

**California Department of Fish and Wildlife**  
**Upland Game Bird Harvest Survey 2023-2024**



2023-2024 California Upland Game Bird Stamp Art Contest, wild turkey  
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## Table of Contents

|   |    |
|---|----|
| Introduction.....   | 5  |
| Survey Overview .....   | 6  |
| Figure 1. Kernel density estimate of hunter age at point of license purchase during 2023-2024 hunting season. The shaded portions under the curve represent the distributions of hunters who provided an email address (light shading) overlapping those who did not (dark shading). The mean age of each distribution is represented by the dashed vertical lines..... | 8  |
| Demographic and Non-response Bias.....  | 8  |
| Figure 2. (a) The proportion of male and female hunters who responded to the survey; and (b) Mean age and standard deviation of hunters who responded to the survey, responded and hunted, responded but did not hunt, or did not answer the survey.....  | 9  |
| Sample Error .....  | 9  |
| Survey Results .....  | 10 |
| Figure 3. (a) Funnel chart showing the number of respondents with an upland game bird validation who hunted in general, who hunted upland game birds, or who hunted small mammals; and (b) the number of respondents without an upland game bird validation who hunted in general or hunted small mammals. ....   | 12 |
| Discussion .....  | 12 |
| Figure 4. Scatter plot illustrating the trend in resident annual hunting license sales (black dotted line) and upland game bird validations (gray dashed line) sold during the 2010–2023 license years in California.....   | 13 |
| Acknowledgements .....  | 14 |
| Literature Cited.....   | 15 |
| Species Figures.....  | 16 |
| Mountain quail .....  | 16 |
| California quail .....  | 17 |
| Gambel’s quail .....  | 18 |
| Wild turkey Fall 2023 .....   | 19 |
| Wild turkey Spring 2024.....  | 20 |
| Ruffed grouse .....   | 21 |
| Sooty grouse.....   | 22 |
| Ring-necked pheasant.....   | 23 |
| Chukar .....  | 24 |
| Band-tailed pigeon.....   | 25 |

|  |    |
|--|----|
| Eurasian collared-dove .....   | 26 |
| White-winged dove .....  | 27 |
| Mourning dove .....  | 28 |
| Wilson’s snipe .....   | 29 |
| Tree squirrel.....   | 30 |
| Jackrabbit .....   | 31 |
| Cottontail rabbit.....   | 32 |
| Tables .....   | 33 |
| Table 1. Statewide estimated harvest, hunters, and hunter effort for 18 species reported from the 2023–2024 Upland Game Bird and Small Game Mammal Harvest Survey. Ninety-five percent confidence interval = 95% CI. ....  | 33 |
| Table 2. Statewide estimated harvest and hunter effort for 18 species reported from the 2023–2024 Upland Game Bird and Small Game Mammal Harvest Survey. Ninety-five percent confidence interval = 95% CI. ....  | 34 |
| Table 3. Estimated harvest, hunters, and hunter effort for mountain quail and California quail across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted.....                             | 35 |
| Table 4. Estimated harvest, hunters, and hunter-effort for Gambel’s quail across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted. ....   | 38 |
| Table 5. Estimated harvest, hunters, and hunter-effort for wild turkey across all California counties during the 2023-2024 hunting season. F and S refer to Fall 2023 and Spring 2024, respectively. Blank cells indicate no data available. Insufficient reporting indicates counties with less than three hunters reporting harvest or days hunted. .... | 40 |
| Table 6. Estimated harvest, hunters, and hunter-effort for ruffed grouse and sooty grouse across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted.....                                  | 43 |
| Table 7. Estimated harvest, hunters, and hunter-effort for chukar across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted. ....   | 45 |
| Table 8. Estimated harvest, hunters, and hunter-effort for band-tailed pigeon and Eurasian collared-dove across all California counties during the 2023-   |    |

2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted. .... 48

Table 9. Estimated harvest, hunters, and hunter-effort for white-winged dove and mourning dove across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted..... 51

Table 10. Estimated harvest, hunters, and hunter-effort for Wilson’s snipe across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted. .... 54

Table 11. Estimated harvest, hunters, and hunter-effort for tree squirrels across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted. .... 56

Table 12. Estimated harvest, hunters, and hunter effort for jackrabbit and cottontail rabbit across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted..... 59

Table 13. Long-term average, 3-year average, within-season results, and change among years of hunter harvest, hunters and effort (days afield) for resident upland game bird species. .... 62

Table 14. Long-term average, within-season results, and change among years of hunter harvest, hunters and effort (days afield) for statewide tree squirrel, cottontail, and jackrabbit. .... 63

## Introduction

Since 1948, the California Department of Fish and Wildlife (hereafter, the Department) administered hunter harvest surveys to estimate harvest and hunter effort in California. These surveys provided information on the number of each game, non-game, and furbearing species harvested and the time spent by each hunter in the field by county. The number of species surveyed and methods for administering the survey have changed substantially since its inception, but the need to estimate harvest for resident upland game birds and small game mammals has remained an important justification for continuing to collect these data.

Since 2017, the Department's Upland Game Unit sent an email invitation to 20,000 potential respondents to complete an internet-based annual survey. The survey was specific to resident upland game birds and was adapted from methodologies used by Responsive Management survey research firm utilized in the 2014 harvest survey report. To administer the survey and pull a random sample of potential respondents, the Department utilized email addresses from the Automated Licensing Data System (ALDS). All hunters in the state of California acquire permits through ALDS, email addresses are stored within ALDS when provided and allow the Department to survey hunters effectively. The previous survey, completed in 2023, included resident and migratory upland game birds as well as small game mammals harvested in the 2022 hunting season (i.e., July 1, 2022 – June 30, 2023). All previous survey reports dating back to 1950 are available on the Department's Upland Game Bird Hunting website, <https://wildlife.ca.gov/Hunting/Upland-Game-Birds>.

In 2024, Department staff completed a survey for upland game birds, and small game mammals harvested in the 2023 hunting season. These species included ten resident and four migratory upland game bird species, as well as three groups of small game mammals. The Department's survey included migratory upland game bird species that the U.S. Fish and Wildlife Service also estimates harvest for through the Harvest Information Program (HIP). The inclusion of these species in the survey facilitates comparison and in response to hunter interest.

## Survey Overview

Our goal was to estimate the total number of upland game birds and small game mammals harvested by county and assess hunter effort. Hunters who wish to hunt rabbits and squirrels need only a valid California hunting license. However, hunters who want to hunt upland game birds must also purchase an upland game bird validation. Therefore, our approach had to enable hunters to submit responses based on their license and validation information.

The Department evaluated different survey techniques, along with their implementation costs, potential sources of bias, and previous experience with each method. Ultimately, the Department chose to continue using an online survey format and worked with ALDS to create a random selection of hunters (n = 20,000) who purchased a license during the 2023 hunting season and who had an email address on record. The use of email is relatively new in comparison to recreational hunting, and this online survey relied on the hunter's email address to direct each hunter to the website. Each hunter was required to provide their GO-ID number to ensure that respondent and non-respondent groups could be compared, and so that duplicate survey responses could be removed.

