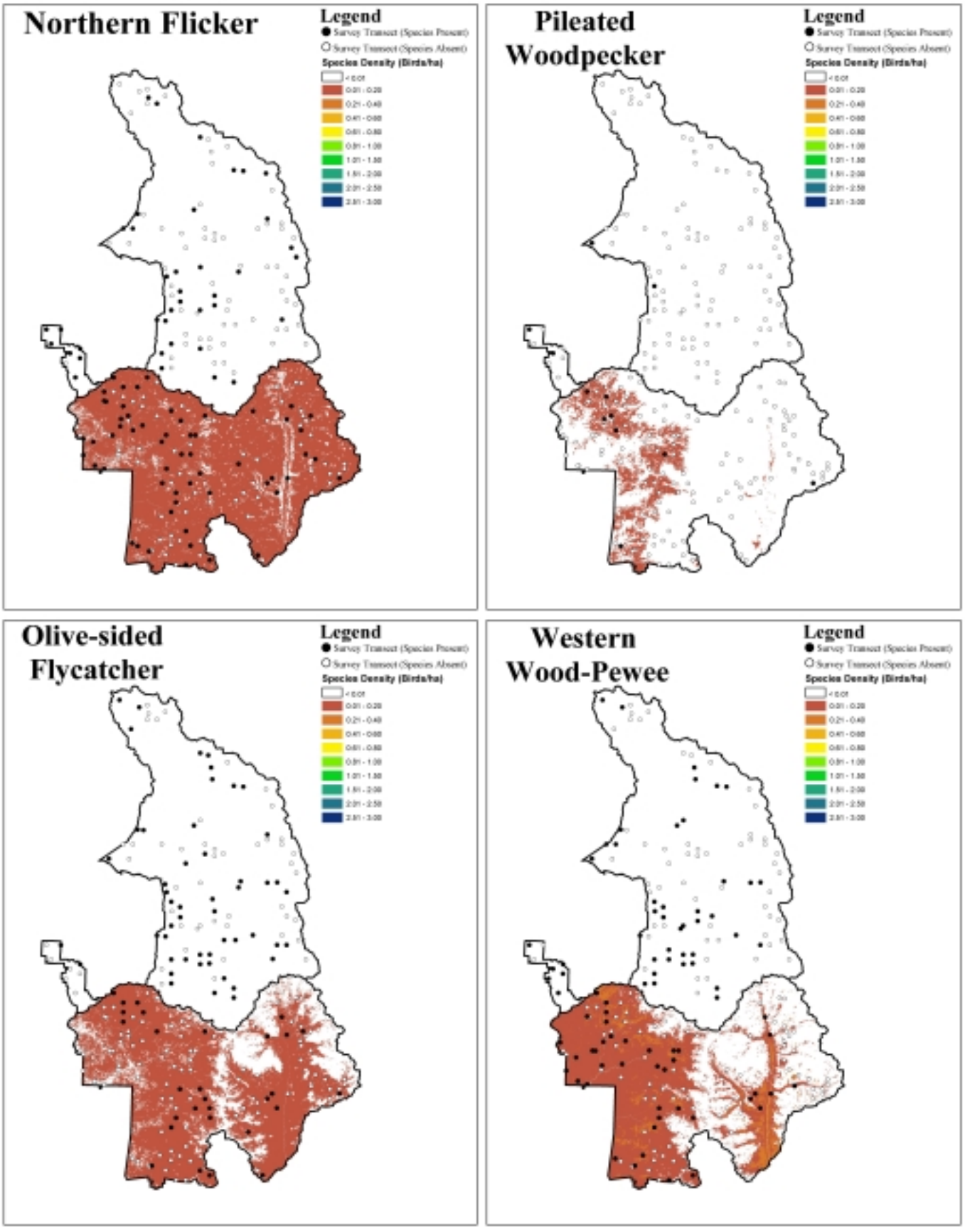

Figure 11. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Northern Flicker, Pileated Woodpecker, Olive-sided Flycatcher, and Western Wood-Pewee.

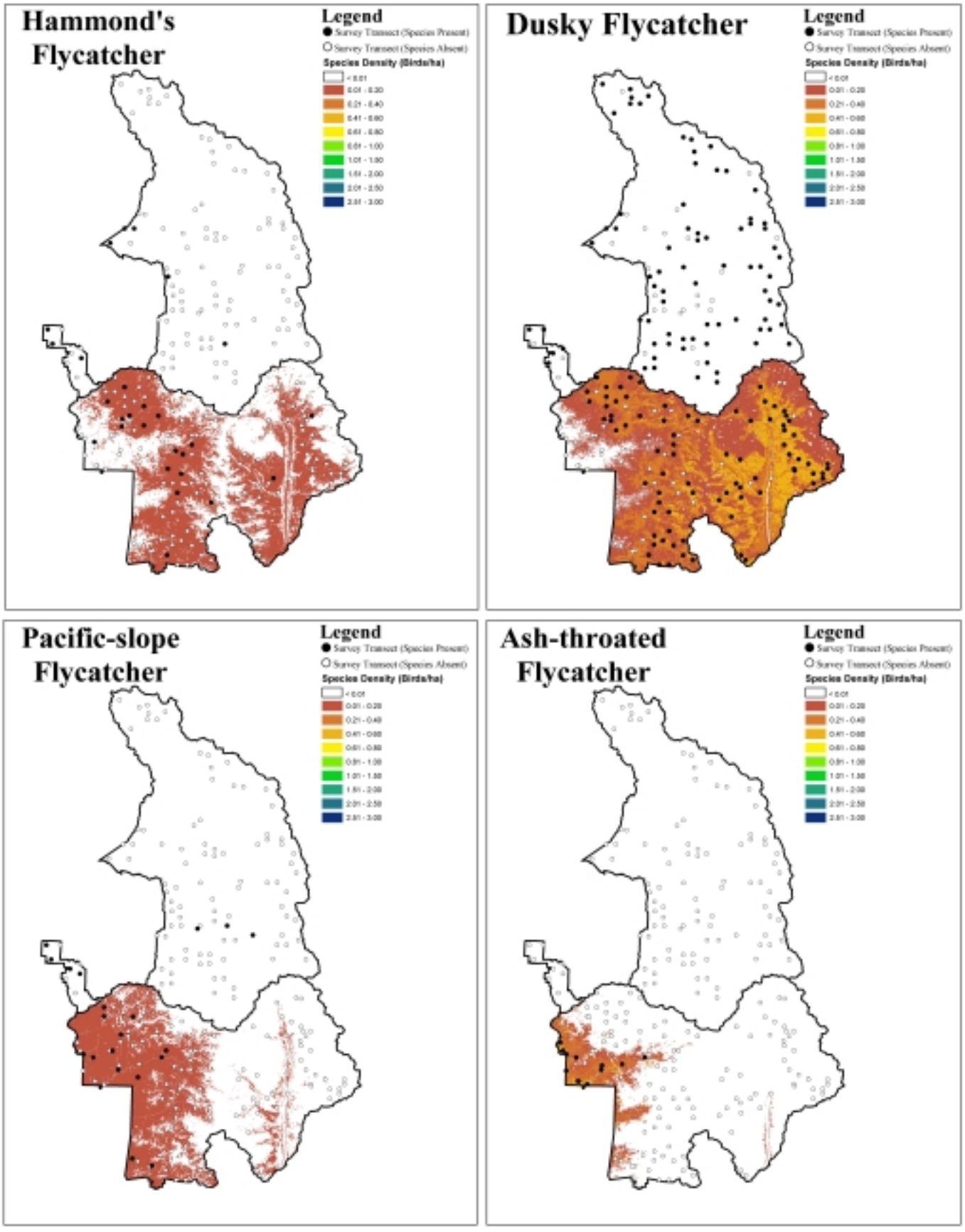

Figure 12. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Hammond's Flycatcher, Dusky Flycatcher, Pacific-slope Flycatcher, and Ash-throated Flycatcher.

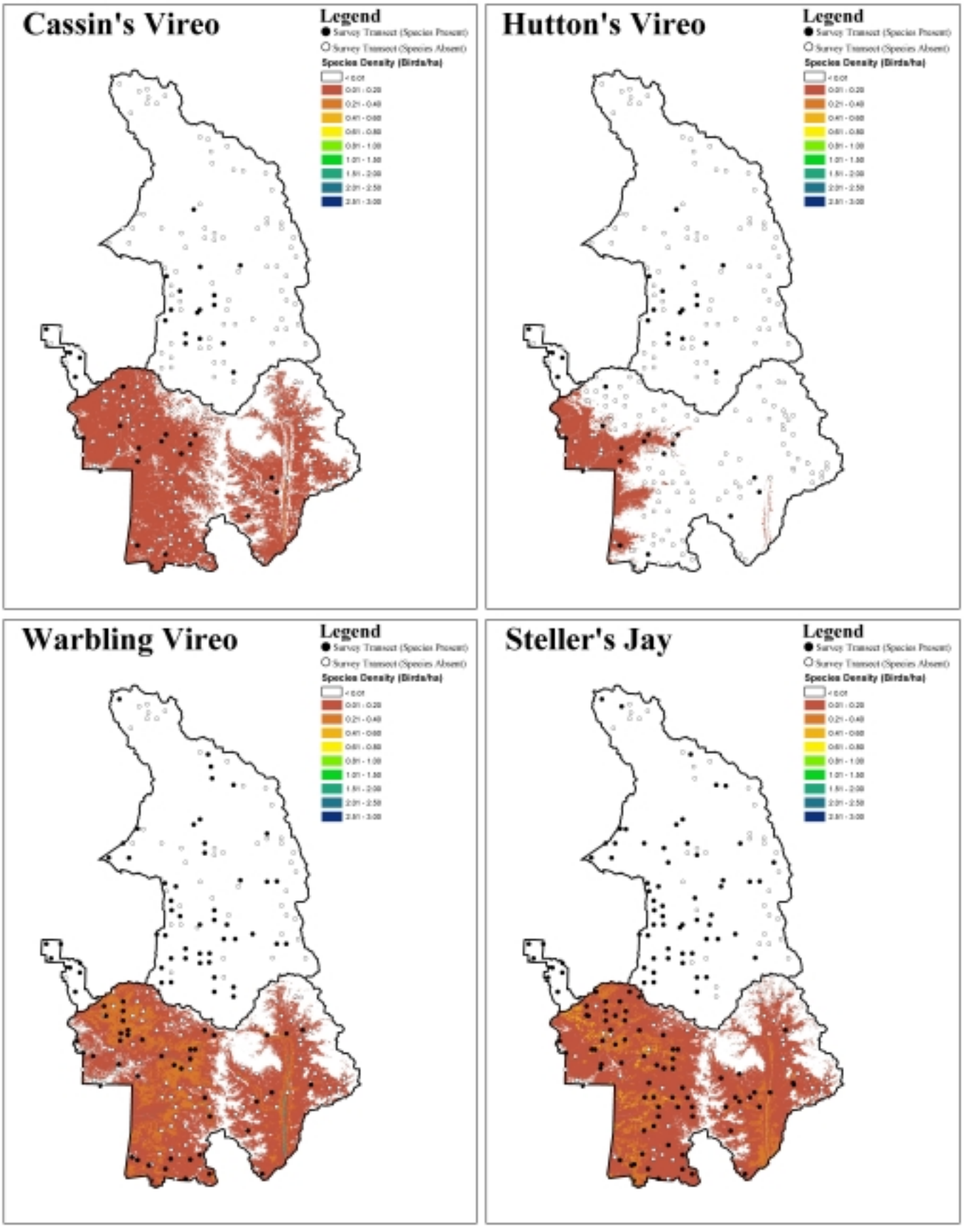

Figure 13. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Cassin's Vireo, Hutton's Vireo, Warbling Vireo, and Steller's Jay.

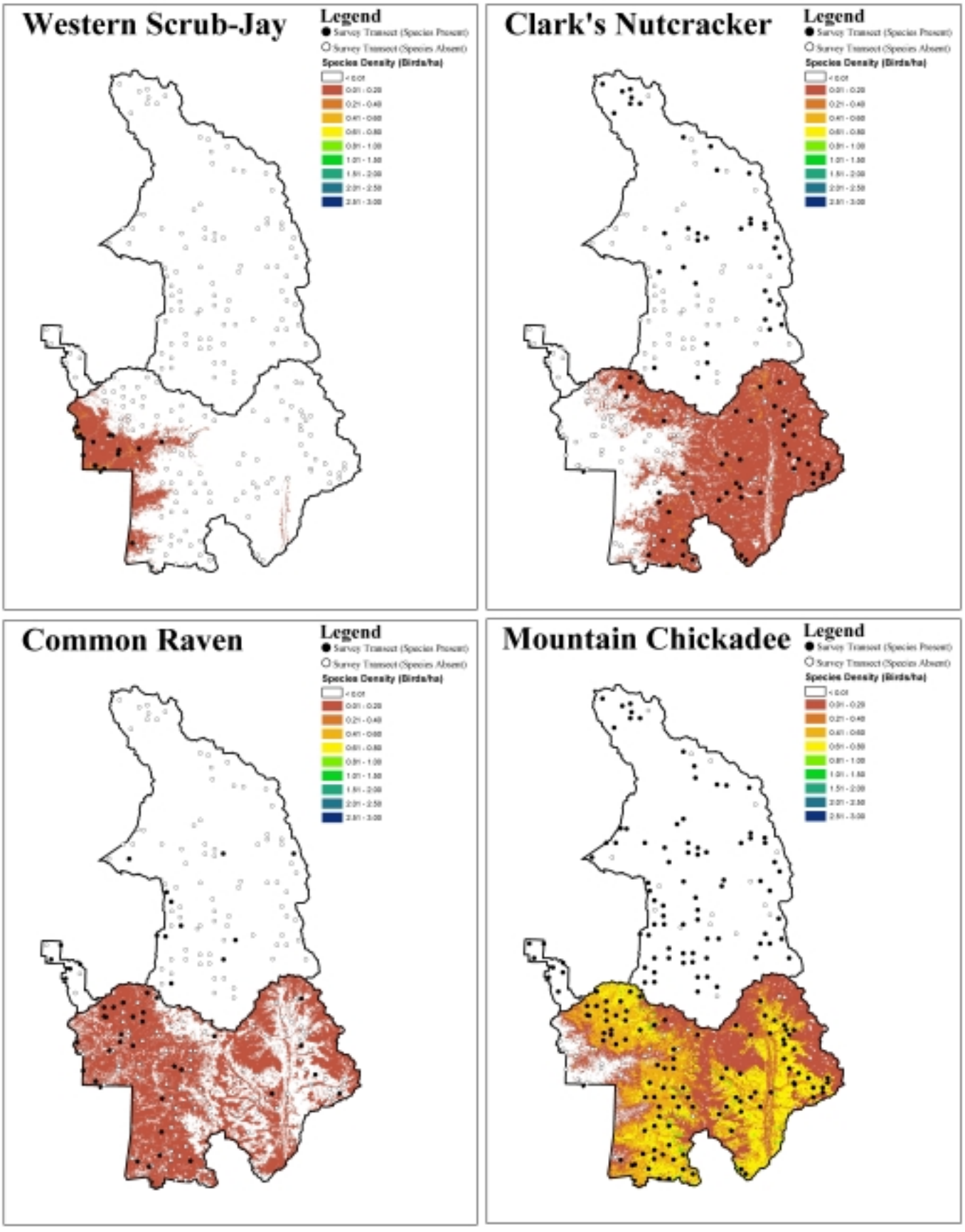

Figure 14. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Western Scrub-Jay, Clark's Nutcracker, Common Raven, and Mountain Chickadee.

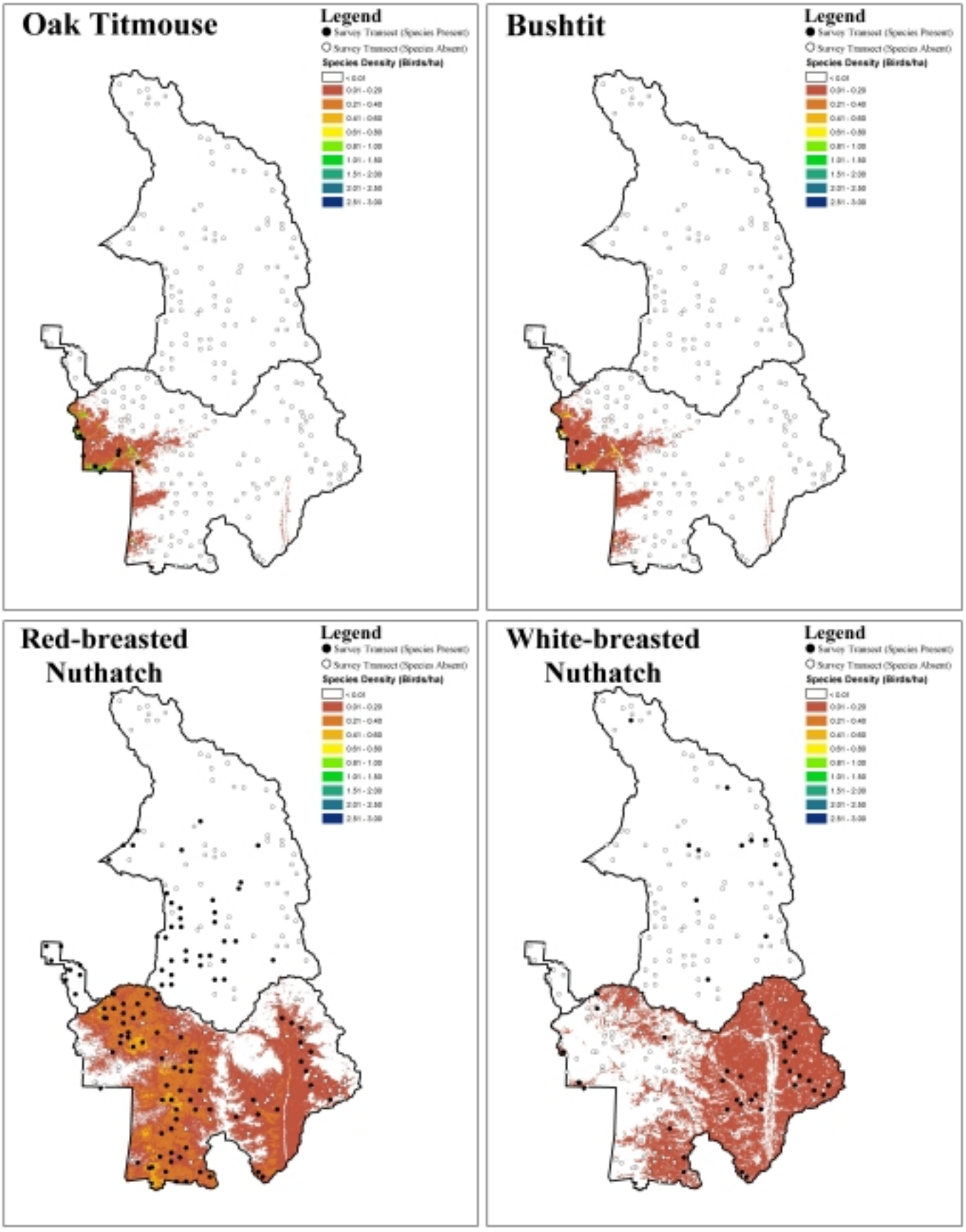

Figure 15. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Oak Titmouse, Bushtit, Red-breasted Nuthatch, and White-breasted Nuthatch.

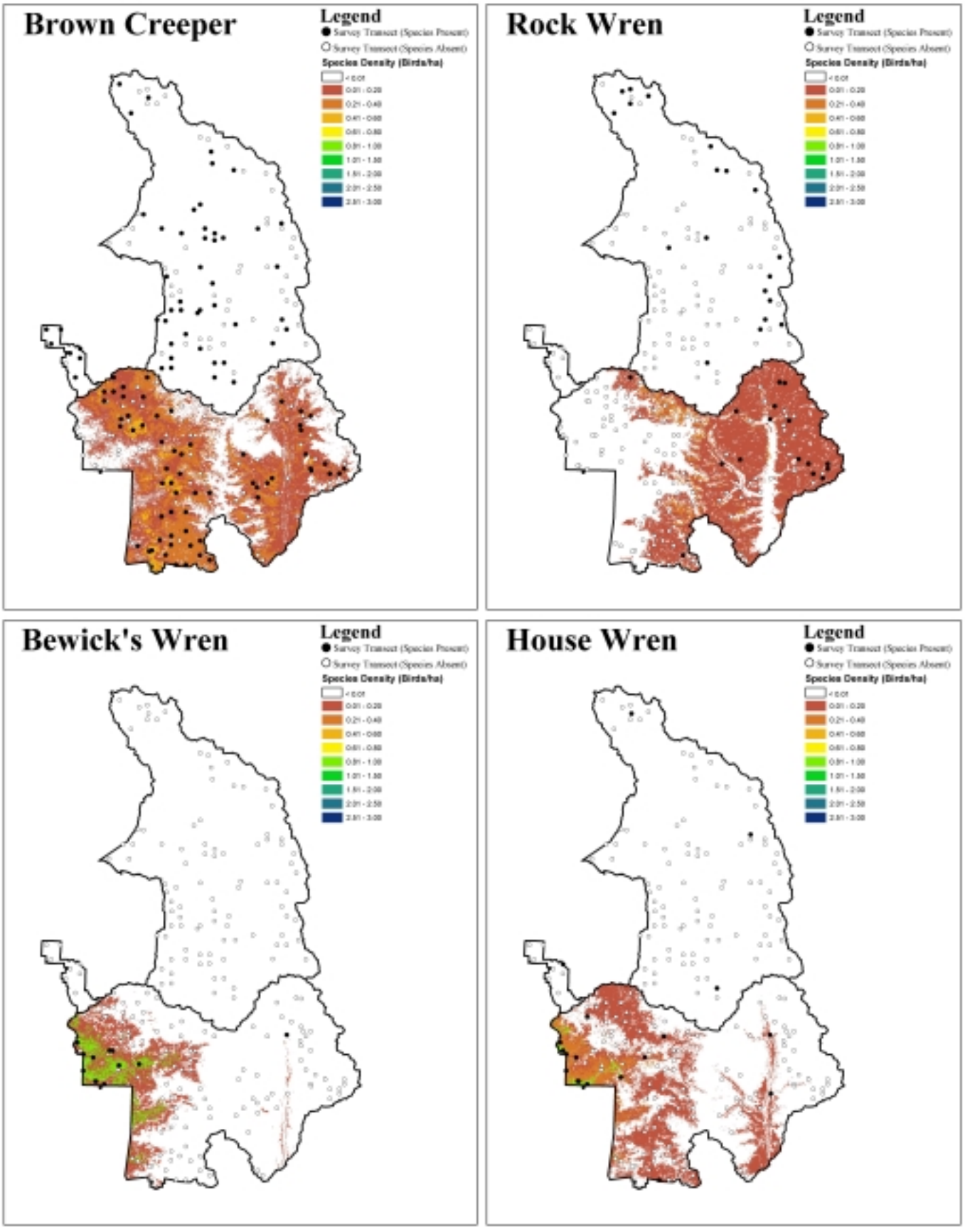

Figure 16. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Brown Creeper, Rock Wren, Bewick's Wren, and House Wren.

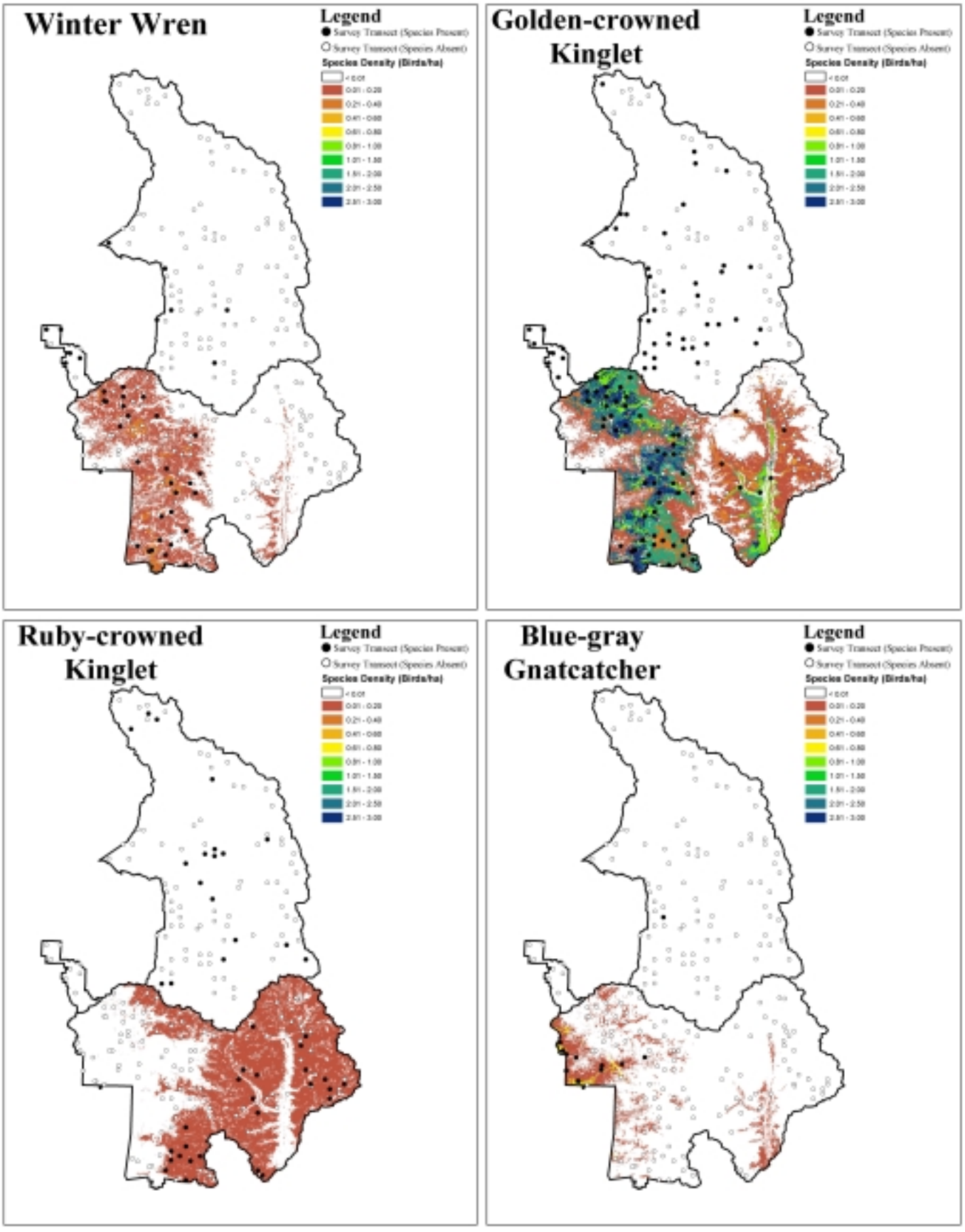

Figure 17. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Winter Wren, Golden-crowned Kinglet, Ruby-crowned Kinglet, and Blue-gray Gnatcatcher.

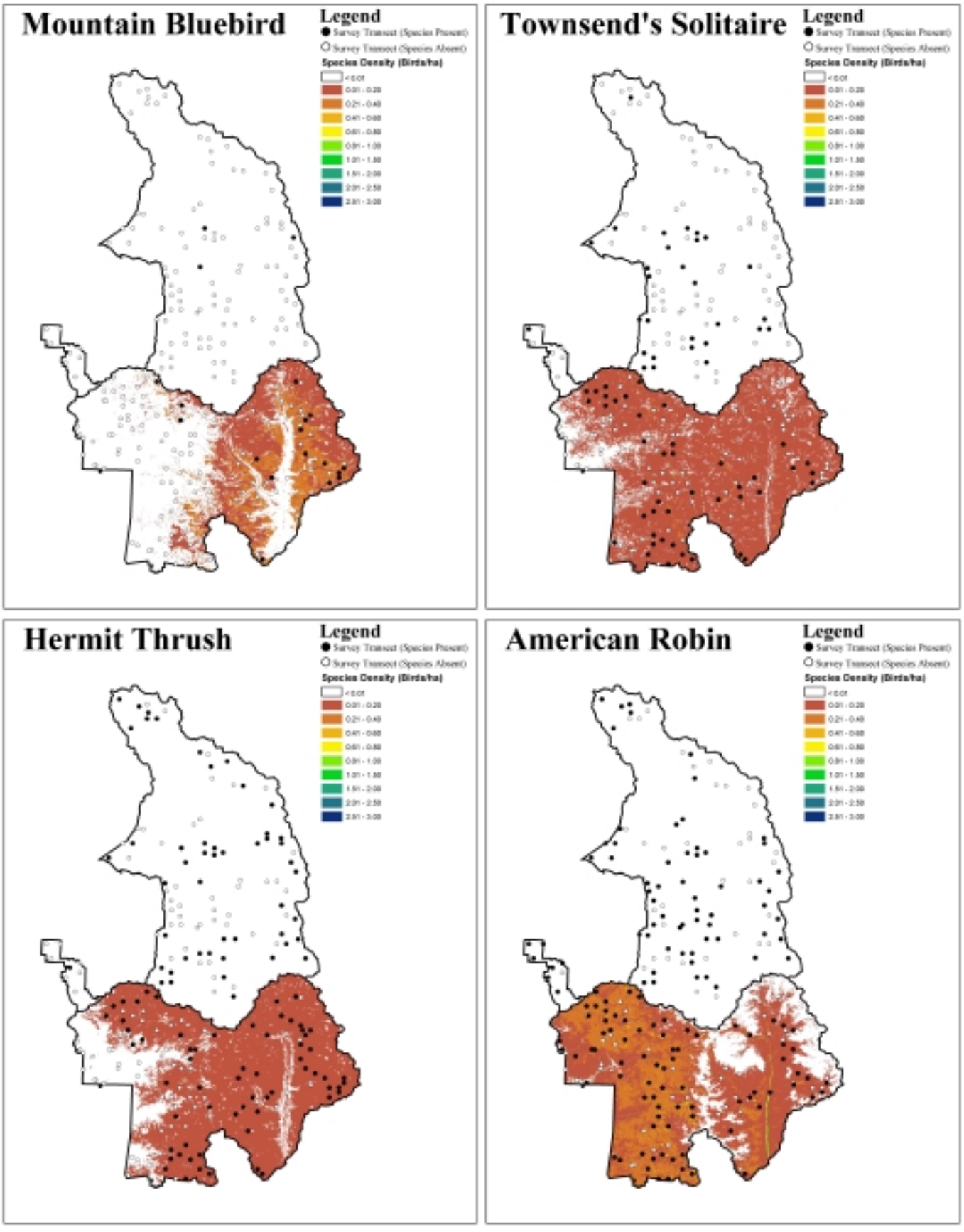

Figure 18. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Mountain Bluebird, Townsend's Solitaire, Hermit Thrush, and American Robin.

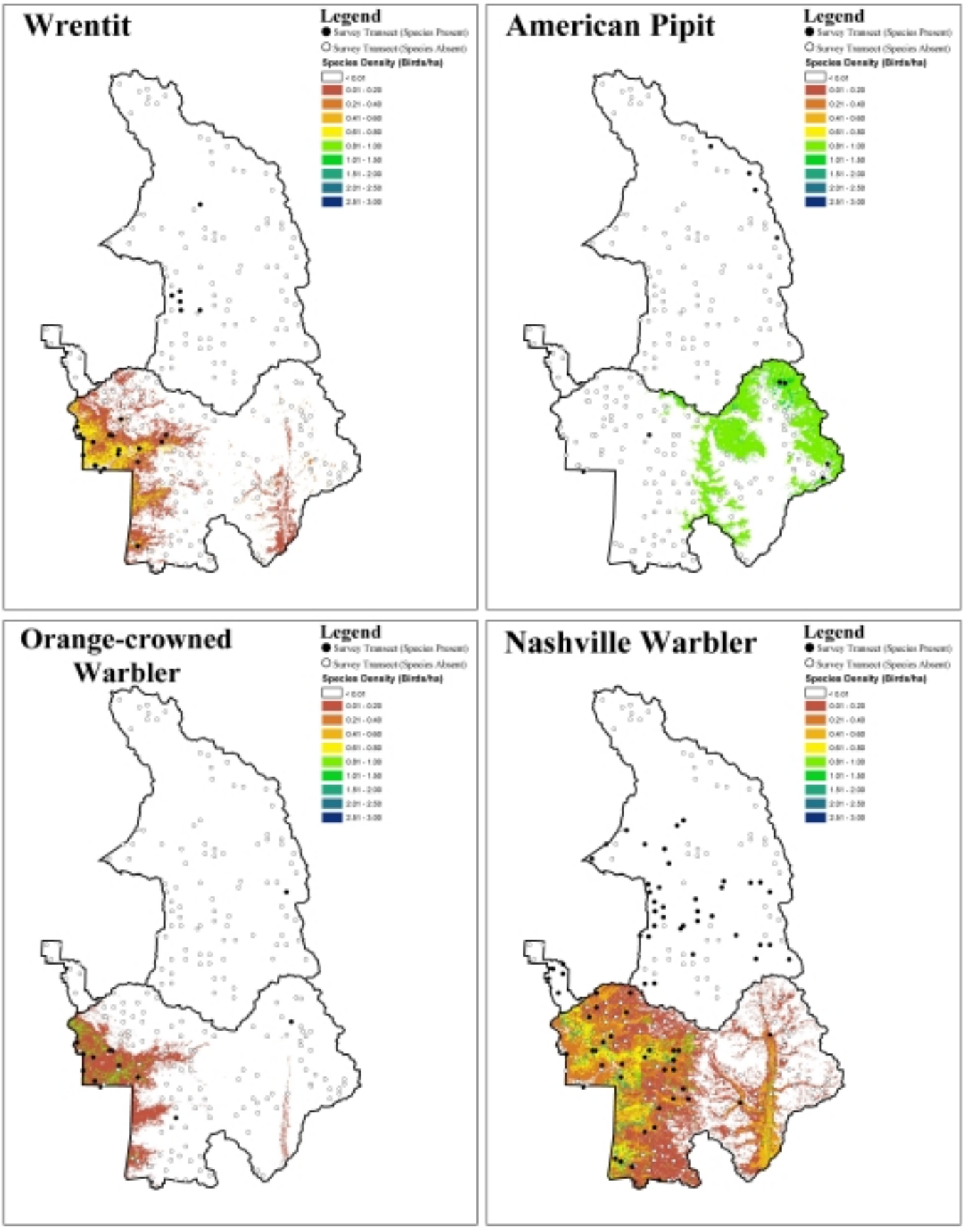

Figure 19. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Wrentit, American Pipit, Orange-crowned Warbler, and Nashville Warbler.

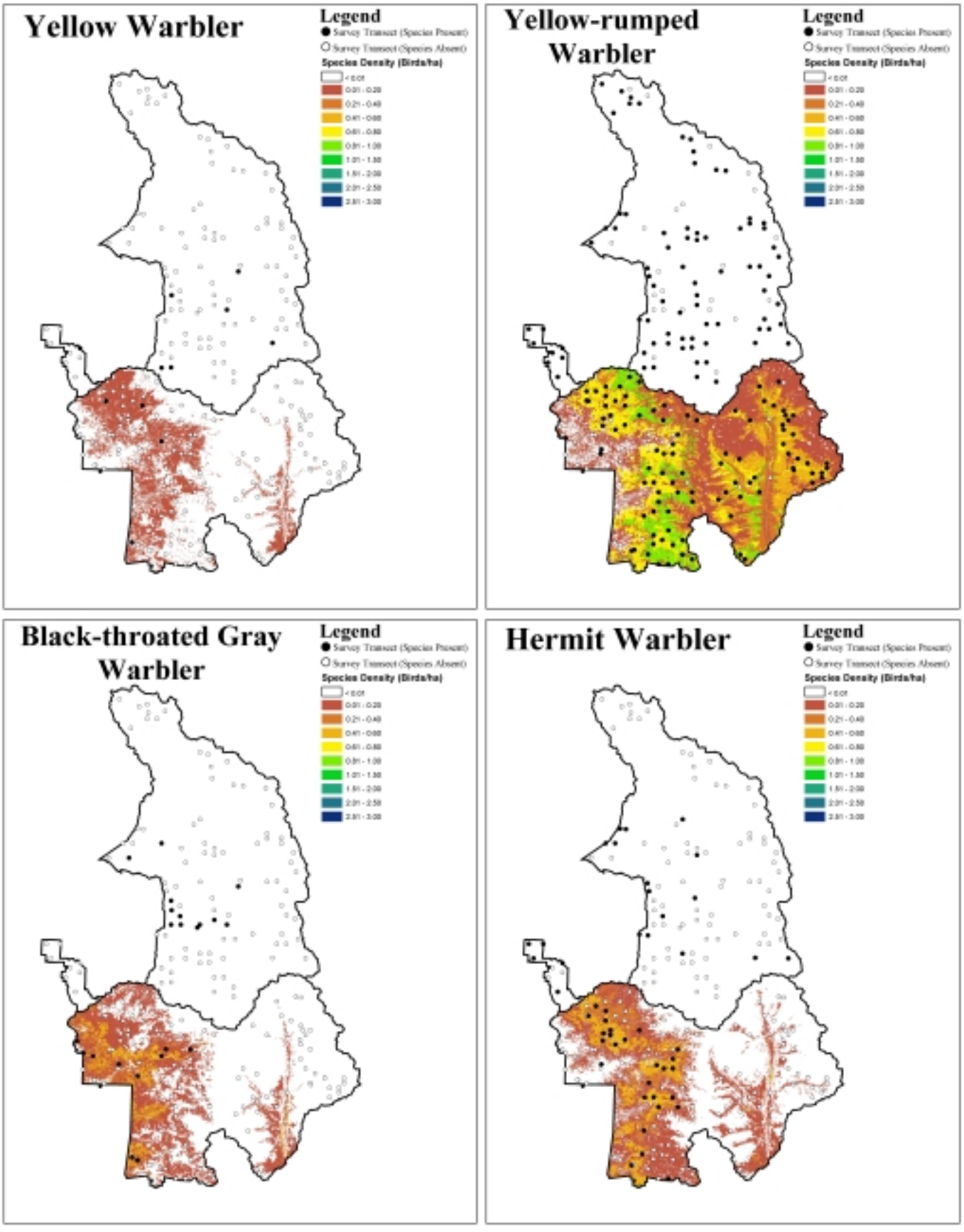

Figure 20. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Yellow Warbler, Yellow-rumped Warbler, Black-throated Gray Warbler, and Hermit Warbler.