While all hunting license holders in California are automatically assigned an individual GO-ID number in ALDS, the submission of an email address to the Department is optional, thus not all hunters in California could be surveyed by email. However, 78% of those who purchased a hunting license and 77% of those who purchased an upland game bird validation through ALDS during the 2023 hunting season voluntarily provided an email address. In comparison, 44%, 71%, and 75% of those who purchased an upland validation during the 2016, 2020, and 2022 hunting seasons, respectively, had an email address on record. Based on this trend, the number of hunters who provide an email address will likely continue to increase. Therefore, an email-internet approach to conducting this survey is appropriate going forward, while mindful of potential bias. For example, bias among respondents with regard to age and, from inherent differences in respondent and non-respondent groups, are important to consider. The age of all hunters at the time of license purchase during the 2023 hunting

season was determined, and the mean age was compared between two groups—those who provided an email address and those who did not (Fig.1).

For hunters to access the survey, we created a webpage with the survey questionnaire, created in Microsoft Forms, and directions for completing the survey embedded within the page. We used ALDS to generate the list of hunters with an email address and created a link to the survey page on the Department website. On the webpage, survey respondents were directed to report harvest location by county, number of individuals harvested by species, and the number of days spent hunting each species within a reported county.

Separate surveys and correspondence directing hunters to the webpage were created for upland game bird hunters with Upland Game Bird Validations ( $n = 10,000$ ), and small game mammal hunters ( $n = 10,000$ ). Upland game bird hunters were directed to a webpage with the full survey of all bird and mammal species being reported (Table 1), thus an upland game bird hunter could include small game mammal hunt effort. In the full survey sent to upland game hunters, we asked them to report on both resident and migratory upland game birds, as well as small game mammals. Specifically, we asked about their success and hunt effort on ten resident upland game bird species: mountain quail, California quail, and Gambel's quail, wild turkey, ruffed grouse, white-tailed ptarmigan, sooty grouse, ring-necked pheasant, chukar, and Eurasian collared-dove (Table 1). For wild turkey, we asked hunters to specify the hunting season in which turkey was hunted, that is, Fall 2023 or Spring 2024. We asked hunters with an upland game bird validation if they hunted white-tailed ptarmigan but did not ask how many birds were harvested, because the number of hunters reporting harvest of ptarmigan was too low to reliably extrapolate to the total population. In addition to resident upland game birds, we asked hunters to report on four migratory upland game bird species: band-tailed pigeon, white-winged dove, mourning dove, and Wilson's snipe. Lastly, we asked hunters to report harvest and effort on tree squirrels (e.g., fox squirrels and gray squirrels), jackrabbits, and cottontail rabbits (Table 1). Harvest, hunters, and days afield for tree squirrels and rabbits were summed across the full survey of small game and the partial survey of only small game mammals.

Small game mammal hunters without the validation were directed to a survey of mammal groups. The survey was open for 45 consecutive days during July and August 2024, with two reminders sent out during the interval window following the initial survey email. Once the survey was closed, the webpage no longer accepted new entries to the survey and responses were subsequently extracted and collated.

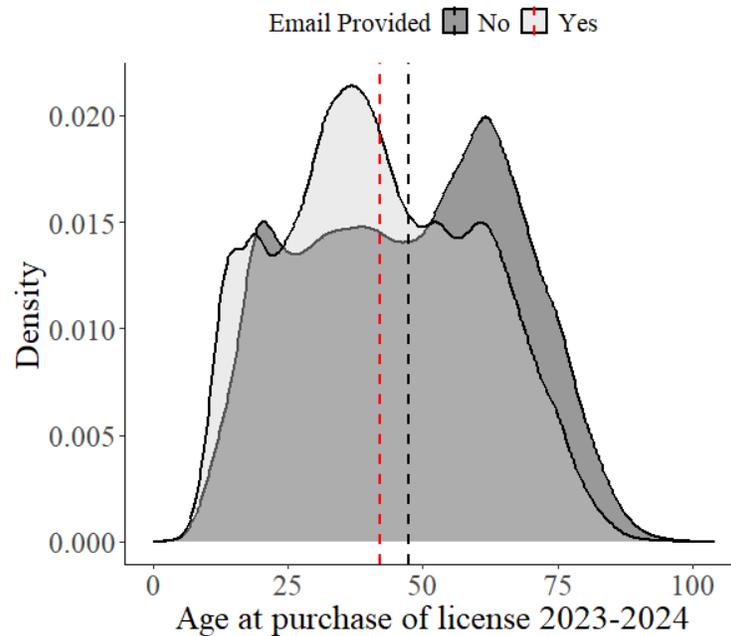


Figure 1. Kernel density estimate of hunter age at point of license purchase during 2023-2024 hunting season. The shaded portions under the curve represent the distributions of hunters who provided an email address (light shading) overlapping those who did not (dark shading). The mean age of each distribution is represented by the dashed vertical lines.

### Demographic and Non-response Bias

To investigate potential bias related to demographic differences in the surveyed population, we approximated the age distribution of potential respondents using a kernel density estimate (Fig. 1). We estimated that 85.9% (standard error 0.20%) of the two age distributions overlapped, indicating a high degree of similarity in mean age for hunters between these groups. Hence, we were satisfied that our choice to sample those hunters that provided emails would not introduce substantial age bias among our survey respondents. The difference in mean age between those who provided emails (42 years) and those who did not (47 years) has increased slightly since the previous survey was completed for the 2022 hunting season. Additionally, upland game bird and

small game mammal hunters during the 2023 hunting season were predominantly male (97.1%; Fig. 2a). The mean age of respondents who hunted was 51.1 years old, which was younger than respondents who did not hunt (55.7 years) and younger than the mean age (52.5 years) of all respondents (Fig. 2b). Hunters that did not respond to the survey were younger, on average, than those who responded.

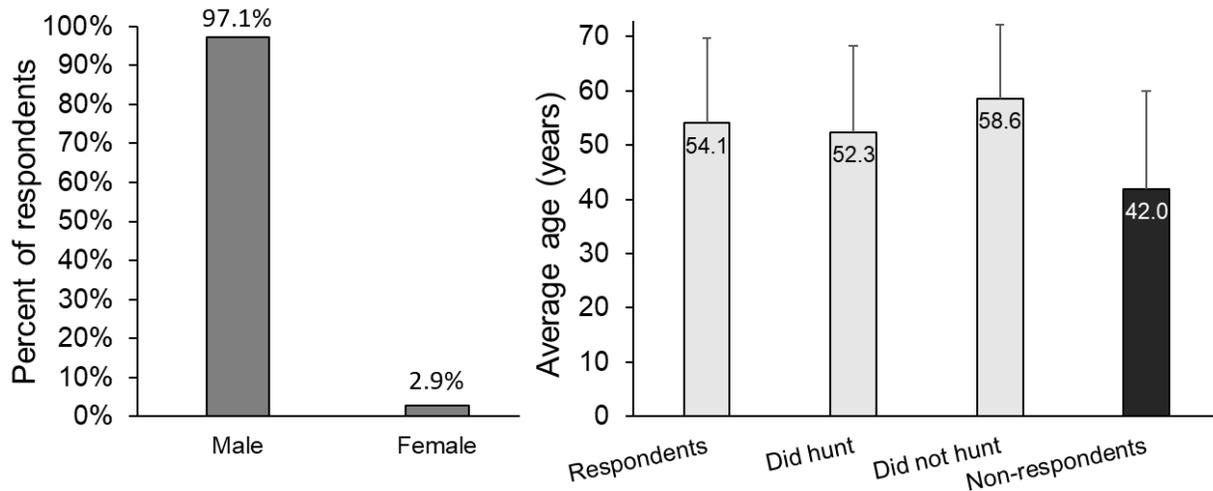


Figure 2. (a) The proportion of male and female hunters who responded to the survey; and (b) Mean age and standard deviation of hunters who responded to the survey, responded and hunted, responded but did not hunt, or did not answer the survey.

### Sample Error

Sampling error can occur when the subset of hunters selected to respond to the survey do not represent the full population of hunters. We estimated sampling error separately for each survey by rearranging an equation from Dillman (2000):

$$B = \left( \sqrt{\frac{\frac{(Np)(p)(1-p)}{Ns} - (p)(1-p)}{(Np-1)}} \right) (1.96)$$

The total population of interest ( $Np$ ) for the upland game bird and small mammal survey was 106,570, which represents all upland game hunters with an email on file in the 2023 hunting season. The sample size of respondents who completed the survey ( $Ns$ ) was 757. Probability ( $p$ ) was set to a value of 0.5, indicating an equal probability of a given respondent answering the survey. The Z statistic for a 95% confidence interval (1.96)

was applied to the upper and lower bounds of error. The value of estimated error ( $B$ ) was 0.035 or 3.5 percentage points. Thus, the sampling error rate for the survey of upland game birds and small game mammals was  $\pm 3.5\%$ .

For the small game mammal survey, the total population of interest was 93,914, which represents all hunters with an email on file but who did not purchase an upland game bird validation in the 2023 hunting season. The sample size of respondents who completed the survey was 222. The value of estimated error was 0.066 or 6.6 percentage points. Thus, the sampling error rate for the survey of upland game birds and small game mammals was  $\pm 6.6\%$ .

## Survey Results

In total, we received 979 responses (4.9% mean response rate) from the selected subset of 20,000 hunters across both the small game hunter and small game mammal hunter harvest surveys. Of the selection of 10,000 hunters with an upland game bird validation and email on record, 757 responses (7.6% response rate) were used to inform the harvest estimates of upland birds. We received 222 responses from the selection of 10,000 hunters with an email of record who purchased a license but not an upland game bird validation (2.2% response rate). Of the respondents with an upland game bird validation, 75.2% ( $n = 569$ ) stated that they hunted during the 2023 hunting season, 67.5% ( $n = 511$ ) indicated that they hunted upland game birds, and 9.9% ( $n = 75$ ) indicated that they hunted small game mammals. Of the total survey responses 70.8% ( $n = 693$ ) stated that they hunted during the 2023 hunting season, and 9.6% ( $n = 94$ ) said they hunted small game mammals (Fig. 3). Approximately 30% ( $n = 293$ ) did not hunt or only hunted on licensed game bird clubs and were excluded from further analysis. We estimated harvest and hunter effort for upland game birds by extrapolating the numbers reported by hunters who responded to the survey and had an upland game bird validation ( $n = 757$ ) divided by the total number of upland game bird validated hunters ( $n = 138,658$ ). For small game mammals, results were extrapolated by dividing the total respondents that reported hunting small game mammals across both surveys ( $n = 94$ ) by the product of the percent of total respondents that report hunting small game mammals (9.6%) and total licenses sold in 2023 season ( $n = 256,274$ ). The factors by which reported harvest and hunters were extrapolated to total harvest and hunters were

0.5% and 0.4% for the upland game birds and small game mammals, respectively. Statewide and county-level estimates of harvest, hunters, and hunter effort for all upland game birds and small game mammal species reported are detailed in tables 1-12. County-level results were reported as “insufficient” when fewer than three respondents reported harvest or days afield for a county because harvest and hunter effort could not be accurately estimated. No hunters indicated that they had hunted white-tailed ptarmigan during the 2023 season. Historically, permits were issued for greater sage-grouse, but the Department is currently conducting a status report on the species. Therefore, no permits were issued in the 2023 hunting season. Maps detailing the harvest and hunters by species and county are illustrated in figures 5-21.

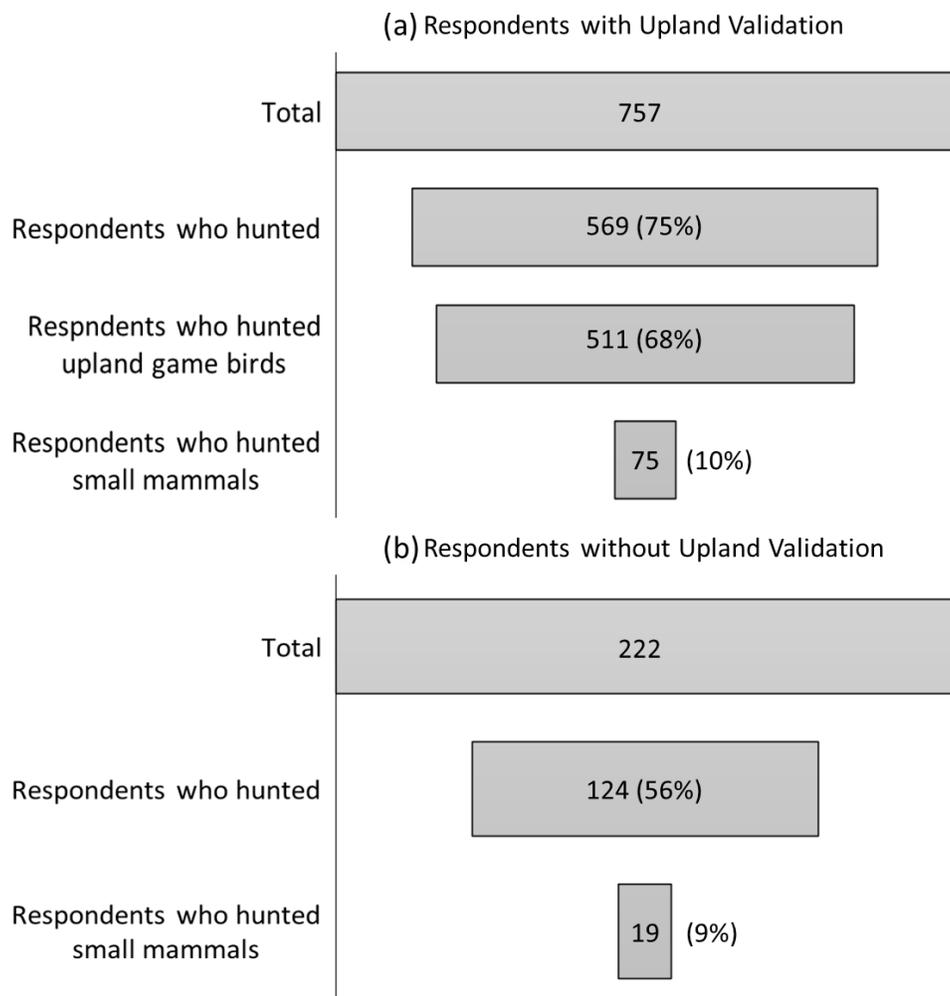


Figure 3. (a) Funnel chart showing the number of respondents with an upland game bird validation who hunted in general, who hunted upland game birds, or who hunted small mammals; and (b) the number of respondents without an upland game bird validation who hunted in general or hunted small mammals.