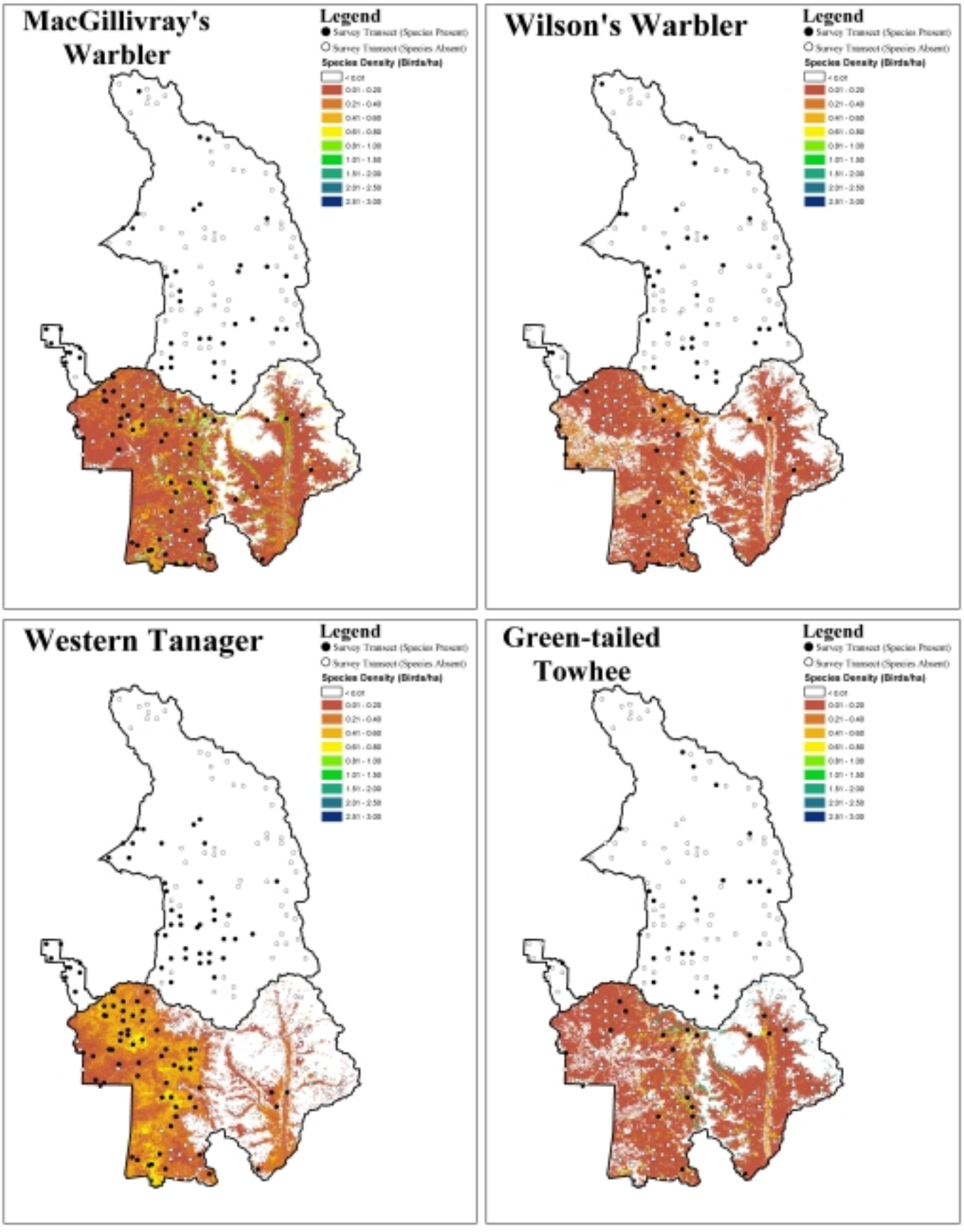

Figure 21. Transects with and without detections, and distribution and density maps (Sequoia NP only) for MacGillivray's Warbler, Wilson's Warbler, Western Tanager, and Green-tailed Towhee,

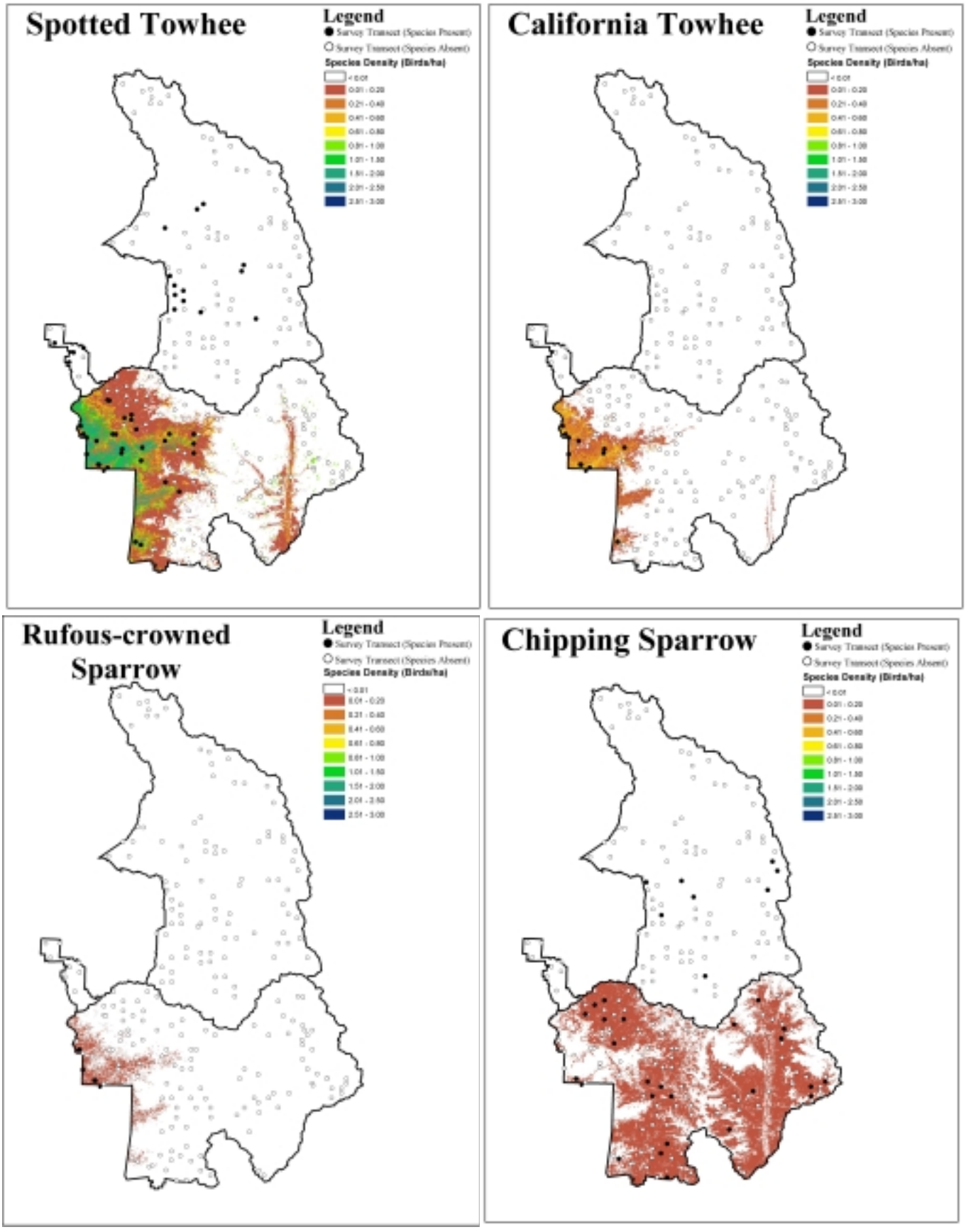

Figure 22. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Spotted Towhee, California Towhee, Rufous-crowned Sparrow, and Chipping Sparrow.

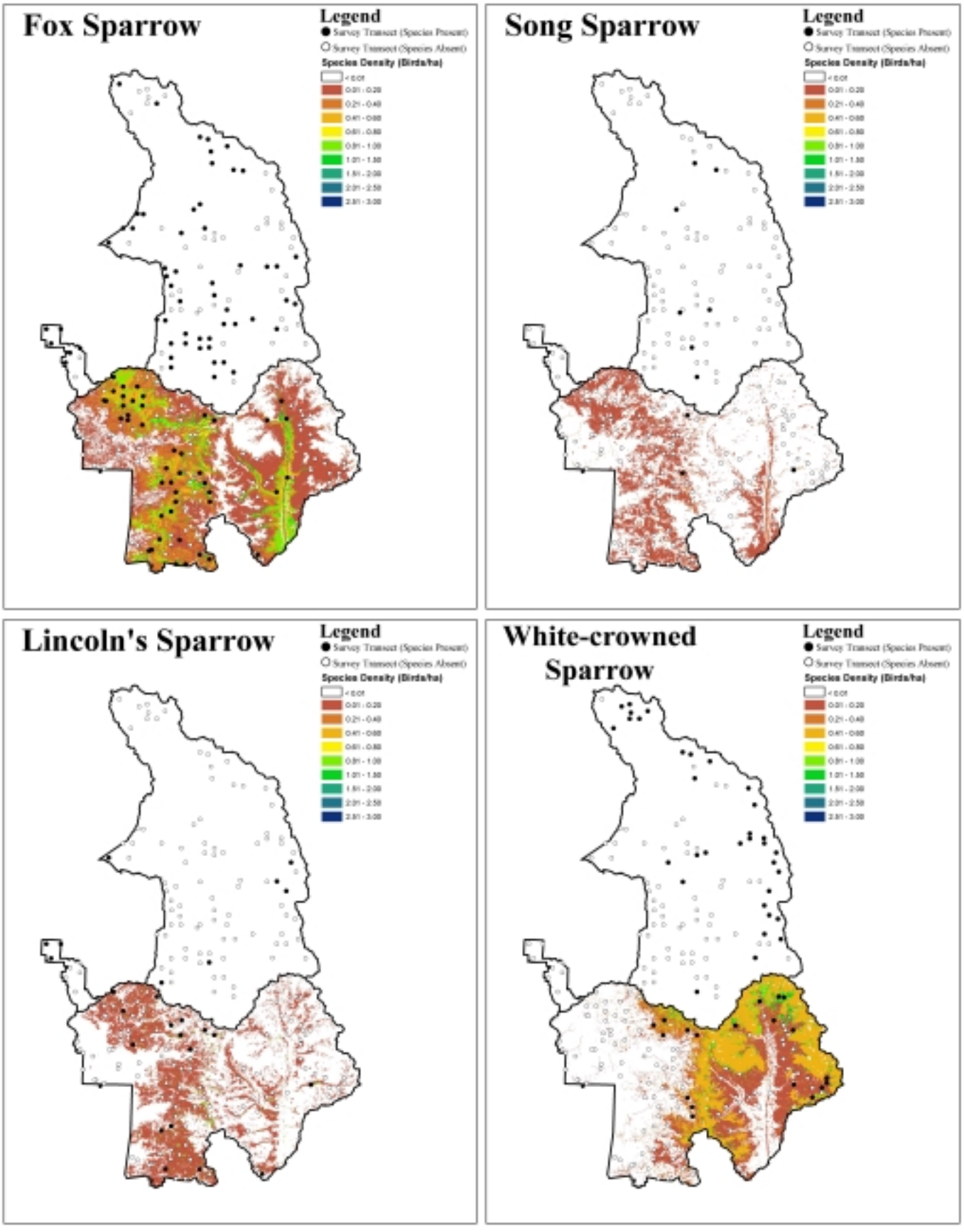

Figure 23. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Fox Sparrow, Song Sparrow, Lincoln's Sparrow, and White-crowned Sparrow.

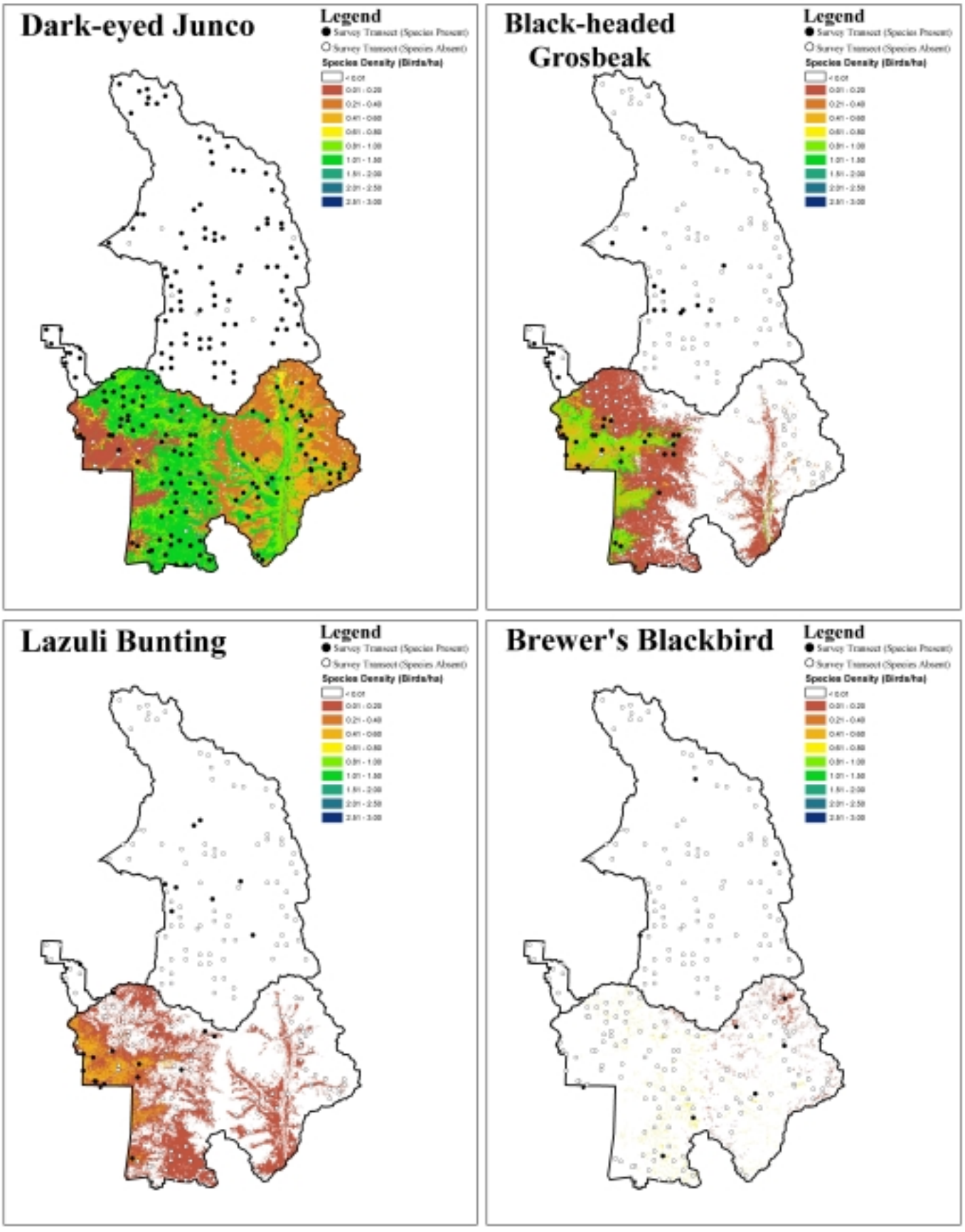

Figure 24. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Dark-eyed Junco, Black-headed Grosbeak, Lazuli Bunting, and Brewer's Blackbird.

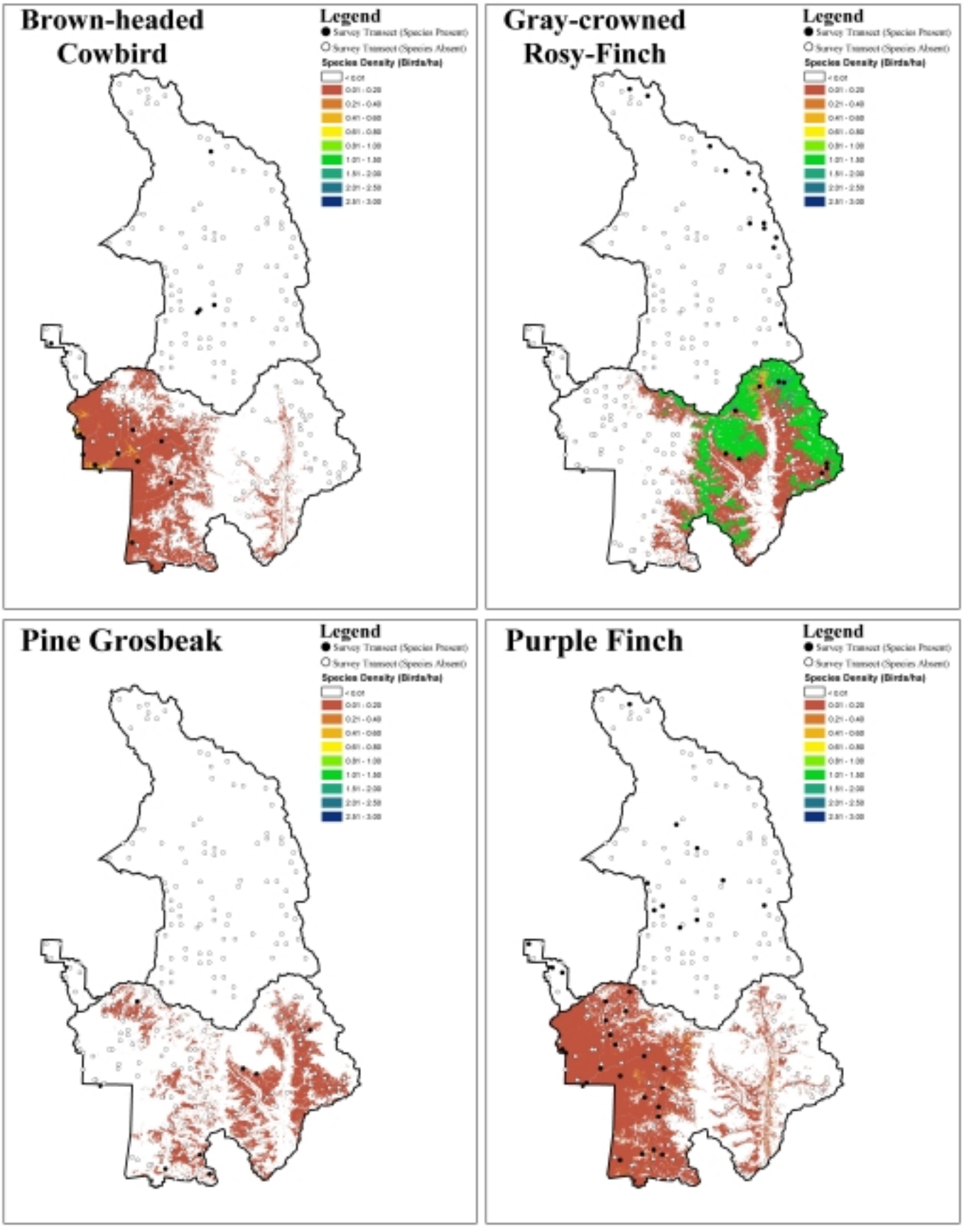

Figure 25. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Brown-headed Cowbird, Gray-crowned Rosy-Finch, Pine Grosbeak, and Purple Finch.