## Discussion

California received above average historical annual precipitation and accumulated more than the historical average snowpack by April 1 during water years (October to September) 2023 and 2024. Hence, the spring of both 2023 and 2024 were much wetter than in previous years, and breeding conditions appeared to be favorable for nesting game birds. The increased precipitation may have influenced harvest indirectly by impacting the distribution of available cover and resources on the landscape. Winter rains and flooding may have impacted hunting opportunities on some public hunting areas, such as the Yolo Bypass Wildlife Area, which was inundated with flows from the Sacramento River to prevent flooding in surrounding cities.

Results of the survey indicated downward trends in total harvest, hunters, and hunter effort relative to previous harvest survey reports for most upland game bird species (Table 13). License sales and validations continue to decline (Fig. 4) but those who remain in sport-hunting tend to be avid and successful participants. Estimated harvest for sooty grouse and chukar increased by 54% and 51%, respectively, compared to the average of the last three harvest surveys. However, only wild turkey and Eurasian collared-dove harvest increased relative to their long-term average. All other upland game bird species have steadily declined in both harvest and hunters compared to the long-term average of previous survey reports.

Statewide harvest of small game mammal species has declined substantially in the last 50 years (Table 14). Cottontail and jackrabbit harvest have declined by 90% and 98%, respectively, relative to the long-term average of harvest (1948-2023). Similarly, tree squirrel harvest has decreased by 91% since peak harvest in 1977. The number of hunters and hunter days have also declined in concert with harvest of both rabbits and tree squirrels. However, the number of estimated hunters for small game mammals increased from the previous survey (Table 14). This increase may be attributed to changes in survey methodology and the decrease in overall number of responses in this survey compared to last year. Declines in rabbit harvest between the current and

previous survey were observed and potentially consistent with the impact of rabbit hemorrhagic disease, which spread through the state in 2020. Except for the previous surveys in 2014 and 2023, previous reports did not differentiate species of tree squirrel. The difficulty in differentiating fox squirrels and gray squirrels makes grouping these species as tree squirrels more likely to accurately reflect harvest and hunter effort. In future years, if the survey can be distributed to a larger pool of respondents, it would be prudent to collect species specific harvest of tree squirrels as a method of evaluating the efficacy of differentiating those species' harvest trends.

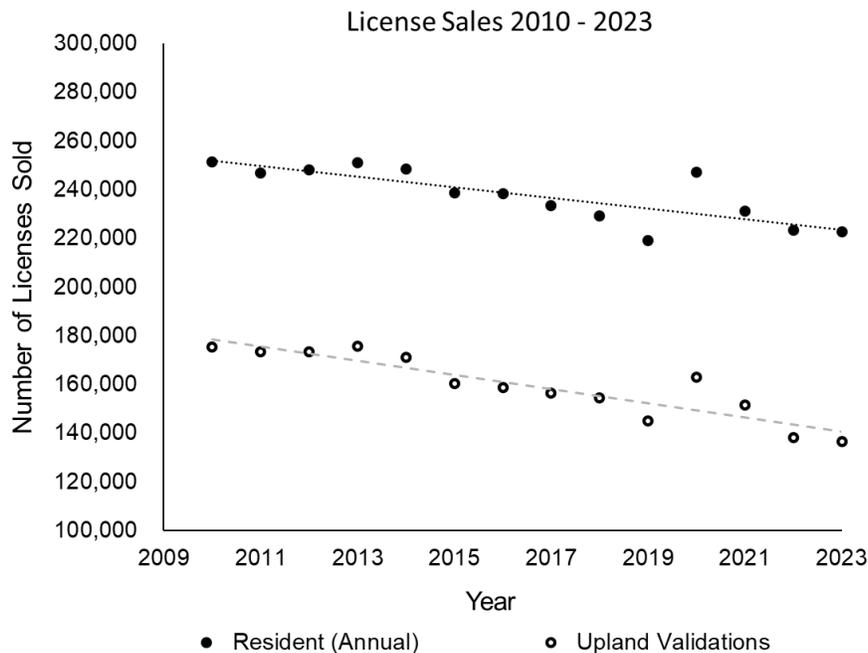


Figure 4. Scatter plot illustrating the trend in resident annual hunting license sales (black dotted line) and upland game bird validations (gray dashed line) sold during the 2010–2023 license years in California.

Based on comments from previous surveys, we found that hunters wanted to report on harvest and effort for migratory upland game bird species, specifically bandtailed pigeon, mourning dove, and white-winged dove. While the U.S. Fish and Wildlife Service already administers the HIP survey to assesses hunter effort and harvest for doves and other migratory upland game bird species, we decided to include migratory upland game bird species in the 2020-2021, 2022-2023 and this survey, due to hunters' comments and our own interest in having state and county-level estimates for all upland game bird species. Our harvest estimates differed from the HIP survey,

primarily with mourning dove harvest. The HIP survey estimated 730,900 doves were harvested statewide (Raftovich 2024), which suggests that 8.2% fewer individuals were harvested than our survey estimated (Table 1). Our survey may be overestimating harvest slightly because of the type of hunters more likely to report. For example, avid hunters who are more successful on average may also be more likely to report, lending disproportionate influence during extrapolation. The federal survey stratifies potential survey participants by binning effort (i.e., days afield), using a required screening survey conducted upon procurement of a hunting license. However, hunters may not always remember their harvest when purchasing a license in-store, which increases the potential for erroneous responses and the variation in estimated harvest of migratory species between HIP and this survey.

Past surveys used a random sampling design to increase the response rate and reach a target sample size of respondents based on a desired level of sampling error (<5%). Our mean response rate (4.9%) was relatively low compared to that of historical small game harvest surveys, including the 2020–2021 (12%) and 2022–2023 (7.6%) Upland Game Bird Harvest Surveys. The total sample of respondents was also smaller than the previous two surveys, which increased the sampling error and decreased county-level representation by species. In future years, increasing the sample pool of respondents and opening surveys closer to the end of each season would likely benefit the ability of respondents to report harvest accurately. More than one survey sent out to a random sample of individuals in a given hunting season may be appropriate in the context of this strategy, but it must be balanced with other surveys being administered by the Department to avoid survey fatigue, which also reduces responsiveness.

### **Acknowledgements**

This survey would not have been possible without the help of the License and Revenue Branch (LRB), the Database and Technology Division (DTD), and the Office of Communications, Education, and Outreach (OCEO). Damien Sivak and Meirve Davey (LRB) provided upland game bird validation lists necessary for our random sample and sent the email out to the hunters. Angie Barlow, Amita Patel, and Roger Harness (DTD) worked with Upland Game Program staff to design the survey on the California Fish and

Wildlife website. OCEO staff assisted with developing the email that was sent to the hunters.

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Dillman, D. A. 2000. Mail and Internet Surveys. John Wiley and Sons, New York, USA.

Raftovich, R. V., K. K. Fleming, S. C. Chandler, and C. M. Cain. 2024. Migratory Bird Hunting Activity and Harvest during the 2022–23 and 2023–24 Hunting Seasons. U.S. Fish and Wildlife Service, Laurel, Maryland, USA.

# Species Figures

## Mountain quail

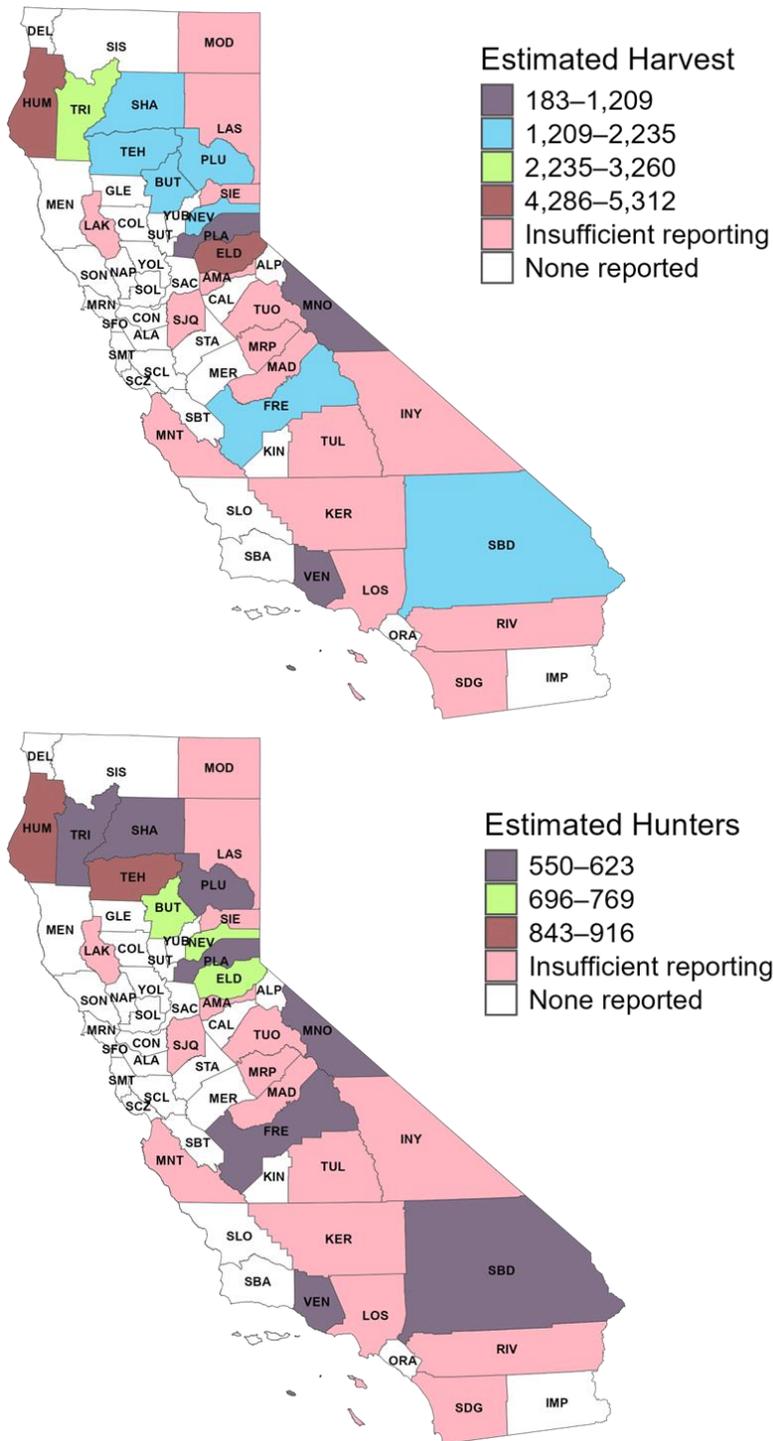


Figure 5. Estimated number of hunters and harvest by county for mountain quail (*Oreortyx pictus*) during the 2023–2024 hunting season. Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

## California quail

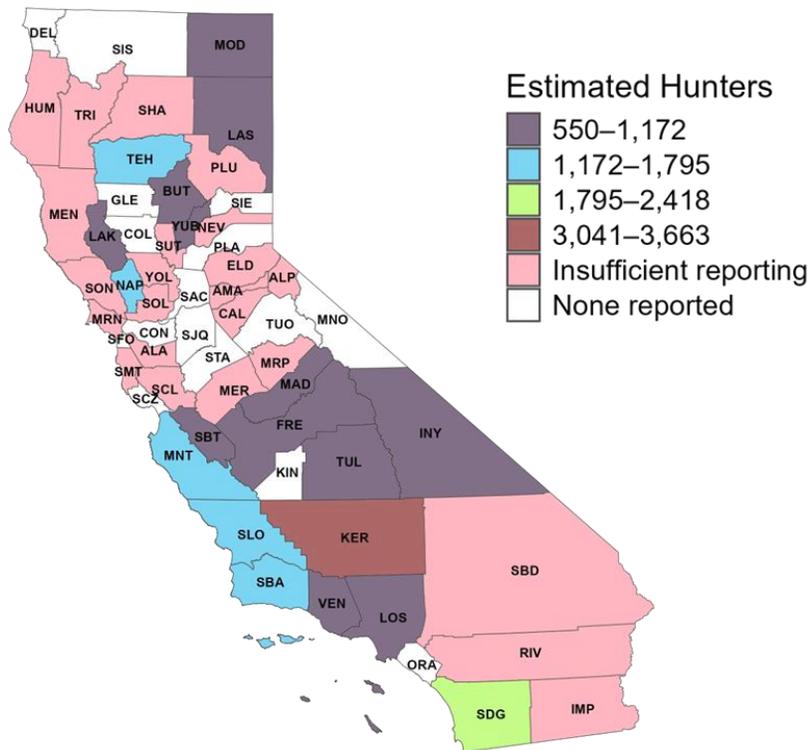
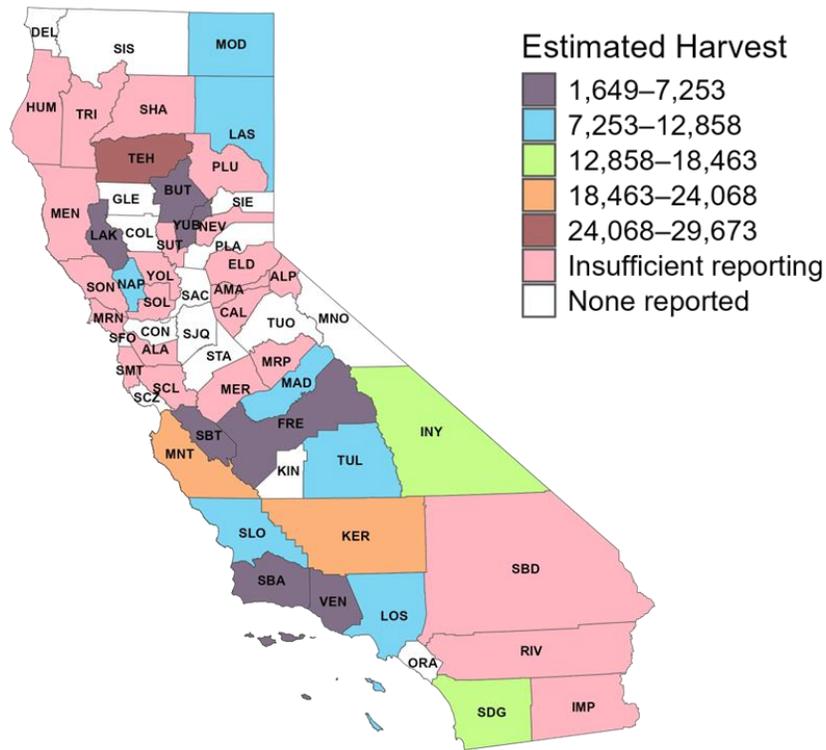