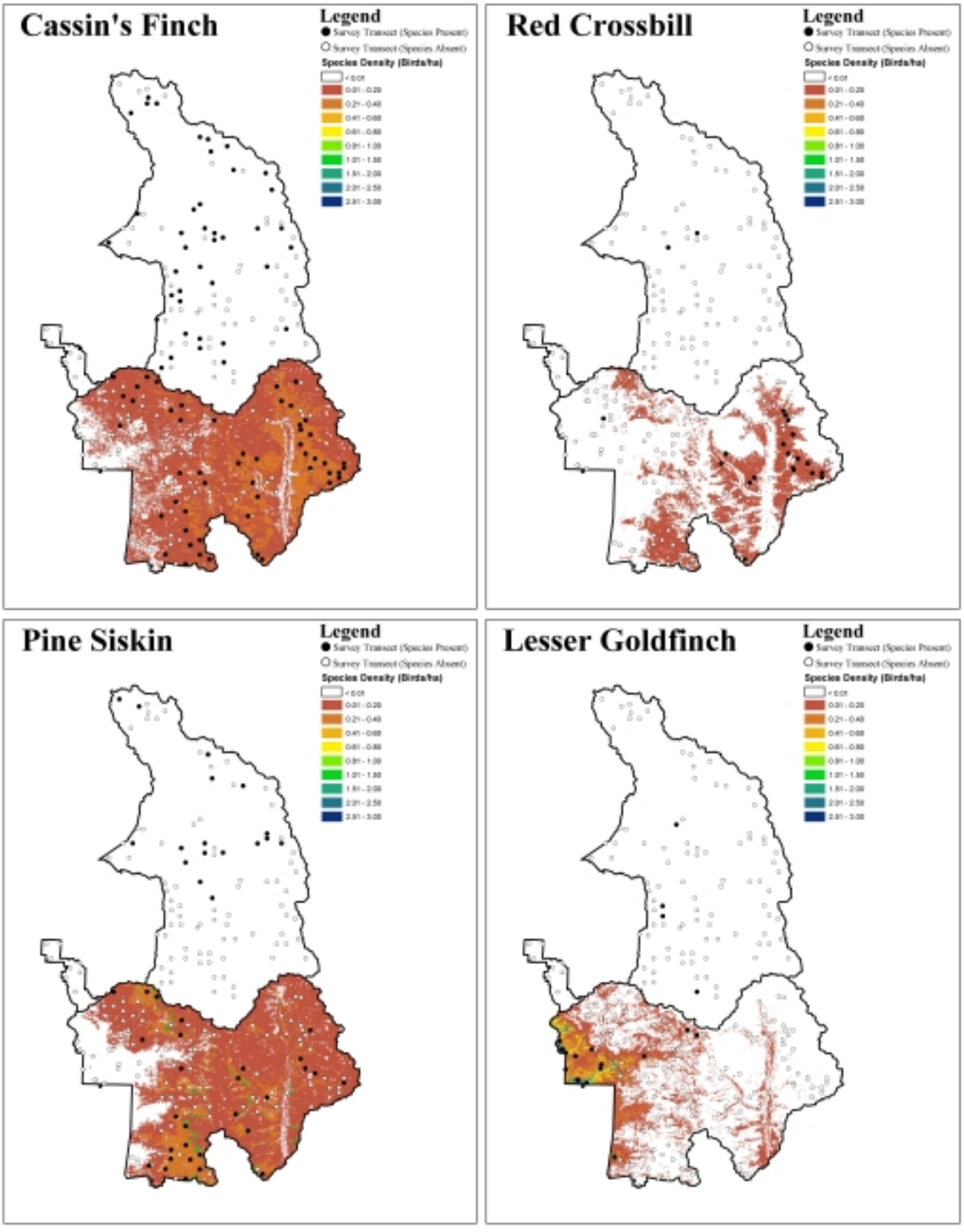

Figure 26. Transects with and without detections, and distribution and density maps (Sequoia NP only) for Cassin's Finch, Red Crossbill, Pine Siskin, and Lesser Goldfinch.

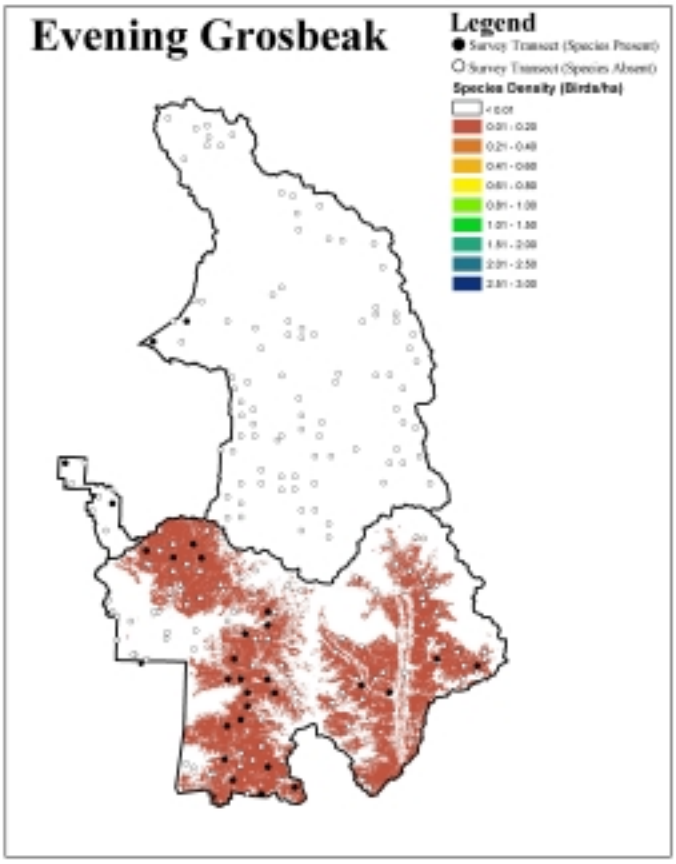

Figure 27. Transects with and without detections, and distribution and density map (Sequoia NP only) for Evening Grosbeak.

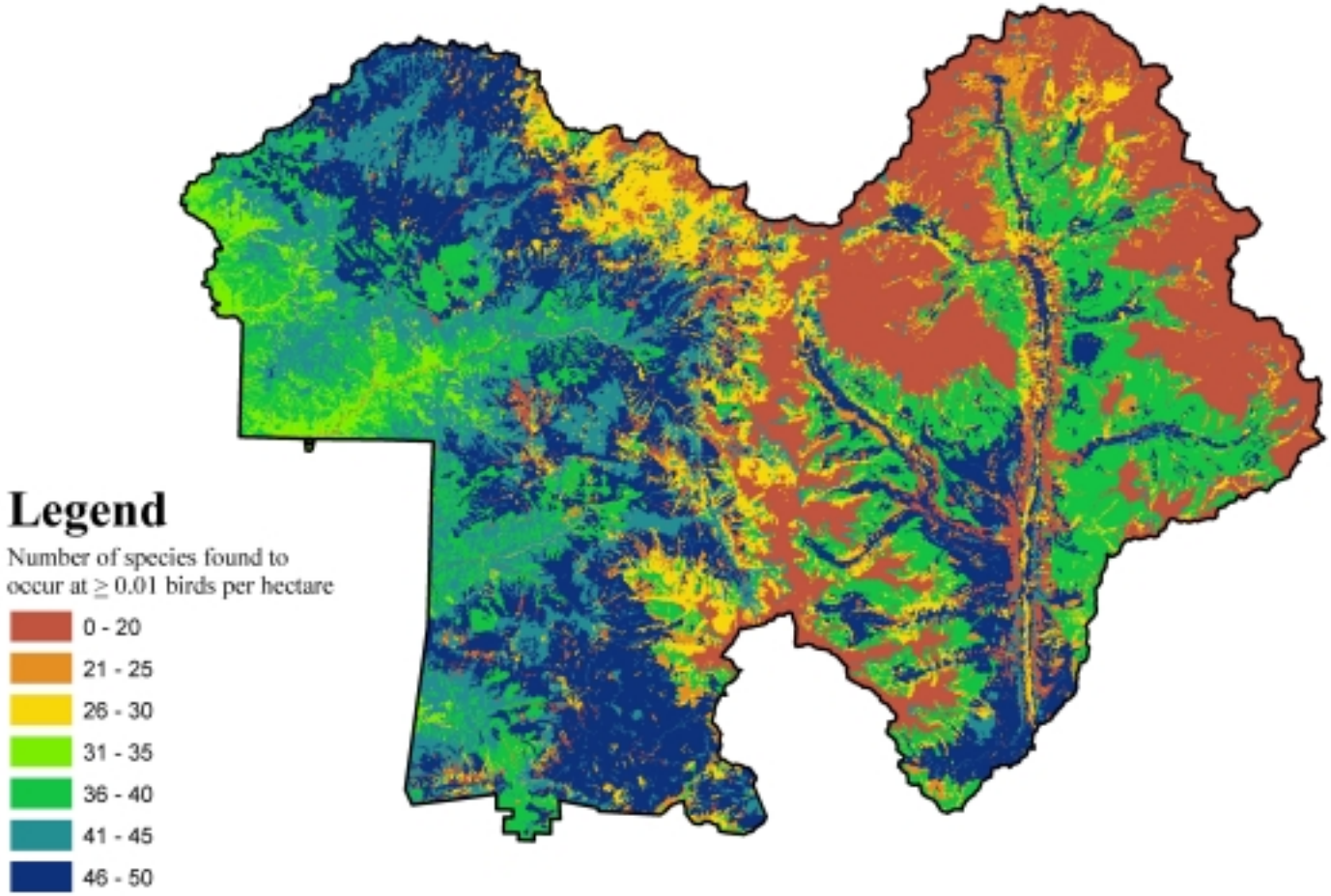

Figure 28. Species richness by habitat in Sequoia National Park. A species contributed to a habitat's species richness only if its estimated density was at least 0.01 birds per hectare in that habitat. Density estimates were calculated using the software Distance 4.0 Release 2 (Thomas et. al. 2003)

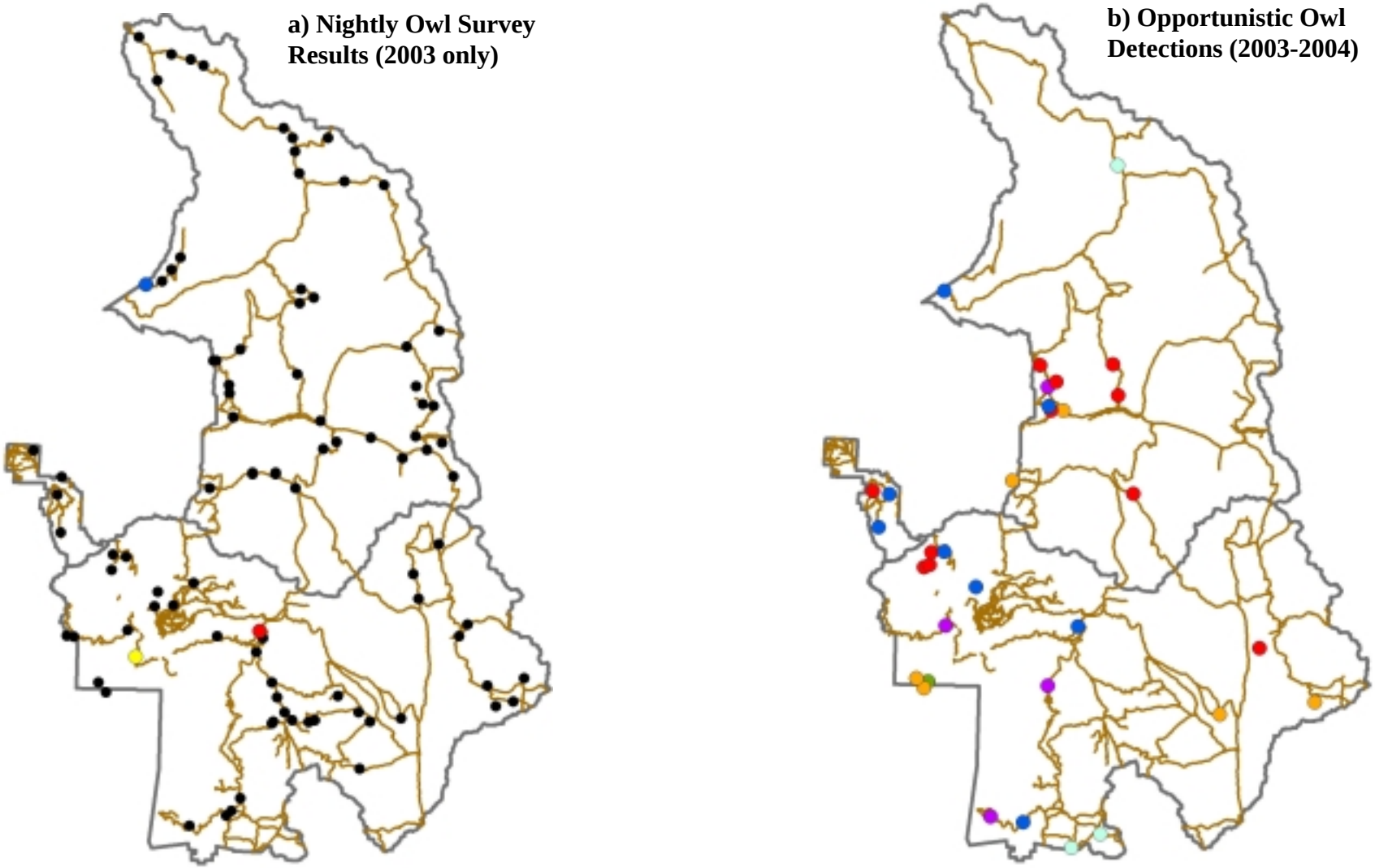

Figure 29. Locations of owls and other nocturnal birds detected a) during nightly owl surveys (2003 only) and b) opportunistically (2003 and 2004). Colored dots indicate the following: black=nightly owl survey with no detections, purple=Flammulated Owl, green=Western Screech-Owl, orange=Great Horned Owl, red = Northern Pygmy-Owl, dark blue=Spotted Owl, light blue=Common Poorwill, and yellow=unidentified owl. Some dots represent more than one individual of the indicated species.

Appendix A: Scientific Names of All Bird Species Listed in this Report

Common Name	Scientific Name[1]
Mallard	*Anas platyrhynchos*
Common Merganser	*Mergus merganser*
White-tailed Ptarmigan	*Lagopus leucura*
Blue Grouse	*Dendragapus obscurus*
Mountain Quail	*Oreortyx pictus*
California Quail	*Callipepla californica*
Great Blue Heron	*Ardea herodias*
Turkey Vulture	*Cathartes aura*
Osprey	*Pandion haliaetus*
Northern Harrier	*Circus cyaneus*
Sharp-shinned Hawk	*Accipiter striatus*
Cooper's Hawk	*Accipiter cooperii*
Northern Goshawk	*Accipiter gentilis*
Red-shouldered Hawk	*Buteo lineatus*
Red-tailed Hawk	*Buteo jamaicensis*
Golden Eagle	*Aquila chrysaetos*
American Kestrel	*Falco sparverius*
Peregrine Falcon	*Falco peregrinus*
Killdeer	*Charadrius vociferus*
Spotted Sandpiper	*Actitis macularius*
Band-tailed Pigeon	*Patagioenas fasciata*
Mourning Dove	*Zenaida macroura*
Flammulated Owl	*Otus flammeolus*
Western Screech-Owl	*Megascops kennicottii*
Great Horned Owl	*Bubo virginianus*
Northern Pygmy-Owl	*Glaucidium gnoma*
Spotted Owl	*Strix occidentalis*
Common Nighthawk	*Chordeiles minor*
Common Poorwill	*Phalaenoptilus nuttallii*
Vaux’s Swift	*Chaetura vauxi*
Black Swift	*Cypseloides niger*
White-throated Swift	*Aeronautes saxatalis*
Anna's Hummingbird	*Calypte anna*
Black-chinned Hummingbird	*Archilochus alexandri*
Calliope Hummingbird	*Stellula calliope*
Rufous Hummingbird	*Selasphorus rufus*
Belted Kingfisher	*Ceryle alcyon*
Acorn Woodpecker	*Melanerpes formicivorus*
Williamson's Sapsucker	*Sphyrapicus thyroideus*
Red-breasted Sapsucker	*Sphyrapicus ruber*
Nuttall's Woodpecker	*Picoides nuttallii*
Downy Woodpecker	*Picoides pubescens*
Hairy Woodpecker	*Picoides villosus*

Appendix A, continued.

Common Name	Scientific Name[1]
White-headed Woodpecker	*Picoides albolarvatus*
Northern Flicker	*Colaptes auratus*
Pileated Woodpecker	*Dryocopus pileatus*
Olive-sided Flycatcher	*Contopus cooperi*
Western Wood-Pewee	*Contopus sordidulus*
Hammond's Flycatcher	*Empidonax hammondii*
Dusky Flycatcher	*Empidonax oberholseri*
Pacific-slope Flycatcher	*Empidonax difficilis*
Black Phoebe	*Sayornis nigricans*
Say's Phoebe	*Sayornis saya*
Ash-throated Flycatcher	*Myiarchus cinerascens*
Western Kingbird	*Tyrannus verticalis*
Cassin's Vireo	*Vireo cassinii*
Hutton's Vireo	*Vireo huttoni*
Warbling Vireo	*Vireo gilvus*
Steller's Jay	*Cyanocitta stelleri*
Western Scrub-Jay	*Aphelocoma californica*
Clark's Nutcracker	*Nucifraga columbiana*
Common Raven	*Corvus corax*
Horned Lark	*Eremophila alpestris*
Violet-green Swallow	*Tachycineta thalassina*
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*
Cliff Swallow	*Petrochelidon pyrrhonota*
Mountain Chickadee	*Poecile gambeli*
Oak Titmouse	*Baeolophus inornatus*
Bushtit	*Psaltriparus minimus*
Red-breasted Nuthatch	*Sitta canadensis*
White-breasted Nuthatch	*Sitta carolinensis*
Brown Creeper	*Certhia americana*
Rock Wren	*Salpinctes obsoletus*
Canyon Wren	*Catherpes mexicanus*
Bewick's Wren	*Thryomanes bewickii*
House Wren	*Troglodytes aedon*
Winter Wren	*Troglodytes troglodytes*
American Dipper	*Cinclus mexicanus*
Golden-crowned Kinglet	*Regulus satrapa*
Ruby-crowned Kinglet	*Regulus calendula*
Blue-gray Gnatcatcher	*Polioptila caerulea*
Western Bluebird	*Sialia mexicana*
Mountain Bluebird	*Sialia currucoides*
Townsend's Solitaire	*Myadestes townsendi*
Swainson's Thrush	*Catharus ustulatus*
Hermit Thrush	*Catharus guttatus*

Appendix A, continued.