Figure 6. Estimated number of hunters and harvest by county for California quail during the 2023–2024 hunting season (*Callipepla californica*). Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

## Gambel's quail

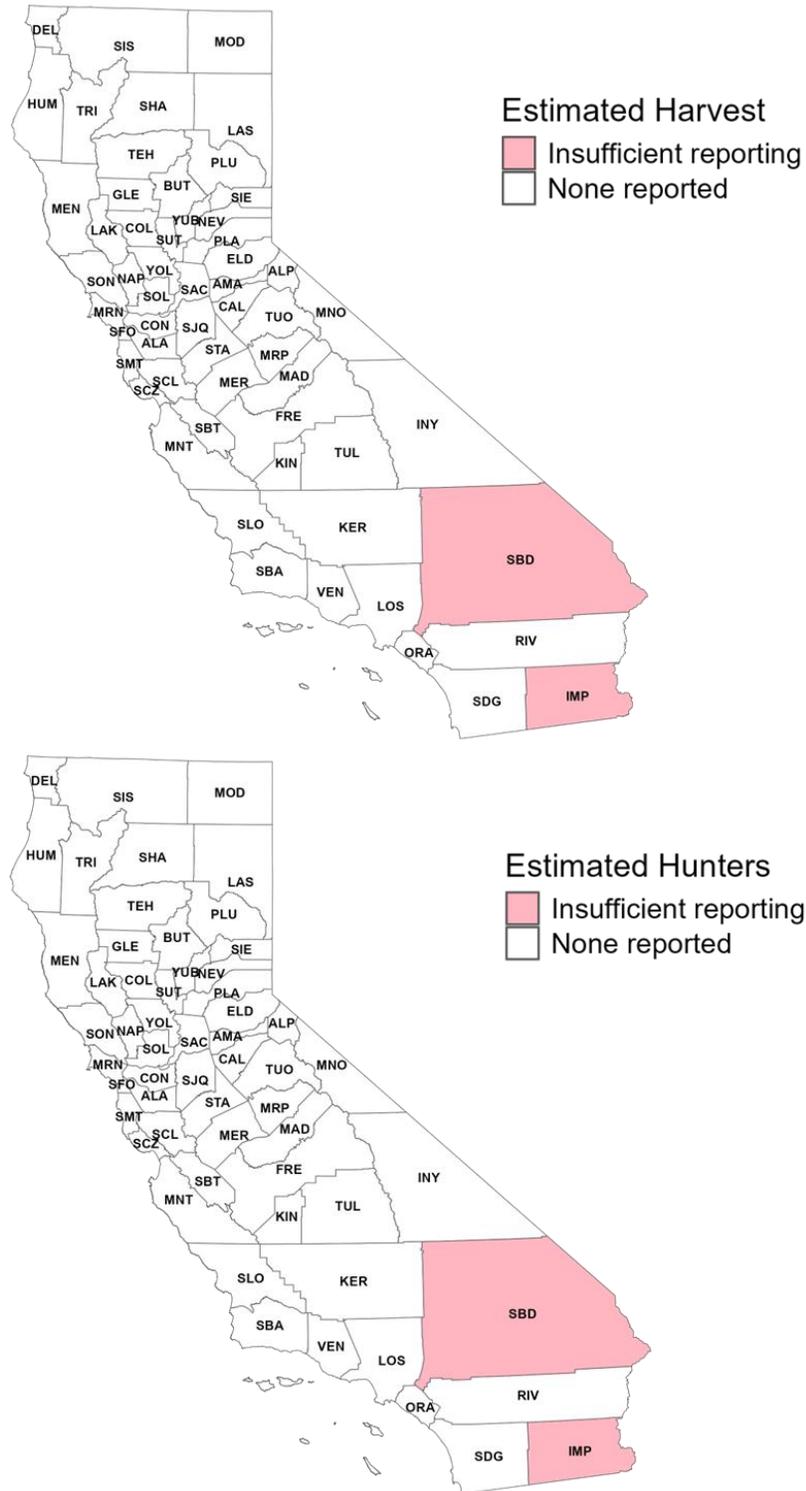


Figure 7. Estimated number of hunters and harvest by county for Gambel's quail during the 2023–2024 hunting season (*Callipepla gambelii*). Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