Common Name	Scientific Name[1]
American Robin	*Turdus migratorius*
Wrentit	*Chamaea fasciata*
European Starling	*Sturnus vulgaris*
American Pipit	*Anthus rubescens*
Cedar Waxwing	*Bombycilla cedrorum*
Phainopepla	*Phainopepla nitens*
Orange-crowned Warbler	*Vermivora celata*
Nashville Warbler	*Vermivora ruficapilla*
Yellow Warbler	*Dendroica petechia*
Yellow-rumped Warbler	*Dendroica coronata*
Black-throated Gray Warbler	*Dendroica nigrescens*
Hermit Warbler	*Dendroica occidentalis*
MacGillivray's Warbler	*Oporornis tolmiei*
Common Yellowthroat	*Geothlypis trichas*
Wilson's Warbler	*Wilsonia pusilla*
Western Tanager	*Piranga ludoviciana*
Green-tailed Towhee	*Pipilo Chlorurus*
Spotted Towhee	*Pipilo maculatus*
California Towhee	*Pipilo crissalis*
Rufous-crowned Sparrow	*Aimophila ruficeps*
Chipping Sparrow	*Spizella passerina*
Black-chinned Sparrow	*Spizella atrogularis*
Fox Sparrow	*Passerella iliaca*
Song Sparrow	*Melospiza melodia*
Lincoln's Sparrow	*Melospiza lincolnii*
White-crowned Sparrow	*Zonotrichia leucophrys*
Dark-eyed Junco	*Junco hyemalis*
Black-headed Grosbeak	*Pheucticus melanocephalus*
Rose-breasted Grosbeak	*Pheucticus ludovicianus*
Lazuli Bunting	*Passerina amoena*
Red-winged Blackbird	*Agelaius phoeniceus*
Western Meadowlark	*Sturnella neglecta*
Brewer's Blackbird	*Euphagus cyanocephalus*
Brown-headed Cowbird	*Molothrus ater*
Bullock's Oriole	*Icterus bullockii*
Gray-crowned Rosy-Finch	*Leucosticte tephrocotis*
Pine Grosbeak	*Pinicola enucleator*
Purple Finch	*Carpodacus purpureus*
Cassin's Finch	*Carpodacus cassinii*
House Finch	*Carpodacus mexicanus*
Red Crossbill	*Loxia curvirostra*
Pine Siskin	*Carduelis pinus*

Appendix A, continued.

Common Name	Scientific Name[1]
Lesser Goldfinch	*Carduelis psaltria*
Lawrence's Goldfinch	*Carduelis lawrencei*
Evening Grosbeak	*Coccothraustes vespertinus*
House Sparrow	*Passer domesticus*

[1]Nomenclature follows American Ornithologists' Union (1998).

Appendix B: Scientific Names of All Plant Species Listed in this Report

Common Name	Scientific Name[1]
White Fir	*Abies concolor*
Red Fir	*Abies magnifica*
Mountain Maple	*Acer glabrum*
Big Leaf Maple	*Acer macrophyllum*
Chamise	*Adenostoma fasciculatum*
California Buckeye	*Aesculus californica*
Greenleaf Manzanita	*Arctostaphylos patula*
Low Sagebrush	*Artemisia arbuscula*
Rothrock's Sagebrush	*Artemisia rothrockii*
Big Sagebrush	*Artemisia tridentata*
Mountain Sagebrush	*Artemisia tridentata*
Incense-cedar	*Calocedrus decurrens*
Mountain Whitethorn	*Ceanothus cordulatus*
Deerbrush	*Ceanothus integerrimus*
Ceanothus	*Ceanothus species*
Birchleaf Mountain Mahogany	*Cercocarpus betuloides*
Curl-leaf Mountain Mahogany	*Cercocarpus ledifolius*
Bush Chinquapin	*Chrysolepsis sempervirens*
Ocean Spray	*Holodiscus discolor*
Western Juniper	*Juniperus occidentalis*
Mountain Heather	*Phyllodoce breweri*
Whitebark Pine	*Pinus albicaulis*
Foxtail Pine	*Pinus balfouriana*
Lodgepole Pine	*Pinus contorta*
Jeffrey Pine	*Pinus jeffreyi*
Sugar Pine	*Pinus lambertiana*
Western White Pine	*Pinus monticola*
Ponderosa Pine	*Pinus ponderosa*
Black Cottonwood	*Populus balsmaifera*
Fremont Cottonwood	*Populus fremontii*
Quaking Aspen	*Populus tremuloides*
Bitter Cherry	*Prunus emarginata*
Canyon Live Oak	*Quercus chrysolepsis*
Blue Oak	*Quercus douglasii*
Black Oak	*Quercus kelloggii*
Interior Live Oak	*Quercus wislizenii*
Giant Sequoia	*Sequoiadendron giganteum*
Mountain Hemlock	*Tsuga mertensiana*
Yucca	*Yucca Whipplei*

[1]Nomenclature follows Weeden (1996) and Hickman (1993).

Appendix C: Field Forms

Sequoia and Kings Canyon National Parks VCP Point Count Form

Transcect_________ Date____/____/____ Observer______ Weather____

Starting Northing | | | | | | | |
Starting Easting | | | | | | |
Starting Direction:______ Offset (Y, N):____

Ending Northing | | | | | | | |
Ending Easting | | | | | | |
Protocol (**n**ormal, **r**estrict. hab, **t**rail, **m**ixed—on & offtrail, **d**eliberate):______

TURNS	
Pt. #	New Dir.

Notes:
____
____

Pt	N[1]	Start Time	Species	Dist.	Flyover (count)	Seen First	Ever Sang	I[2]

Pt	N[1]	Start Time	Species	Dist.	Flyover (count)	Seen First	Ever Sang	I[2]

[1]Noise: 1=*no noise*; 2=*gentle babbling brook noise*, probably not missing birds; 3=*babbling creek noise*, might be missing some high-pitched songs/calls of distant birds; 4=*rushing creek noise*, detection radius is probably substantially reduced; 5=*roaring creek/river noise*, probably detecting only the closest/loudest birds.

[2]Interval: 3=first detected during first three minutes of point count; 2=first detected during last two minutes of point count.

Sequoia and Kings Canyon Point Count Vegetation Form—side 1
(adapted from SEKI'S Vegetation Accuracy Assessment Field Form)

Point ___ ___ ___ ___ ___ ___ 1 GIS Hab name_____ 1 GIS Hab code ___ ___ ___ ___

2 GIS Hab name**_____ 2 GIS Hab code** ___ ___ ___ ___

1 Field prov. cmmty. name_____1Field PI code_____

2 Field prov. cmmty. name**_____ 2Field PI code**_____

Park site name _____ Quad name* _____ Quad code*_____

(USE NAD27) Zone 11 S. Plot UTM X __ __ __ __ __ __ E Plot UTM Y __ __ __ __ __ __ __ N Error: +/- _____ m

Loc. Source_____ Survey date (MM/DD/YY): _____/_____/_____ Veg obs: _____ Bird obs: _____

Elevation _____ ft ./ m Slope _____deg. Aspect _____ deg.

**office use only; **optional field*

Topographic Position (*circle one*): Lower 1/3 Mid 1/3 Upper 1/3 Ridge Top Canyon Bottom

Landform _____ Microtopography (*circle one*): Concave Convex Undulating Flat

Soil Moisture (1-3) _____ Standing H2O(sq.-m)_____ Running H2O(1-5)_____ Snags >20cm dbh (a=0, b=1-5, c=6+)_____

Plot/Vegetation Description (*include description of unvegetated cover*):

Ground cover (0.1m or less)	
Type	Cover
snow	%
water	%
rock	%
bare soil/mud/sand	%
litter	%
downed wood	%
grass	%
sedge	%
forb	%
fern	%
shrub	%
tree	%
other1 (specify)	%
other2 (specifiy)	%
other3 (specify)	%
TOTAL	**100%**

Representative of Patch: ____ Yes, ____ No (*If no, comments required below)* Other Habs within 100m:_____, _____

Additional Comments:

IBP's Sequoia and Kings Canyon Point Count Vegetation Form—side 2

(adapted from SEKI'S Vegetation Accuracy Assessment Field Form)

Point___ ___ ___ ___ ___ ___

VEGETATION DESCRIPTION

Leaf Phenology (dominant stratum)

Trees and Shrubs

__Evergreen
__Cold-deciduous
__Drought-deciduous
__Mixed evergreen-cold deciduous
__Mixed evergreen - drought deciduous

Herbs

__ Annual
__Perennial

Leaf Type (of dominant stratum)

__Broad-leaved
__Needle-leaved
__Mixed broad-leaved/ Needle leaved
__Microphyllous
__Graminoid
__Forb
__Pteridophyte

Physiognomic class

__Forest
__Woodland
__Shrubland
__Dwarf Shrubland
__Herbaceous
__Nonvascular
__Sparsely Vegetated

	Stratum % Cover	Ht. (m)	Ht. to base (m) (conifers only)	Species % Cover	Dominant species
T1 Emergent					
T2 Canopy ☐					
T3 Sub-canopy					
S1 Tall shrub ☐					
S2 Short shrub					
S3 Dwarf-shrub					
Botanical Shrub		xxxxxx	xxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	
H Herbaceous		xxxxxxx	xxxxxxxxxxxxx		Forb
		xxxxxxx	xxxxxxxxxxxxxx		Annual grass
		xxxxxxx	xxxxxxxxxxxxxx		Perennial grass
		xxxxxxx	xxxxxxxxxxxxxx		Sedge

Sequoia and Kings Canyon National Parks Point Count Densiometer Readings

Transect:_____ Date:_____ Observer:_____

Note: Please record the number of OPEN quarter-squares!!!

Point 1			
North: _____/96	East: _____/96	South: _____/96	West: _____/96

Point 2			
North: _____/96	East: _____/96	South: _____/96	West: _____/96

Point 3			
North: _____/96	East: _____/96	South: _____/96	West: _____/96

Point 4			
North: _____/96	East: _____/96	South: _____/96	West: _____/96

Point 5			
North: _____/96	East: _____/96	South: _____/96	West: _____/96

Point 6			
North: _____/96	East: _____/96	South: _____/96	West: _____/96

Point 7			
North: _____/96	East: _____/96	South: _____/96	West: _____/96

Point 8			
North: _____/96	East: _____/96	South: _____/96	West: _____/96

Point 9			
North: _____/96	East: _____/96	South: _____/96	West: _____/96

Point 10			
North: _____/96	East: _____/96	South: _____/96	West: _____/96

Point 11			
North: _____/96	East: _____/96	South: _____/96	West: _____/96

Point 12			
North: _____/96	East: _____/96	South: _____/96	West: _____/96

Sequoia/Kings Canyon National Parks Inventory Rare Bird Report Form

Obs.:	Species:	Date: / /2004	Qty:	Northing: __ __ __ __ __ __ __	Easting: __ __ __ __ __ __	Time:
Transect and point, if detected during a point count:						
Description (include diagnostic plumage and vocalization details used to identify the individual, sex, #'s, and any nest sightings or behavior indicative of nesting): _____ _____ _____ _____ _____						

Obs.:	Species:	Date: / /2004	Qty:	Northing: __ __ __ __ __ __ __	Easting: __ __ __ __ __ __	Time:
Transect and point, if detected during a point count:						
Description (include diagnostic plumage and vocalization details used to identify the individual, sex, #'s, and any nest or behavior indicative of nesting): _____ _____ _____ _____ _____						

Hitlist:

All Grebe spp.
All Waterfowl
Merganser spp.
TUVU
WTKI, OSPR
BAEA
NOHA
RSHA, SWHA
SSHA, COHA
NOGO, RTHA
GOEA
AMKE, MERL
PEFA
WTPT
VIRA
Shorebird spp.
All Gull spp.
GRRO
All Owl spp.
CONI, COPO
All Swift Spp.
BEKI
LEWO
NUWO, BBWO
WIFL, GRFL
WEKI
PHAI
AMCR
HOLA
OATI
MAWR
NOMO
AMPI
CEDW, LOSH
COYE, YBCH
CATH
RCSP
SAGS, BCSP
SAVS, GRSP
BRSP, VESP
BTSP
WEME, YHBL
GCRF
PIGR
LAGO

Or anything you even suspect may be unusual or outside its normal range.

Sequoia and Kings Canyon NIGHTLY Owl Survey Form

Obs: ______ Date: ____ /____ /____ Hab: _______

Elev: _____ __ft. __m Start Time: ______ Stop Time: ______

Northing: __ __ __ __ __ __ __ Easting: __ __ __ __ __ __

Description of encounter:

Species	Sex	Dist.	Dir.

Obs: ______ Date: ____ /____ /____ Hab: _______

Elev: _____ __ft. __m Start Time: ______ Stop Time: ______

Northing: __ __ __ __ __ __ __ Easting: __ __ __ __ __ __

Description of encounter:

Species	Sex	Dist.	Dir.

Obs: ______ Date: ____ /____ /____ Hab: _______

Elev: _____ __ft. __m Start Time: ______ Stop Time: ______

Northing: __ __ __ __ __ __ __ Easting: __ __ __ __ __ __

Description of encounter:

Species	Sex	Dist.	Dir.

Sequoia and Kings Canyon OPPORTUNISTIC Owl Detection Form

Obs: ______ Date: ____ /____ /____ Hab: _______

Elev: _____ __ft. __m Time: _______

Northing: __ __ __ __ __ __ __ Easting: __ __ __ __ __ __

Description of encounter:

Species	Sex	Dist.	Dir.

Obs: ______ Date: ____ /____ /____ Hab: _______

Elev: _____ __ft. __m Time: _______

Northing: __ __ __ __ __ __ __ Easting: __ __ __ __ __ __

Description of encounter:

Species	Sex	Dist.	Dir.

Obs: ______ Date: ____ /____ /____ Hab: _______

Elev: _____ __ft. __m Time: _______

Northing: __ __ __ __ __ __ __ Easting: __ __ __ __ __ __

Description of encounter:

Species	Sex	Dist.	Dir.

Appendix D: Metadata for the Avian Inventory Databases

The accompanying CD contains the MS Access file IBP_DATA, comprising six access tables: ibp_pct, ibp_veg, ibp_rare, ibp_density, ibp_nightlyowl, and ibp_oppowl. This appendix serves as metadata for these files. Note that tables referred to in the data field descriptions below are presented at the end of this appendix.

1. Point count data: ibp_pct

This file contains all point count data from both the 2003 and 2004 field seasons.

Field: DATE
Description: The date the point count was conducted (mm/dd/yyyy).

Field: TRANSECT
Description: Identifies transect on which the point was conducted.

Field: POINT
Description: Identifies the point number along the transect.

Field: UNIQPT
Description: Combines transect and 2-digit point number along the transect for each point conducted, providing a unique code for each point. For example, the second point on Transect 2051 would be 205102. **This field may be used to link data in the ibp_pct and ibp_veg databases.**

Field: BIRDOBS
Description: Initials of the point count observer. See Table D1 for full list of observer names.

Field: NOISE
Description: Noise interference, scored from 1 to 5, where 1=no noise, 2=*gentle babbling brook noise*, probably not missing birds; 3=*babbling creek noise*, might be missing some high-pitched songs/calls of distant birds; 4=*rushing creek noise*, detection radius is probably substantially reduced; 5=*roaring creek/river noise*, probably detecting only the closest/loudest birds.

Field: TIME
Description: 4-character field indicating the time of day the point count began.

Field: SPEC
Description: 4-character bird species code. See Table D2 for bird common names and codes used in the databases.

Field: COMMONNAME
Description: Common name of species coded in SPEC field. See Table D2 for bird common names and codes used in the databases.

Field: DIST
Description: Horizontal distance in meters to a bird when it was first detected.

Field: PREV
Description: An 'X' indicates that the same individual was recorded on at least two consecutive points counts. The record with the 'X' indicates the point at which the detected individual was at a greater distance from the observer.

Field: FLY
Description: Indicates the number of birds detected as flyovers.

Field: SEENFIRST
Description: 'Y' indicates the distance to the bird was estimated *after* visually locating the bird. 'N' indicates the distance to the bird was estimated without the use of visual cues.

Field: EVERSANG
Description: 'Y' indicates the bird sang at least once during the five-minute point count. 'N' indicates the bird did not sing during the five-minute point count.

Field: Interval
Description: '3' indicates the bird was first detected in the first three minutes of the five-minute point count period. '2' indicates the bird was first detected in the last two minutes of the five-minute point count period.

Field: Flock
Description: Indicates multiple birds in a flock. A blank field indicates a single individual.

2. Habitat Data: ibp_veg

This file contains habitat data from each of the point count stations visited during the 2003 and 2004 field seasons.

Field: UNIQPT
Description: Combines transect and the point for each point conducted, providing a unique code for each point. **This field may be used to link data between ibp_veg and ibp_pct.**

Field: BHABCODE
Description: Indicates the bird habitat classification into which the point was assigned; this is the habitat designation on which we based our analyses. See Table D3 for a list of bird habitat classification names and codes.

Field: BHAB
Description: Full text name for coded BHABCODE field. See Table D3 for a list of bird habitat classification names and codes.

Field: CMTY1
Description: Field provisional community name classified in the field at the point using the National Vegetation Classification List (NatureServe 2004). Association-level classifications were made when possible; alliance-level classifications were made when association level classification was not possible. See Table D4 for a list of field provisional community names and codes.

Field: CMTY1CODE
Description: Four digit code for the associated field provisional community name entered in the CMTY1 field. See Table D4 for a list of field provisional community names and codes.

Field: CMTY2
Description: The secondary plant community on the vegetation plot when the vegetation plot encompassed more than one identifiable plant community. Association level classifications made when possible; alliance level classifications made when association level classification not apparent. See Table D4 for a list of field provisional community names and codes.

Field: CMTY2CODE
Description: Four digit code for the associated field provisional community name entered in the CMTY2 field. See Table D4 for a list of field provisional community names and codes.

Field: PARKSITE
Description: The closest prominent feature with a name on the USGS topographic map.

Field: UTMX
Description: The Universal Transverse Mercator easting, recorded using NAD27, of the vegetation survey plot. UTM's were recorded in the field, at the survey plot using a GPS unit and map.

Field: UTMY
Description: The Universal Transverse Mercator northing, recorded using NAD27, of the vegetation survey plot. UTM's were recorded in the field, at the survey plot using a GPS unit and map.

Field: UTMERROR
Description: The error, recorded in meters, of the UTM location as given by the GPS unit.

Field: LOCSOURCE
Description: Indicates how the field observer obtained the UTM coordinates. 'G' indicates the field observer used a GPS unit (low-cost Garmin GPS model) in conjunction with a map to obtain the coordinates. 'M' indicates the observer used a map but not a GPS unit in obtaining the coordinates.

Field: ELEVFT
Description: Elevation in feet, as determined by observers from topographic maps in the field.

Field: ELEVM
Description: Elevation in feet, as determined by observers from topographic maps in the field.

Field: DATE
Description: The date the vegetation was sampled (mm/dd/yyyy).

Field: VEGOBS
Description: Initials of the vegetation observer. See Table D1 for full list of observer names.

Field: BIRDOBS
Description: Initials of the point count observer. See Table D1 for full list of observer names.

Field: SLOPE
Description: Average slope (degrees) of the 40 m radius point count circle, measured with a clinometer. **'99' indicates no data were collected in the field.**

Field: ASPECT
Description: Compass degrees indicating the dominant aspect of the 40-m radius vegetation plot.

Field: TOPOPOSI
Description: Landscape level topographic position selected from a list on the data sheet. Topographic position choices on the data sheet included: 'Lower 1/3', 'Mid 1/3', 'Upper 1/3', 'Ridge Top', and 'Canyon Bottom'.

Field: LANDFORM
Description: The landform best describing the vegetation survey.

Field: MICROTOP
Description: The microtopography best describing the vegetation survey plot. Microtopography choices on the data form included: 'Concave', 'Convex', 'Undulating', and 'Flat'.

Field: MOIST
Description: Soil moisture in the 40-m radius circle. 1=dry, 2=moist, 3=wet.

Field: STANDH20
Description: Area (square meters) of the 40-m radius circle covered in standing water.

Field: RUNH20
Description: Index describing running water in the 40-m radius circle. 1=none, 2=trickle, 3=small stream, 4=large stream, 5=river.

Field: ROCKPRES
Description: Y=exposed rock is a substantial enough feature of the habitat to affect bird usage of the area, N=little or no exposed rock.

Field: SNAGS
Description: Indicates the number of snags present in the vegetation survey plot. A = 0, B = 1-5, C = 6+.

The following fields (GCSNOW – GCOTHER2CO) refer to ground cover below 0.1 m above ground.

Field: GCSNOW
Description: Percent of ground covered by snow.

Field: GCWATER
Description: Percent of ground covered by standing or running water.

Field: GCROCK
Description: Percent of ground comprised of exposed rock.

Field: GCSOIL
Description: Percent of ground comprised of bare soil.

Field: GCLITTER
Description: Percent of ground covered by organic litter.

Field: GCDW
Description: Percent of ground covered by downed wood.

Field: GCGRASS
Description: Percent of ground covered by grass.

Field: GCSEDGE
Description: Percent of ground covered by sedge.

Field: GCFORB
Description: Percent of ground covered by forbs.

Field: GCFERN
Description: Percent of ground covered by ferns.

Field: GCSHRUB
Description: Percent of ground covered by shrubs.

Field: GCTREE
Description: Percent of ground covered by tree foliage.

Field: GCOTHER1ID
Description: One-word description of any additional ground-cover item.

Field: GCOTHER1COV
Description: Percent of ground covered by item indicated in GCOTHER1ID.

Field: GCOTHER2ID
Description: One-word description of any additional ground-cover item.

Field: GCOTHER2COV
Description: Percent of ground covered by item indicated in GCOTHER2ID.

Field: PLOTVEGDES
Description: A written description of the vegetation plot including the slope, aspect, dominant species in each vegetation layer, topography, and ground cover.

Field: REPOFPATCH
Description: 'Y' indicates the vegetation of the sample plot was representative of the vegetation in the surrounding area outside of the sample plot. 'N' indicates the vegetation of the sample plot was not representative of the vegetation in the surrounding area outside of the sample plot.

Field: OTHERHAB1
Description: Four-character code indicating the presence of other habitat types outside of the 40-m radius circle but within 100 m of the center of the vegetation plot. Four-character habitat codes, indicating CWHR habitats, are provided in Table D5.

Field: OHAB1HOLLA
Description: Five-digit code indicating the presence of other habitat types outside of the 40-m radius circle but within 100 m of the center of the vegetation plot. Five-digit codes based on the Parks' 'Holland' (wildlife observation) Classification System. See Table D6 for the list of 'Holland' Classification System names and codes.

Field: OTHERHAB2
Description: Four-character code indicating the presence of other habitat types outside of the 40-m radius circle but within 100 m of the center of the vegetation plot when more

than one “Other Habitat” was present . Four-character habitat codes based the CWHR-based GIS coverage. See Table D5 for list of CWHR codes.

Field: OHAB2HOLLA
Description: Five-digit code indicating the presence of other habitat types outside of the 40-m radius circle but within 100 m of the center of the vegetation plot when more than one “Other Habitat” was present. Five-digit codes are based on the Parks’ ‘’’ (wildlife Observation) Classification System. See Table D6 for list of ‘Holland’ Classification System name and codes.

Field: REPCOMMENT
Description: Written comments elaborating on how the surrounding area differed from the vegetation plot; this field was only completed when an entry of ‘No’ was recorded in the REPOFPATCH field.

Field: ADDCOMMENT
Description: Miscellaneous additional comments regarding the vegetation sample plot, such as successional stage, evidence of fire history, insect damage, etc.

Field: LEAFPHEN
Description: Best descriptor of leaf phenology of the uppermost vegetation stratum containing at least 10 percent vegetative cover on the sample plot. Leaf phenology categories included: Evergreen, Cold Deciduous, Drought Deciduous, Mixed Evergreen-Cold Deciduous, and Perennial.

Field: HERBS
Description: Best descriptor of the leaf phenology of the herbaceous vegetation stratum on the sample plot . ‘Annual’ was selected if herbaceous vegetation was composed of more than 50% annual species. ‘Perennial’ was selected if herbaceous vegetation was composed of more than 50% perennial species. Observers did not select either in cases where they could not determine herbaceous leaf phenology.

Field: LEAFTYPE
Description: Best descriptor of the leaf type of the uppermost vegetation stratum containing at least 10 percent vegetative cover on the sample plot. Leaf types included: Broad-leaved, Needle-leaved, Mixed Broad-leaved/Needle-leaved, Microphyllous, Graminoid, Forb, and Pteridophyte.

Field: PHYSCLASS
Description: Best descriptor of the physiognomy of the habitat on the sample plot. Physiognomy types included: Forest (trees > 5 m tall with crown interlocking and forming 60-100 percent cover), Woodland (open stand of trees > 5 m in height, crowns not touching but forming 25-60 percent cover), Shrubland (shrubs and/or small trees usually 0.5 – 5 m in height, clumps not touching to interlocking and generally forming > 25 percent canopy cover, trees [if present] forming < 10 percent cover), Dwarf Shrubland (low growing shrubs and/or trees usually under 0.5 m tall generally forming > 25 percent cover, clumps not touching to interlocking, trees [if present] forming < 10 percent cover),

Herbaceous (graminoids and/or forbs [including ferns] generally forming > 10 percent cover, all other vascular vegetation [if present] forming < 10 percent cover), Nonvascular (mosses and lichens forming > 10 percent cover, all other vegetation [if present] forming < 10 percent cover), Sparsely Vegetated (vascular vegetation [if present] is scattered or nearly absent, the cover of each vascular life form is at most 10 percent).

Field: T1COV
Description: Ocular percent cover estimate of all species recorded in the emergent (T1) tree layer.

Field: T1AHT
Description: Average height (m) of the species recorded in the T1ANAME field.

Field: T1ABASE
Description: Average height (m) to base, from the ground to the lowest growing branches, of the species recorded in the T1ANAME field. This field was only completed for coniferous tree species and only when a clear height to base was apparent for the species.

Field: T1ACOV
Description: Ocular estimate of percent cover for the species recorded in the T1ANAME field.

Field: T1AID
Description: Six letter code (first three letters of the genus followed by the first three letters of the species) for the species recorded in the T1ANAME field. See Table D7 for a complete list of the common names, scientific names, and six letter codes found in the tree field in the database.

Field: T1ANAME
Description: The common name of the first species recorded in the T1 (emergent) tree layer. See Table D7 for a complete list of the common names, scientific names, and six letter codes found in the tree fields in the database.

Field: T1BHT
Description: Average height (m) of the species recorded in T1BNAME field.

Field: T1BBASE
Description: Average height (m) to base, from the ground to the lowest growing branches, of the species recorded in the T1BNAME field. This field only recorded for coniferous tree species and only when a clear height to base was apparent for the species.

Field: T1BCOV
Description: Ocular estimate of percent cover for the species recorded in the T1BNAME field.

Field: T1BID
Description: Six letter code (first three letters of the genus followed by the first three letters of the species) for the species recorded in the T1BNAME field. See Table D7 for a complete list of the common names, scientific names, and six letter codes found in the tree fields in the database.

Field: T1BNAME
Description: The common name of the second species recorded in the T1 (emergent) tree layer. See Table D7 for a complete list of the common names, scientific names, and six letter codes found in the tree fields in the database.

Field: ALLCANCOV
Description: Ocular estimate of total percent cover for all species recorded in the three trees layers: emergent (T1), canopy (T2), and subcanopy (T3).

Field: T2COV
Description: Ocular estimate of percent cover of the all species recorded in the canopy (T2) tree layer.

Field: T2AHT
Description: Average height (m) of the species recorded in T2ANAME field.

Field: T2ABASE
Description: Average height (m) to base, from the ground to the lowest growing branches, of the species recorded in the T2ANAME field. This field was only completed for coniferous tree species and only when a defined height to base was apparent for the species.

Field: T2ACOV
Description: Ocular estimate of percent cover for the species recorded in the T2ANAME field.

Field: T2AID
Description: Six letter code (first three letters of the genus followed by the first three letters of the species) for the species recorded in the T2ANAME field. See Table D7 for a complete list of the common names, scientific names, and six letter codes found in the tree fields in the database.

Field: T2ANAME
Description: The common name of the first species recorded in the T2 (canopy) tree layer. See Table D7 for a complete list of the common names, scientific names, and six letter codes found in the tree fields in the database.

Fields: T2BHT through T2ENAME
Description: Fields follow the same conventions as T2AHT to T2AID fields, but applied to the four successive species indicated in the T2BNAME, T2CNAME, T2DNAME, and T2ENAME fields respectively.

Field: T3COV
Description: Ocular estimate of percent cover of the all species recorded in the subcanopy (T3) tree layer.

Field: T3AHT
Description: Average height (m) of the species recorded in T3ANAME field.

Field: T3ABASE
Description: Average height (m) to base, from the ground to the lowest growing branches, of the species recorded in the T3ANAME field. This field only completed for coniferous tree species and only when a clear height to base was apparent for the species.

Field: T3ACOV
Description: Ocular estimate of percent cover for the species recorded in the T3ANAME field.

Field: T3AID
Description: Six letter code (first three letters of the genus followed by the three four letters of the species) for the species recorded in the T3ANAME field. See Table D7 for a complete list of the common names, scientific names, and six letter codes found in the tree fields in the database.

Field: T3ANAME
Description: The common name of the first species recorded in the T3 (canopy) tree layer. See Table D7 for a complete list of the common names, scientific names, and six letter codes found in the tree fields in the database.

Fields: T3BHT through T3DNAME
Description: Fields follow the same conventions as T3AHT to T3AID fields, but applied to the three successive species indicated in the T3BNAME, T3CNAME, and T3DNAME fields respectively.

Field: ALLSHRUBCO
Description: Ocular estimate of total percent cover for all species recorded in the three shrub layers: tall shrub (S1), short shrub (S2), and dwarf shrub (S3).

Field: S1COV
Description: Ocular estimate of percent cover of the all species recorded in the tall shrub (S1) layer.

Field: S1AHT
Description: Average height (m) of the species recorded in S1ANAME field.

Field: S1ABASE
Description: Average height (m) to base, from the ground to the lowest growing branches, of the species recorded in the S1ANAME field. This field only completed for coniferous tree species and only when a clear height to base was apparent for the species.

Field: S1ACOV
Description: Ocular estimate of percent cover for the species recorded in the S1ANAME field.

Field: S1AID
Description: Six letter code (first three letters of the genus followed by the first three letters of the species) for the species recorded in the S1ANAME field. See Table D8 for a complete list of the common names, scientific names, and six letter codes found in the shrub fields in the database.

Field: S1ANAME
Description: The common name of the first species recorded in the S1 (tall shrub) layer. See Table D8 for a complete list of the common names, scientific names, and six letter codes found in the shrub fields in the database.

Fields: S1BHT through S1DNAME
Description: Fields follow the same conventions as S1AHT to S1AID fields, but applied to the three successive species indicated in the S1BNAME, S1CNAME, and S1DNAME fields respectively.

Field: S2COV
Description: Ocular estimate of percent cover of the all species recorded in the short shrub (S2) layer.

Field: S2AHT
Description: Average height (m) of the species recorded in S2ANAME field.

Field: S2ABASE
Description: Average height (m) to base, from the ground to the lowest growing branches, of the species recorded in the S2ANAME field. This field only completed for coniferous tree species and only when a clear height to base was apparent for the species.

Field: S2ACOV
Description: Ocular estimate of percent cover for the species recorded in the S2ANAME field.

Field: S2AID
Description: Six letter code (first three letters of the genus followed by the first three letters of the species) for the species recorded in the S2ANAME field. See Table D8 for a complete list of the common names, scientific names, and six letter codes found in the shrub fields in the database.

Field: S2ANAME
Description: The common name of the first species recorded in the S2 (short shrub) layer. See Table D8 for a complete list of the common names, scientific names, and six letter codes found in the shrub fields in the database.

Fields: S2BHT through S2DNAME
Description: Fields follow the same conventions as S1AHT to S1AID fields, but applied to the three successive species indicated in the S2BNAME, S2CNAME, and S2DNAME fields respectively.

Field: S3COV
Description: Ocular estimate of percent cover of the all species recorded in the dwarf-shrub (S3) layer.

Field: S3AHT
Description: Average height (m) of the species recorded in S3ANAME field.

Field: S23BASE
Description: Average height (m) to base, from the ground to the lowest growing branches, of the species recorded in the S3ANAME field. This field was only completed for coniferous tree species and only when a clear height to base was apparent for the species.

Field: S3ACOV
Description: Ocular estimate of percent cover for the species recorded in the S3ANAME field.

Field: S3AID
Description: Six letter code (first three letters of the genus followed by the first three letters of the species) for the species recorded in the S3ANAME field. See Table D8 for a complete list of the common names, scientific names, and six letter codes found in the shrub fields in the database.

Field: S3ANAME
Description: The common name of the first species recorded in the S3 (dwarf-shrub) layer. See Table D8 for a complete list of the common names, scientific names, and six letter codes found in the shrub fields in the database.

Fields: S3BHT through S3DNAME
Description: Fields follow the same conventions as S1AHT to S1AID fields, but applied to the species indicated in the S3BNAME field.

Field: BSCOV
Description: Ocular estimate of percent cover of the all botanical shrub species (not including any trees of shrub height present in the layer) recorded in the all three shrub layers (S1, S2, and S3).

Field: HCOV
Description: Ocular estimate of percent cover for all categories in the herbaceous layer (including forb, annual grass, perennial grass, and sedge).

Field: FORBCOV
Description: Ocular estimate of percent cover for all forb species present in the herbaceous layer.

Field: ANGRASSCOV
Description: Ocular estimate of percent cover for all annual grass species present in the herbaceous layer.

Field: PEGRASSCOV
Description: Ocular estimate of percent cover for all perennial grass species present in the herbaceous layer.

Field: SEDGECOV
Description: Ocular estimate of percent cover for all sedge species present in the herbaceous layer.

Field: DNORTH
Description: Number of open vertices (out of 96 possible) on the spherical densiometer face, when the observer was facing north. **999 signifies no data were collected.**

Field: DEAST
Description: Number of open vertices (out of 96 possible) on the spherical densiometer face, when the observer was facing east. **999 signifies no data were collected.**

Field: DSOUTH
Description: Number of open vertices (out of 96 possible) on the spherical densiometer face, when the observer was facing south. **999 signifies no data were collected.**

Field: DWEST
Description: Number of open vertices (out of 96 possible) on the spherical densiometer face, when the observer was facing west. **999 signifies no data were collected.**

3. Rare Bird Report Data: ibp_rare

This file contains documentation of notable, unexpected, or otherwise poorly documented species that our crews detected in the parks at times other than during point counts.

Field: SPEC
Description: 4-character bird species code. See Table D2 for bird common names and codes used in the databases.

Field: COMMONNAME
Description: Common name of species coded in SPEC field.

Field: OBSERVER
Description: Initials of the observer. MOB = Many Observers; see Table D1 for all other observer names.

Field: DATE
Description: The date the bird was observed (mm/dd/yyyy).

Field: QUANTITY
Description: The number of birds detected of the indicated species.

Field: NORTHING
Description: UTM northing (NAD27) of the detection.

Field: EASTING
Description: UTM easting (NAD27) of the detection.

Field: DETAILS
Description: Details regarding encounter and identification of species.

4. Species- and habitat-specific density estimates: ibp_density

This file contains habitat-specific density estimates and associated information for all species detected during point counts.

Field: BHABCODE
Description: Signifies the bird habitat classification used to analyze the data for the point. See Table D3 for a list of bird habitat classification names and codes.

Field: BHABNAME
Description: Complete name of each bird habitat classification type. See Table D3 for a list of bird habitat classification names and codes.

Field: SPEC
Description: 4-character bird species code. See Table D2 for bird species codes.

Field: COMMONNAME
Description: Common name of species coded in SPEC field.

Field: PERPOINTS
Description: Percent of points in the indicated habitat at which the species was detected (includes flyovers).

Field: NUMBUMBPTS
Description: Number of points in the indicated habitat at which the species was detected (includes flyovers).

Field: ALLDETS
Description: Number of individual detections of the indicated species in the indicated habitat, excluding flyovers.

Field: L50DETS
Description: Number of individual detections within 50 m of the observer of the indicated species in the indicated habitat, excluding flyovers.

Field: UNADJDEN
Description: Unadjusted density (birds per ha), based on the number of detections within 50 m of the observer, **with no adjustment for detectability.**

Field: D
Description: Adjusted density (birds per ha), calculated using Distance 4.0 Release 2.

Field: CV
Description: Coefficient of variation of the density estimate, expressed as a percentage, as calculated by the Distance software.

Field: DF
Description: Degrees of freedom of the density estimate, as calculated by the Distance software.