### Wild turkey Fall 2023

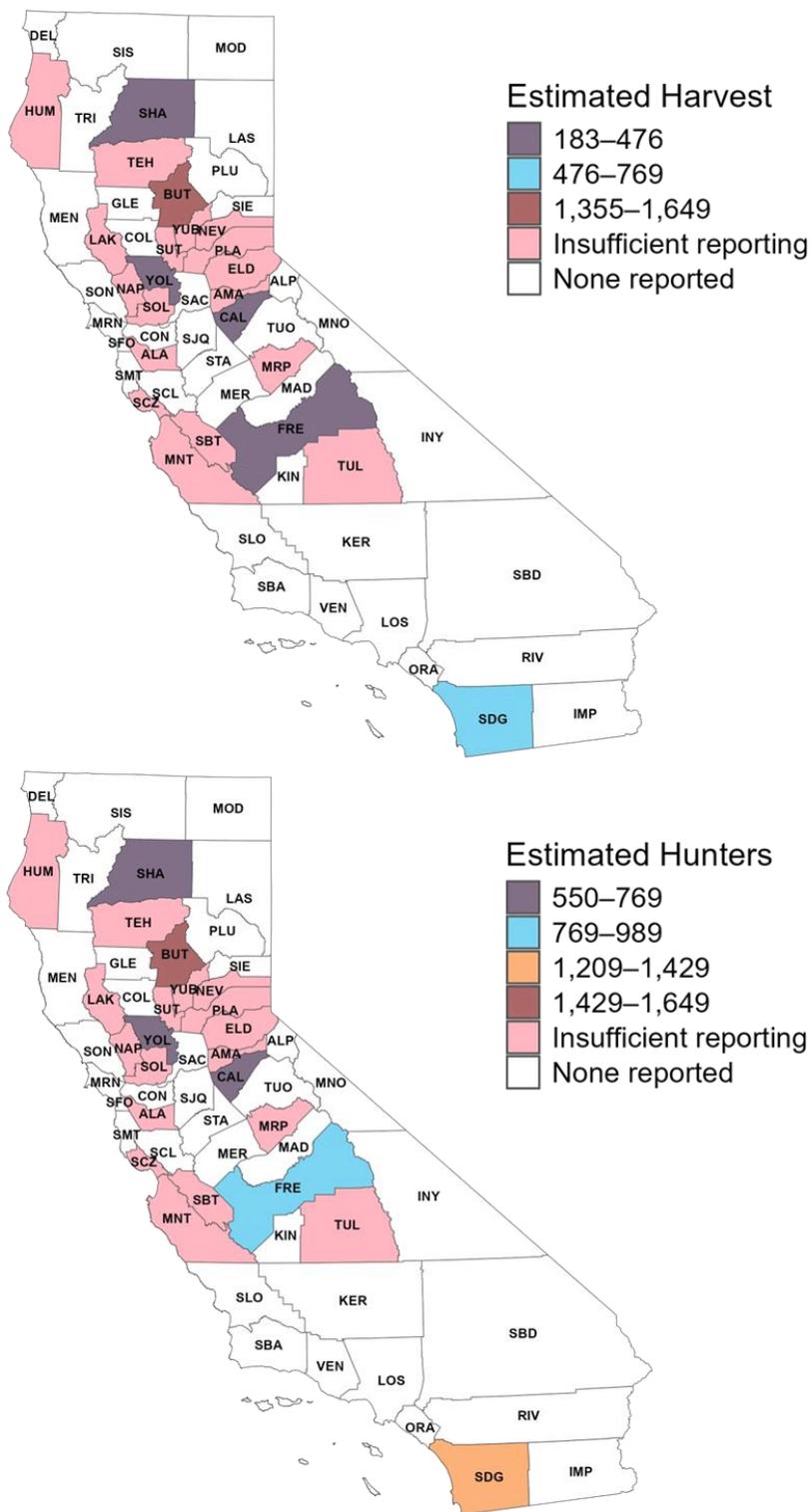


Figure 8: Estimated number of hunters and harvest by county for wild turkey (*Meleagris gallopavo*) during Fall 2023. Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

### Wild turkey Spring 2024

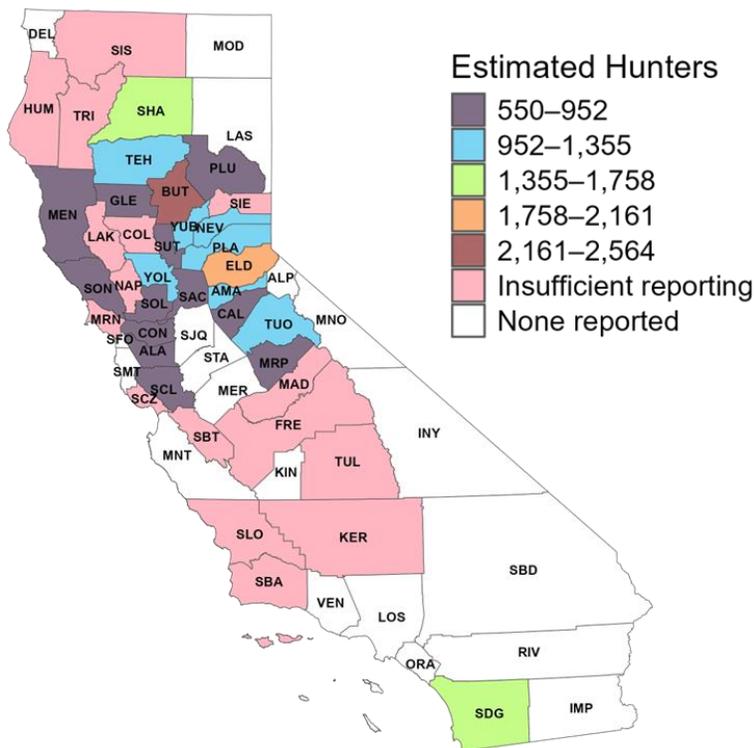
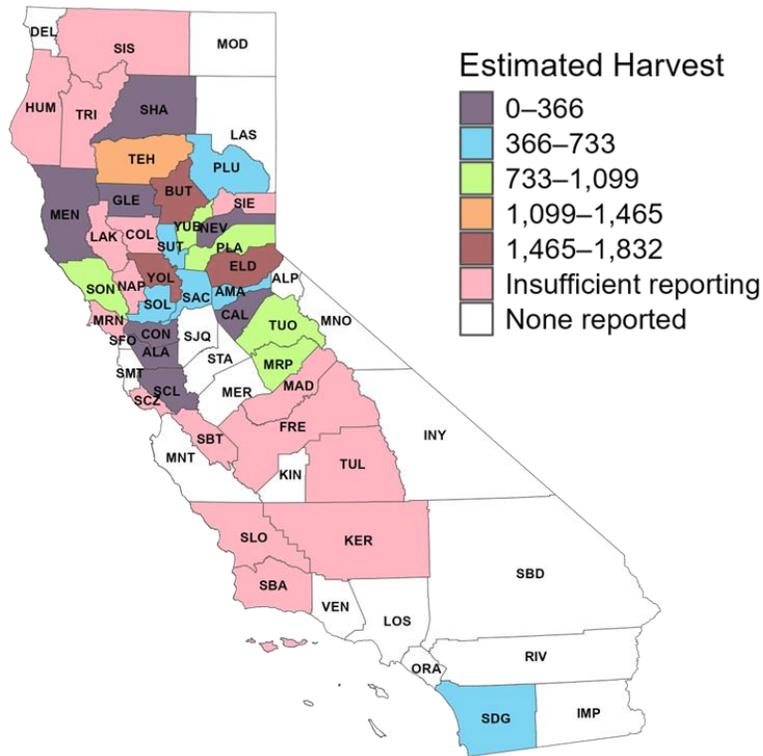


Figure 9. Estimated number of hunters and harvest by county for wild turkey (*Meleagris gallopavo*) during Spring 2024. Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

### Ruffed grouse



Figure 10. Respondent reported numbers of hunters and harvest by county for ruffed grouse during the 2023–2024 hunting season (*Bonascus umbellus*).