Field: L95CI
Description: Lower bound of the 95% confidence interval of the density estimate, as calculated by the Distance software.

Field: H95CI
Description: Upper bound of the 95% confidence interval of the density estimate, as calculated by the Distance software.

5. Opportunistic Owl Detection Data: ibp_oppowl

This file contains information on opportunistically gathered owl detections from the 2003 and 2004 field seasons.

Field: OBS1
Description: Initials of the first observer. See Table D1 for full list of observer names.

Field: OBS2
Description: Initials of the second observer, if two observers were present. See Table D1 for full list of observer names.

Field: DATE
Description: The date of the owl detection in mm/dd/yyyy format.

Field: HAB
Description: The habitat in which the bird was detected. Numeric habitat codes (recorded during our 2003 field season) are based on the 'Holland' classification system. See Table D6 for a complete list of 'Holland' habitats and corresponding codes. Character habitat codes (recorded during our 2004 field season) are based on the CWHR classification system. See Table D5 for a complete list of CWHR-based habitat names and codes.

Field: ELEVFT
Description: The elevation, in feet, of the detection location.

Field: TIME
Description: 4-character field indicating the time the owl was detected.

Field: UTMX
Description: The Universal Transverse Mercator easting, recorded using NAD27, taken where the observer was when (s)he detected the owl.

Field: UTMY
Description: The Universal Transverse Mercator northing, recorded using NAD27, taken where the observer was when (s)he detected the owl.

Field: SPEC
Description: 4-character bird species code. See Table D2 for bird common names and codes used in the databases.

Field: COMMONNAME
Description: Common name of species coded in SPEC field. See Table D2 for bird common names and codes used in the databases.

Field: SEX
Description: The sex of the detected owl. Recorded only if determinable from diagnostic behavior and/or vocalizations.

Field: DIST
Description: Estimate of horizontal distance in meters to the owl when it was first detected.

Field: DIR
Description: The declinated compass bearing in degrees.

Field: NOTES
Description: Contains any associated field notes regarding the detection or the detection location.

6. Nightly Owl Survey Data: ibp_nightlyowls

This file contains data from the nightly owl surveys conducted during the 2003 field season.

Field: OBS1
Description: Initials of the first observer. See Table D1 for a complete list of observer names and initials.

Field: OBS2
Description: Initials of the second observer. See Table D1 for a complete list of observer names and initials.

Field: DATE
Description: The date of the SURVEY in mm/dd/yyyy format.

Field: HAB
Description: The habitat in which the bird was detected. Numeric habitat codes are based on the 'Holland' classification system. See Table D6 for a complete list of 'Holland' habitats and corresponding codes.

Field: ELEVFT
Description: The elevation, in feet, of the detection location.

Field: START
Description: 4-character field indicating the start time of the survey.

Field: STOP
Description: 4-character field indicating the stop time of the survey.

Field: UTMX
Description: The Universal Transverse Mercator easting, recorded using NAD27, taken at the location of the owl survey.

Field: UTMY
Description: The Universal Transverse Mercator northing, recorded using NAD27, taken at the location of the owl survey.

Field: SPEC1
Description: 4-character bird species code for the first species detected. See Table D2 for bird common names and codes used in the databases.

Field: COMMONNAME
Description: Common name of species coded in SPEC1 field. See Table D2 for bird common names and codes used in the databases.

Field: SPEC1QTY
Description: The number of detected individuals of species 1.

Field: SPEC2
Description: 4-character bird species code for the second species detected. See Table D2 for bird common names and codes used in the databases.

Field: SPEC2QTY
Description: The number of detected individuals of species 2.

Field: NOTES
Description: Contains any associated field notes regarding the detections or the detection location.

Table D1. Field observers' names and initials.

Name	Initials
Arden Thomas	AT
Bob Wilkerson	BW
Christian Artuso	CA
Dan Hernandez	DH
Juliette Juillerat	JJ
Kevin Jablonski	KJ
Kevin Pietrzak	KP
Lauren Mork	LM
Neil Clipperton	NC
Rodney Siegel	RS
Stephanie Dolrenry	SD
Susan Mortenson	SM

Table D2. Bird common names and codes used in the databases.

Common Name	Code[1]	Common Name	Code[1]
Acorn Woodpecker	ACWO	European Starling	EUST
American Dipper	AMDI	Evening Grosbeak	EVGR
American Kestrel	AMKE	Flammulated Owl	FLOW
American Pipit	AMPI	Fox Sparrow	FOSP
American Robin	AMRO	Great Blue Heron	GBHE
Anna's Hummingbird	ANHU	Golden-crowned Kinglet	GCKI
Ash-throated Flycatcher	ATFL	Gray-crowned Rosy-Finch	GCRF
Black-chinned Sparrow	BCSP	Great Horned Owl	GHOW
Belted Kingfisher	BEKI	Golden Eagle	GOEA
Bewick's Wren	BEWR	Green-tailed Towhee	GTTO
Blue-gray Gnatcatcher	BGGN	Hammond's Flycatcher	HAFL
Brown-headed Cowbird	BHCO	Hairy Woodpecker	HAWO
Black-chinned Hummingbird	BCHU	Hermit Thrush	HETH
Black-headed Grosbeak	BHGR	Hermit Warbler	HEWA
Black Phoebe	BLPH	House Finch	HOFI
Black Swift	BLSW	Horned Lark	HOLA
Blue Grouse	BLUG	House Sparrow	HOSP
Brewer's Blackbird	BRBL	House Wren	HOWR
Brown Creeper	BRCR	Hutton's Vireo	HUVI
Band-tailed Pigeon	BTPI	Killdeer	KILL
Black-throated Gray Warbler	BTYW	Lawrence's Goldfinch	LAGO
Bullock's Oriole	BUOR	Lazuli Bunting	LAZB
Bushtit	BUSH	Lesser Goldfinch	LEGO
Cassin's Finch	CAFI	Lincoln's Sparrow	LISP
Calliope Hummingbird	CAHU	Mallard	MALL
California Towhee	CALT	MacGillivray's Warbler	MGWA
Canyon Wren	CANW	Mountain Bluebird	MOBL
California Quail	CAQU	Mountain Chickadee	MOCH
Cassin's Vireo	CAVI	Mourning Dove	MODO
Cedar Waxwing	CEDW	Mountain Quail	MOUQ
Chipping Sparrow	CHSP	Nashville Warbler	NAWA
Clark's Nutcracker	CLNU	Northern Flicker	NOFL
Cliff Swallow	CLSW	Northern Goshawk	NOGO
Cooper's Hawk	COHA	Northern Harrier	NOHA
Common Merganser	COME	No Birds Detected	NONE
Common Nighthawk	CONI	Northern Pygmy-Owl	NOPO
Common Poorwill	COPO	Northern Rough-winged Swallow	NRWS
Common Raven	CORA	Nuttall's Woodpecker	NUWO
Common Yellowthroat	COYE	Oak Titmouse	OATI
Dark-eyed Junco	DEJU	Orange-crowned Warbler	OCWA
Downy Woodpecker	DOWO	Olive-sided Flycatcher	OSFL
Dusky Flycatcher	DUFL	Osprey	OSPR

Table D2, continued.

Common Name	Code
Peregrine Falcon	PEFA
Phainopepla	PHAI
Pine Grosbeak	PIGR
Pine Siskin	PISI
Pileated Woodpecker	PIWO
Pacific-slope Flycatcher	PSFL
Purple Finch	PUFI
Red-breasted Nuthatch	RBNU
Red-breasted Sapsucker	RBSA
Ruby-crowned Kinglet	RCKI
Rufous-crowned Sparrow	RCSP
Red Crossbill	RECR
Rock Wren	ROWR
Red-shouldered Hawk	RSHA
Red-tailed Hawk	RTHA
Rufous Hummingbird	RUHU
Red-winged Blackbird	RWBL
Rose-breasted Grosbeak	RBGR
Say's Phoebe	SAPH
Song Sparrow	SOSP
Spotted Owl	SPOW
Spotted Sandpiper	SPSA
Spotted Towhee	SPTO
Sharp-shinned Hawk	SSHA
Steller's Jay	STJA
Swainson's Thrush	SWTH
Townsend's Solitaire	TOSO
Turkey Vulture	TUVU
Unidentified Bird	UNBI
Unidentified Carpodacus	UNCA
Unidentified Empidonax	UNEM
Unidentified Finch	UNFI
Unidentified Flycatcher	UNFL
Unidentified Hawk	UNHA
Unidentified Hummingbird	UNHU
Unknown Species	UNKN
Unidentified Sapsucker	UNSA
Unidentified Sparrow	UNSP
Unidentified Swallow	UNSW
Unidentified Warbler	UNWA
Unidentified Woodpecker	UNWO
Unidentified Swift	USWI
Vaux's Swift	VASW
Violet-green Swallow	VGSW
Warbling Vireo	WAVI
White-breasted Nuthatch	WBNU
White-crowned Sparrow	WCSP
Western Bluebird	WEBL
Western Kingbird	WEKI
Western Meadowlark	WEME
Western Scrub-Jay	WESJ
Western Screech-Owl	WESO
Western Tanager	WETA
Western Wood-Pewee	WEWP
White-headed Woodpecker	WHWO
Williamson's Sapsucker	WISA
Wilson's Warbler	WIWA
Winter Wren	WIWR
Wrentit	WREN
White-tailed Ptarmigan	WTPT
White-throated Swift	WTSW
Yellow-rumped Warbler	YRWA
Yellow Warbler	YWAR

[1] Codes follow Pyle and DeSante (2003).

Table D3. NVCS-based habitat names and codes used in the databases. Habitat names and codes follow ESRI and Aerial Information Systems (2004) except for instances where we aggregated plant communities to define our own bird habitats (eg. Ponderosa Pine/Incense Cedar Forest) or split plant communities based on elevation (e.g. Low, Mid, and Higher Elevation Meadow). In these instances we assigned our own codes.

Bird Habitat Classification	Code
Lower Elevation Rock/Sparsely Vegetated	0942
Mid Elevation Rock/Sparsely Vegetated	0943
Higher Elevation Rock/Sparsely Vegetated	0944
Canyon Live Oak Forest	1020
Interior Live Oak-Canyon Live Oak-California Buckeye Woodland	1049
Aspen Forest	2010
California Black Oak Forest	2020
Blue Oak Woodland	2030
Undifferentiated Riparian	2099
Lodgepole Pine Forest	3020
Ponderosa Pine Woodland	3050
Ponderosa Pine/Incense-cedar Forest	3064
Jeffrey Pine Woodland	3070
Western White Pine Woodland	3130
Whitebark Pine Woodland	3140
Foxtail Pine	3200
Giant Sequoia Forest	4020
Red Fir Forest	4050
Red Fir/White Fir Forest	4070
White Fir/Sugar Pine Forest	4080
Western Juniper Woodland	4100
Mixed Chaparral	5000
Montane Chaparral	5079
Sagebrush/Subalpine & Alpine Dwarf Shrubland	5370
Lower Elevation Meadow	8965
Mid Elevation Meadow	8966
Higher Elevation Meadow	8967
Undifferentiated Post-fire	9999

Table D4. Field provisional community names and codes used in the database.

Field Provisional Community Name[1]	Code
Alpine Talus Slope	0100
Alpine Scree Slope	0200
Alpine Snow Patch Communities	0300
Alpine Fell-field	0400
Mesic Rock Outcrop	0500
Boulder Field	0700
Post Fire	0910
Sparsely Vegetated Undifferentiated	0940
Non-alpine Talus	0950
Rock Outcrop Undifferentiated	0960
Sparsely Vegetated To Non-vegetated Exposed Rock	0961
Sparsely Vegetated Rocky Streambed	0965
Water	0980
Canyon Live Oak Forest Alliance	1020
Canyon Live Oak/Birchleaf Mountain Mahogany Mapping Unit	1021
Canyon Live Oak/(Whiteleaf Manzanita-Mewuk Manzanita) Mapping Unit	1022
Canyon Live Oak-Ponderosa Pine And Incense-cedar Superassociation	1023
Canyon Live Oak-California Bay Association	1024
Canyon Live Oak/Greenleaf Manzanita Association	1029
Interior Live Oak Woodland Alliance	1040
Interior Live Oak/Whiteleaf Manzanita Associaiton	1042
Interior Live Oak-Canyon Live Oak Association	1043
Interior Live Oak-California Buckeye/Birchleaf Mountain Mahogany -(CA Redbud)	1044
Canyon Live Oak/CA Buckeye & Interior Live Oak/CAa Buckeye Mapping Unit	1501
Aspen Forest Alliance	2010
Aspen/ CA Corn Lily Association	2011
Aspen/ Shrub Willow Spp. Riparian Mapping Unit	2013
Aspen/shrub Willow Spp. High Elevation Talus Mapping Unit	2014
Aspen-jeffery Pine/(Big Sagebrush) Association	2015
Aspen/ Big Sagebrush & Mountain Pennyroyal/ Kellogia Superassociation	2016
California Black Oak Forest Alliance	2020
Black Oak/ Greenleaf Manzanita Association	2021
Black Oak/Mewuk Manzanita-mountain Misery Association	2026
Black Oak/Herbaceous Mapping Unit	2027
Black Oak/California Buckeye Association	2028
Blue Oak Woodland Alliance	2030
Blue Oak/Herbaceous Mapping Unit	2033
Blue Oak-Interior Live Oak/Herbaceous Mapping Unit	2034
Blue Oak/California Buckeye-Interior Live Oak	2038
Black Cottonwood Temporarily Flooded Forest Alliance	2050
White Alder Temporarily Flooded Forest Alliance	2060
Big Leaf Maple Forest Alliance	2080
Fremont Cottonwood Alliance	2090

Table D4, continued.

Field Provisional Community Name[1]	Code
Fremont Cottonwood/Willow Spp. Mapping Unit	2091
CA Sycamore Temporarily-Flooded Woodland Alliance	2100
CA Buckeye Woodland Alliance	2110
CA Buckeye/ Birchleaf Mountain Mahogany-CA Red Bud-Interior Live Oak	2111
CA Buckeye-Interior Live Oak-Canyon Live Oak-CA Bay	2112
California Buckeye-Interior Live Oak	2113
California Buckeye-Interior Live Oak	2114
Lodgepole Pine-Aspen Mapping Unit	3010
Lodgepole Pine-Aspen-Jeffrey Pine/Riparian Mapping Unit	3011
Lodgepole Pine-Aspen/Meadow Mapping Unit	3012
Lodgepole Pine Forest Alliance	3020
Lodgepole Pine Sparse/Rock Outcrop Mapping Unit	3021
Lodgepole/(Western Blueberry) Meadow Edge Mapping Unit	3022
Lodgepole-Jeffrey Pine Mapping Unit	3023
Lodgepole Pine-Whitebark Pine-Foxtail Pine Mapping Unit	3024
Lodgepole Pine-Foxtail Pine/Dry Of The Upper Kern Mapping Unit	3025
Lodgepole Pine-Whitebark Pine/Ross Sedge Association	3033
Lodgepole Pine/Big Sagebrush Association	3034
Lodgepole Pine/Woodland Association	3038
Lodgepole/Ross Sedge Association	3041
Lodgepole Pine/Shorthair Sedge	3042
Lodgepole Pine-Whitebark Pine/Shorthair Sedge Association	3043
Lodgepole Pine Mesic Expression Mapping Unit	3048
Lodgepole Dry Expression Mapping Unit	3049
Ponderosa Pine Woodland Alliance	3050
Ponderosa Pine/Whiteleaf Manzanita Woodland Association	3053
Ponderosa Pine-Incense-cedar Forest Alliance	3060
Ponderosa Pine-Incense-cedar-canyon Live Oak/Mountain Misery Association	3061
Ponderosa Pine-Incense Cedar/Mountain Misery Association	3062
Ponderosa Pine-Incense-cedar-Black Oak Association	3063
Jeffrey Pine Woodland Alliance	3070
Jeffrey Pine/Greenleaf Manzanita Association	3072
Jeffrey Pine/Mountain Whitethorn	3073
Jeffery Pine-white Fir/Squirrel Tail Grass Association	3083
Jeffrey Pine-Canyon Live Oak/Whiteleaf Manzanita Association	3084
Jeffrey Pine-Red Fir Association	3085
Jeffrey Pine-White Fir & White Fir-Sugar Pine-Jeffrey Pine Mapping Unit	3086
Western White Pine Woodland Alliance	3130
Western White Pine-Lodgepole Pine Association	3132
Western White Pine/Mixed Shrub Mapping Unit	3133
Whitebark Pine Woodland Alliance	3140
Western White Pine/Shorthair Sedge Association	3144
Whitebark Pine-Foxtail Pine-Lodgepole Pine Mapping Unit	3145

Table D4 continued.

Field Provisional Community Name[1]	Code
Foxtail Pine Alliance	3200
Foxtail Pine-Lodgepole Pine Mapping Unit	3201
Foxtail Pine/Bush Chinquapin Mapping Unit	3202
Foxtail Pine Association	3203
Foxtail Pine-Western White Pine Association	3204
Dead Foxtail Pine Mapping Unit	3205
Giant Sequoia Forest Alliance	4020
Giant Sequoia-Sugar Pine/Pacific Dogwood Association	4021
Giant Sequoia-White Fir-Red Fir Association	4023
Mountain Hemlock-(Lodgepole Pine)-(Red Fir)-Western White Pine Mapping Unit	4032
Mountain Hemlock-Lodgepole Pine Association	4041
Red Fir Forest Alliance	4050
Red Fir Association	4051
Red Fir/Mixed Shrub Mapping Alliance	4054
Red Fir-Western White Pine-Lodgepole Pine Association	4055
Red Fir- Western White Pine Association	4057
Red Fir-Western White Pine & Red Fir-Western White Pine-Lodgepole Pine SA	4062
Red Fir-Lodgepole Pine/White Flowered Hawkweed Association	4063
Red Fir-Western White Pine/Mixed Shrub Mapping Unit	4069
Red Fir-White Fir Forest Alliance	4070
Red Fir-White Fir Association	4071
Red Fir- White Fir-Jeffrey Pine Association	4072
Red Fir- White Fir-Sugar Pine Association	4073
White Fir-Sugar Pine Forest Alliance	4080
White Fir Mapping Unit	4081
White Fir(Red Fir-Sugar Pine-Jeffrey Pine Association)/Mountain Whitethorn MU	4084
White Fir-Sugar Pine-Incense Cedar Superassociation	4094
White Fir-Sugar Pine/Mixed Shrub Map Unit	4095
Sierra Juniper Woodland Alliance	4100
Sierra Juniper Association	4108
Sierra Juniper/ Ocean Spray & Sierra Juniper/Big Sagebrush Superassociation	4109
Incense-cedar Forest Alliance	4110
Birchleaf Mountian Mahogany Woodland Alliance	5010
Birchleaf Mountain Mahogany/CA Redbud-Flannelbush-California Ash Shrubland	5011
Birchleaf Mountain Mahogany/Whiteleaf Manzanita Association	5012
Chamise Shrubland Alliance	5020
Chamise-Whiteleaf Manzanita Association	5022
Chamise-Yucca Whipplei	5023
Interior Live Oak/CA Buckeye Association	5041
Chaparral Ceanothus Shrubland Alliance	5060
Chaparral Ceanothus Poison Oak	5061
Whiteleaf Manzanita Shrubland Alliance	5070
Bush Chinquapin Shrubland Alliance	5080

Table D4 continued.

Field Provisional Community Name[1]	Code
Mountain Whitethorn Scrubland Alliance	5110
Tobacco Brush Shrubland Alliance	5120
Big Sagebrush Shrubland Alliance	5160
Low Sagebrush Dwarf-shrubland Alliance	5210
Low Sagebrush-prickly Phlox Alliance	5212
Bitter Cherry Shrubland Alliance	5220
Curl-leaf Mountain Mahogany Woodland Alliance	5230
Yucca Whipplei Alliance	5270
Mtn. Sagebrush & Rohrock's Sagebrush & Ocean Spray & Mtn. Heather SA	5501
Greenleaf Manzanita-bush Chinquapin-mountain Whitethorn Montane Chaparral MU	5502
Bitter Cherry-ribes Spp-(Mountain Maple) Mesic Montane Chaparrel Mapping Unit	5503
Deerbrush Shrubland Alliance	6010
Holodiscus Alliance	6210
Shrub Willow Meadow Setting Mapping Unit	6500
Shrub Willow Riparian Setting Mapping Unit	6600
Shrub Willow Talus Setting Mapping Unit	6700
Upland Graminoids	7000
Shorthair Sedge Herbaceous Alliance	7120
Shorthair Sedge Herbaceous Alliance	7120
Post-fire Herbaceous Vegetation	7700
Grasses/Forbs And Small Shrubs	7701
Upland Meadow Herbaceous Mapping Unit	7990
Intermittently To Temporarily Flooded Meadow	8000
Seasonally To Permanently Flooded Meadow	9000

[1]Community names and codes follow ESRI and Aerial Information Systems (2004), as documented in NatureServe (2004).

Table D5. CWHR-based habitat names and codes used in the databases. The CWHR-based habitat classification was used for creating the sampling design because the NVCS-based park maps were not yet available.

CWHR-based Habitat	Code
Foothill Chaparral	FOCH
Foothill Hardwoods and Grasslands	FHAG
Ponderosa-Mixed Conifer Forest	PMCF
Giant Sequoia Groves	GISE
White Fir Mixed Conifer Forest	WFMC
Red Fir Forest	REFI
Xeric Conifer Forest	XCFO
Lodgepole Pine Forest	LOPI
Subalpine Conifer Forest	SCFO
Montane Chaparral	MOCH
Mid-elevation Hardwood Forest	MEHF
Meadow	MEAD
Barren Rock or Snow	BROS
Recent Fire Area	BURN

Table D6. ‘Holland’ habitats and codes used in the databases.

Habitat Name	Code
Montane/Alpine Riparian Scrub	36100
Mixed Chaparral	37110
Chamise Chaparral	37200
Montane Chaparral	37500
Montane Meadow	45100
Subalpine/Alpine Meadow	45200
Dry Subalpine/Alpine Meadow	45220
Oak Woodland	71100
Black Oak Woodland	71120
Blue Oak Woodland	71140
Canyon Like Oak Woodland	71160
So. Sierra Foothill Riparian Woodland	76100
Cottonwood Riparian Woodland	76200
California Black Oak Forest	81340
Mixed North Slope Forest	81500
Westside Ponderosa Pine Forest	84210
Sierran Mixed Conifer Forest	84230
Sierran White Fir Forest	84240
Bigtree (Giant Sequoia) Forest	84250
Red Fir Forest	85310
Lodgepole Pine Forest	86100
Whitebark Pine/Lodgepole Pine	86220
Foxtail Pine Forest	86300
Whitebark Pine Forest	86600
Alpine Boulder/Rock Field	91000
Sierra Nevada Fell Field	91120
Wet Alpine Talus and Scree	91210
Dry Alpine Talus and Scree	91220
Low Angle Rock Slabs and Ledges	91230
Cliffs/Barren Rock Outcrops	95000

Table D7. Tree species common names, scientific names, and codes used in the database.

Common Name	Scientific Name[1]	Code
White Fir	*Abies concolor*	ABICON
Red Fir	*Abies magnifica*	ABIMAG
Mountain Maple	*Acer glabrum*	ACEGLA
Bigleaf Maple	*Acer macrophyllum*	ACEMAC
Chamise	*Adenostoma fasciculatum*	ADEFAS
California Buckeye	*Aesculus californica*	AESCAL
Mountain Alder	*Alnus incana*	ALNINC
White Alder	*Alnus rhombifolia*	ALNRHO
White Leaf Manzanita	*Arctostaphylos viscida*	ARCVIS
Water Birch	*Betula occidentalis*	BETOCC
Incense-cedar	*Calocedrus decurrens*	CALDEC
Mountain Mahogany	*Cercocarpus betuloides*	CERBET
Western Redbud	*Cercis occidentalis*	CEROCC
Bush Chinquapin	*Chrysolepsis sempervirens*	CHRSEM
Red Bud	*Circud occidentalis*	CIROCC
Hazelnut	*Corylus cornuta*	CORCOR
Mountain Dogwood	*Cornus nuttallii*	CORNUT
American Dogwood	*Cornus sericea*	CORSER
Unknown Dogwood	*Cornus species*	CORSP
Unknown Dogwood (>1)	*Cornus species*	CORSPP
Yerba Santa	*Eriodictyon californicum*	ERICAL
California Ash	*Fraxinus dipetala*	FRADIP
Flannel Bush	*Fremontodendron califocnicum*	FRECAL
California Juniper	*Juniperus californica*	JUNCAL
Western Juniper	*Juniperus occidentalis*	JUNOCC
Whitebark Pine	*Pinus albicaulis*	PINALB
Foxtail Pine	*Pinus balfouriana*	PINBAL
Lodgepole Pine	*Pinus contorta*	PINCON
Limber Pine	*Pinus flexilis*	PINFLE
Jeffrey Pine	*Pinus jeffreyi*	PINJEF
Sugar Pine	*Pinus lambertiana*	PINLAM
Pinyon Pine	*Pinus monophylla*	PINMOO
Western White Pine	*Pinus monticola*	PINMOT
Ponderosa Pine	*Pinus ponderosa*	PINPON
Foothill Pine	*Pinus sabiniana*	PINSAB
Sycamore	*Plantanus racemosa*	PLARAC
Black Cottonwood	*Populus balsamifera*	POPBAL
Fremont Cottonwood	*Populus fremontii*	POPFRE
Quaking Aspen	*Populus tremuloides*	POPTRE
Bitter Cherry	*Prunus emarginata*	PRUEMA
Choke Cherry	*Prunus virginiana*	PRUVIR
Douglas-fir	*Pseudotsuga menziesii*	PSEMEN
Canyon Live Oak	*Quercus chrysolepsis*	QUECHR

Table D7, continued.

Common Name	Scientific Name[1]	Code
Blue Oak	*Quercus douglasii*	QUEDOU
Black Oak	*Quercus kelloggii*	QUEKEL
Huckleberry Oak	*Quercus vaccinifolia*	QUEVAC
Interior Live Oak	*Quercus wislizennii*	QUEWIS
Unknown Willow	*Salix species*	SALSP
Unknown Willow (> 1)	*Salix species*	SALSPP
Elderberry	*Sambucus species*	SAMSPP
Giant Sequoia	*Sequoidendron giganteum*	SEQGIG
California-nutmeg	*Torreya californica*	TORCAL
Poison Oak	*Toxicodendron diversilobum*	TOXDIV
Mountain Hemlock	*Tsuga mertensiana*	TSUMEN
California Bay Laurel	*Umbellaria californica*	UMBCAL

[1]Scientific names follow Weeden (1996).

Table D8. Common names, scientific names, and codes used in data fields describing shrubs.

Common Name	Scientific Name[1]	Code
White Fir	*Abies concolor*	ABICON
Red Fir	*Abies magnifica*	ABIMAG
Unknown Fir	*Abies species*	ABISP
Unknown Fir (> 1)	*Abies species*	ABISPP
Mountain Maple	*Acer glabrum*	ACEGLA
Bigleaf Maple	*Acer macrophyllum*	ACEMAC
Chamise	*Adenostoma fasiculatum*	ADEFAS
California Buckeye	*Aesculus californica*	AESCAL
Mountain Alder	*Alnus incana*	ALNINC
White Alder	*Alnus rhombifolia*	ALNRHO
Unknown Alder	*Alnus species*	ALNSP
Unknown Alder (> 1)	*Alnus species*	ALNSPP
Service-berry	*Amelanchier alnifolia*	AMEALN
Indian Manzanita	*Arctostaphylos mewukka*	ARCMEW
Pinemat Manzanita	*Arctostaphylos nevadensis*	ARCNEV
Greenleaf Manzanita	*Arctostaphylos patula*	ARCPAT
Unknown Manzanita	*Arctostaphylos species*	ARCSP
Unknown Manzanita (> 1)	*Arctostaphylos species*	ARCSPP
Whiteleaf Manzanita	*Arctostaphylos viscida*	ARCVIS
Timberline Sagebrush	*Artemisia rothrockii*	ARTROT
Unknown Sagebrush	*Artemisia species*	ARTSP
Snowfield Sagebrush	*Artemisia spiciformis*	ARTSPI
Unknown Sagebrush (> 1)	*Artemisia species*	ARTSPP
Sagebrush	*Artemisia tridentate*	ARTTRI
Water Birch	*Betula occidentalis*	BETOCC
Incense-cedar	*Calocedrus decurrens*	CALDEC
Spicebush	*Calycanthus occidentalis*	CALOCC
White Heather	*Cassiope mertensiana*	CASMER
Mountain Whitethorn	*Ceanothus cordulatus*	CEACOR
Buck Brush	*Ceanothus cuneatus*	CEACUN
Pinemat	*Ceanothus diversifolius*	CEADIV
Deer Brush	*Ceanothus integerrimus*	CEAINT
Chaparral Whitethorn	*Ceanothus leucodermis*	CEALEU
Littleleaf Ceanothus	*Ceanothus parvifolius*	CEAPAR
Unknown Ceanothus	*Ceanothus species*	CEASP
Unknown Ceanothus (> 1)	*Ceanothus species*	CEASPP
Birchleaf Mountain Mahogany	*Cercocarpus betuloides*	CERBET
Little-leaved Mtn. Mahogany	*Cercocarpus intricatus*	CERINT
Curl-leaf Mountain Mahogany	*Cercocarpus ledifolius*	CERLED
Western Redbud	*Cercis occidentalis*	CEROCC
Mountain Misery	*Chamaebatia foliolosa*	CHAFOL
Rubber Rabbitbrush	*Chrysothamnus nauseosus*	CHRNAU
Bush Chinquapin	*Chrysolepis sempervirens*	CHRSEM

Table D8, continued.

Common Name	Scientific Name[1]	Code
Yellow Rabbitbrush	*Chrysothamnus viscidiflorus*	CHRVIS
Hazlenut	*Corylus cornuta*	CORCOR
Brown Dogwood	*Cornus glabrata*	CORGLA
Mountain Dogwood	*Cornus nuttallii*	CORNUT
American Dogwood	*Cornus sericea*	CORSER
Unknown Dogwood	*Cornus species*	CORSP
Unknown Dogwood (> 1)	*Cornus species*	CORSPP
Horsetail	*Equisetum species*	EQUSP
Unknown Buckwheat	*Eriogonum species*	ERGSP
Yerba Santa	*Eriodictyon californicum*	ERICAL
California Ash	*Fraxinus dipetala*	FRADIP
Califirnia Flannel Bush	*Fremontodrendron californicum*	FRECAL
Pale Silk-tassel	*Garraya flavescens*	GARFLA
Fremont's Silk-tassel	*Garrya fremontii*	GARFRE
Unknown Silk-tassel Bush	*Garraya species*	GARSP
Ocean Spray	*Holodiscus discolor*	HOLDIS
Cream Bush	*Holodiscus microphyllus*	HOLMIC
Small-leaved Cream Bush	*Holodiscus microphyllus*	HOLMIC
Unknown Holodiscus	*Holodiscus species*	HOLSPP
California Juniper	*Juniperus californica*	JUNCAL
Western Juniper	*Juniperus occidentalis*	JUNOCC
Bog Kalmia	*Kalmia polifera*	KALPOL
Gaping Penstemon	*Keckellia breviflora*	KECBRE
Unknown Penstemon (> 1)	*Keckellia species*	KECSPP
Western Labrador Tea	*Ledum glandulosum*	LEDGLA
Chaparral Honeysuckle	*Lonicera interrupta*	LONINT
Twinberry	*Lonicera involucrate*	LONINV
Unknown Honeysuckle	*Lonicera species*	LONSP
Unknown Honeysuckle (> 1)	*Lonicera species*	LONSPP
Unknwon Lupine	*Lupine species*	LUPSP
Unknown Lupine (> 1)	*Lupine species*	LUPSPP
Mallow	*Malacothamnus fremontii*	MALFRE
California Man-root	*Marah fabaceus*	MARFAB
Bush Monkeyflower	*Mimulus auranticus*	MIMAUR
Large Monkey-flower	*Mimulus guttatus*	MIMGUT
Mountain Pride Penstemon	*Penstemon newberryi*	PENNEW
Unknown Penstemon	*Penstemon species*	PENSP
Unknown Penstemon (> 1)	*Penstemon species*	PENSPP
Spreading Phlox	*Phlox diffusa*	PHLDIF
Unknown Phlox	*Phlox species*	PHLSP
Mountain Heather	*Phyllodoce breweri*	PHYBRE
Mountain-heather	*Phyllodoce breweri*	PHYBRE
Whitebark Pine	*Pinus albicaulis*	PINALB

Table D8, continued.

Common Name	Scientific Name[1]	Code
Foxtail Pine	*Pinus balfouriana*	PINBAL
Lodgepole Pine	*Pinus contorta*	PINCON
Limber Pine	*Pinus flexilis*	PINFLE
Jeffrey Pine	*Pinus jeffreyi*	PINJEF
Sugar Pine	*Pinus lambertiana*	PINLAM
Pinon Pine	*Pinus monophylla*	PINMOO
Western White Pine	*Pinus monticola*	PINMOT
Ponderosa Pine	*Pinus ponderosa*	PINPON
Foothill Pine	*Pinus sabiniana*	PINSAB
Sycamore	*Plantanus racemosa*	PLARAC
Black Cottonwood	*Populus balsamifera*	POPBAL
Fremont Cottonwood	*Populus fremontii*	POPFRE
Quaking Aspen	*Populus tremuloides*	POPTRE
Bitter Cherry	*Prunus emarginata*	PRUEMA
Unknown Prunus	*Prunus species*	PRUSP
Unknown Prunus (> 1)	*Prunus species*	PRUSPP
Western Chokecherry	*Prunus virginiana*	PRUVIR
Douglas-fir	*Pseudotsuga menziesii*	PSEMEN
Scrub Oak	*Quercus berberidifolia*	QUEBER
Canyon Live Oak	*Quercus chrysolepsis*	QUECHR
Blue Oak	*Quercus douglasii*	QUEDOU
Black Oak	*Quercus kelloggii*	QUEKEL
Huckleberry Oak	*Quercus vaccinifolia*	QUEVAC
Interior Live Oak	*Quercus wislizennii*	QUEWIS
Hollyleaf Redberry	*Rhamnus ilicifolia*	RHAILI
Sierra Coffeeberry	*Rhamnus rubra*	RHARUB
Unknown Rhamnus	*Rhamnus species*	RHASP
Hoary Coffeeberry	*Rhamnus tomentella*	RHATOM
Western Azalea	*Rhododendron occidentalis*	RHOOCC
Bitter Gooseberry	*Ribes amarum*	RIBAMA
Wax Currant	*Ribes cereum*	RIBCER
White-stemmed Currant	*Ribes inerme*	RIBINE
Alpine Currant	*Ribes lasianthum*	RIBLAS
Mountain Gooseberry	*Ribes montigenum*	RIBMON
Mountain Pink Currant	*Ribes nevadense*	RIBNEV
Oak Currant	*Ribes quercetorum*	RIBQUE
Sierra Gooseberry	*Ribes roezlii*	RIBROE
Gooseberry	*Ribes species*	RIBSP
Unknown Ribes	*Ribes species*	RIBSP
Unknown Ribes (> 1)	*Ribes species*	RIBSPP
Sequoia Gooseberry	*Ribes tularense*	RIBTUL
Plateau Gooseberry	*Ribes velutinum*	RIBVEL

Table D8, continued.

Common Name	Scientific Name[1]	Code
Sticky Currant	*Ribes viscossimum*	RIBVIS
Pygmy Rose	*Rosa bridgesii*	ROSBRI
California Rose	*Rosa californica*	ROSCAL
Unknown Rose	*Rosa species*	ROSSP
Unknown Rose (> 1)	*Rosa species*	ROSSPP
Interior Rose	*Rosa woodsii*	ROSWOO
Blackcap Raspberry	*Rubus amarum*	RUBAMA
Himalayan Blackberry	*Rubus discolor*	RUBDIS
Thimbleberry	*Rubus parviflorus*	RUBPAR
Unknown Rubus	*Rubus species*	RUBSP
Unknown Blackberry (> 1)	*Rubus species*	RUBSPP
California Blackberry	*Rubus ursinus*	RUBURS
Unknown Willow	*Salix species*	SALSP
Unknown Willow (> 1)	*Salix species*	SALSPP
Blue Elderberry	*Sambucus caerulea*	SAMCAE
Black Elderberry	*Sambucus melanocarpa*	SAMMEL
Blue Elderberry	*Sambucus mexicana*	SAMMEX
Red Elderberry	*Sambucus racemosa*	SAMRAC
Unknown Elderberry	*Sambucus species*	SAMSP
Unknown Elderberry (> 1)	*Sambucus species*	SAMSPP
Giant Sequoia	*Sequoidendron giganteum*	SEQGIG
California Mountain Ash	*Sorbus californica*	SORCAL
Mountain Spiraea	*Spiraea densiflora*	SPIDEN
Bladdernut	*Staphylea bolanderi*	STABOL
Snowberry	*Symphoricarpos sp.*	SYMSP
Unknown Snowberry (> 1)	*Symphoricarpos species*	SYMSPP
California-nutmeg	*Torreya californica*	TORCAL
Poison Oak	*Toxicodendron diversilubum*	TOXDIV
Mountain Hemlock	*Tsuga mertensiana*	TSUMEN
California Bay Laurel	*Umbellaria californica*	UMBCAL
Unknown Shrub	--	UNKSHR
Dwarf Bilberry	*Vaccinium caespitosum*	VACCAE
Unknown Huckleberry	*Vaccinium species*	VACSP
Unknown Huckleberry (> 1)	*Vaccinium species*	VACSPP
Western Bilberry	*Vaccinium uliginosum*	VACULI
Yucca	*Yucca whipplei*	YUCWHI

[1]Scientific names follow Weeden (1996) and Hickman (1993).