## Sooty grouse

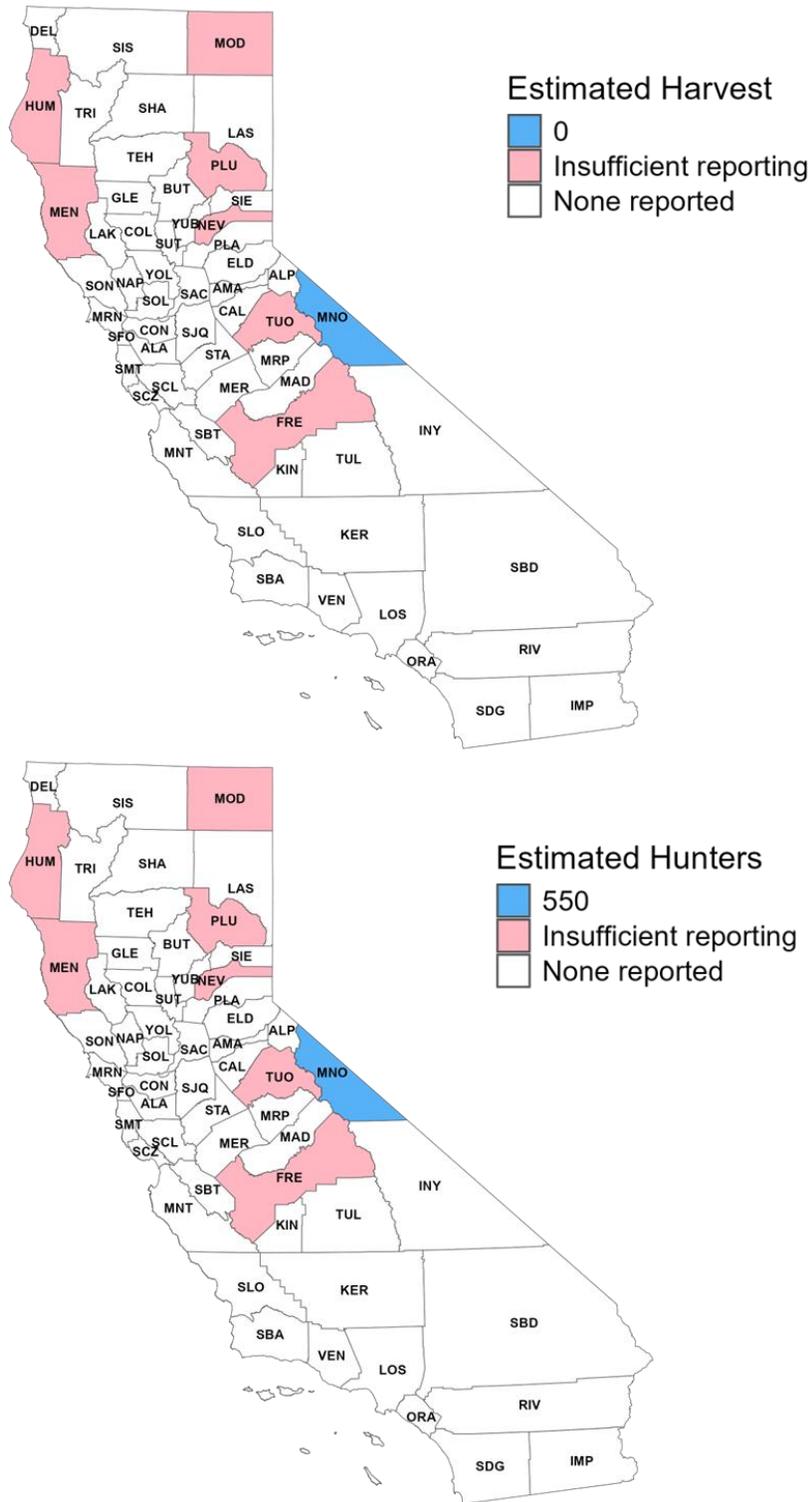


Figure 11. Estimated number of hunters and harvest by county for sooty grouse during the 2023–2024 hunting season (*Dendragapus fuliginosus*). Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

### Ring-necked pheasant

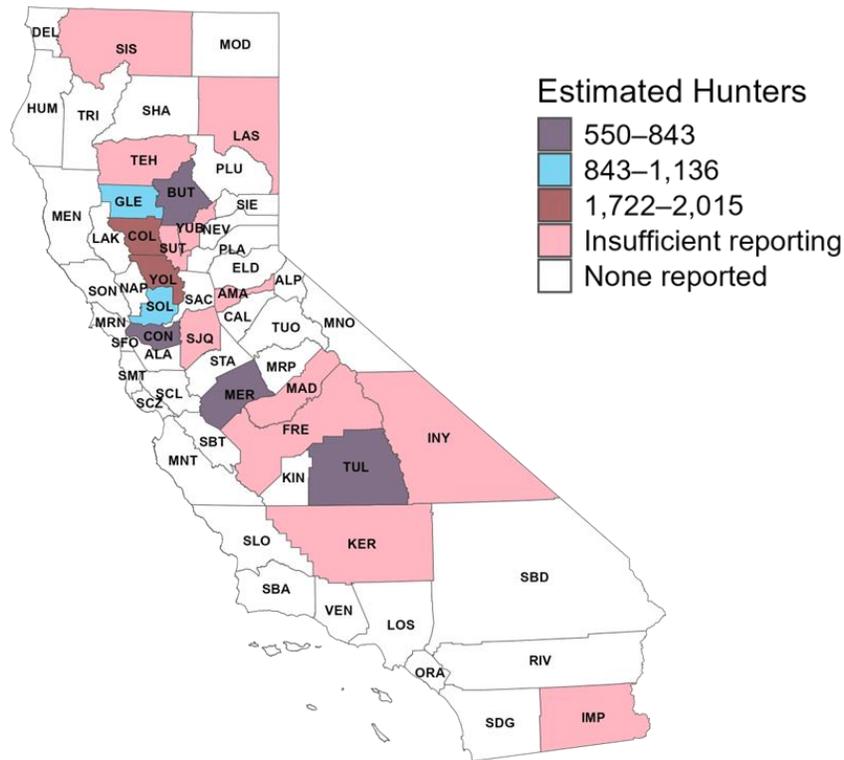
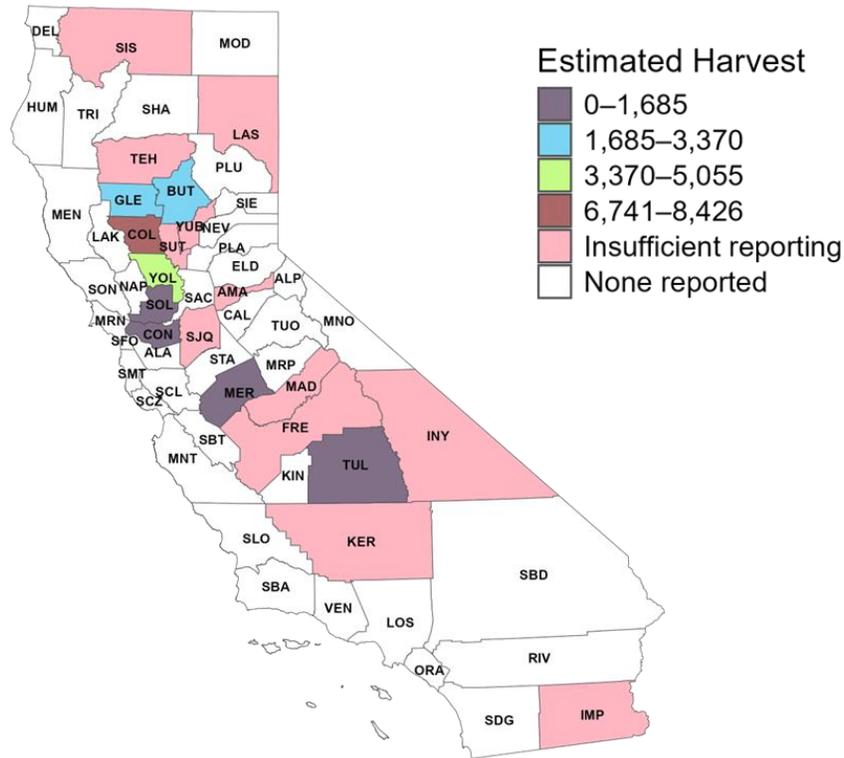


Figure 12. Estimated number of hunters and harvest by county for ring-necked pheasant during the 2023–2024 hunting season (*Phasianus colchicus*). Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

## Chukar

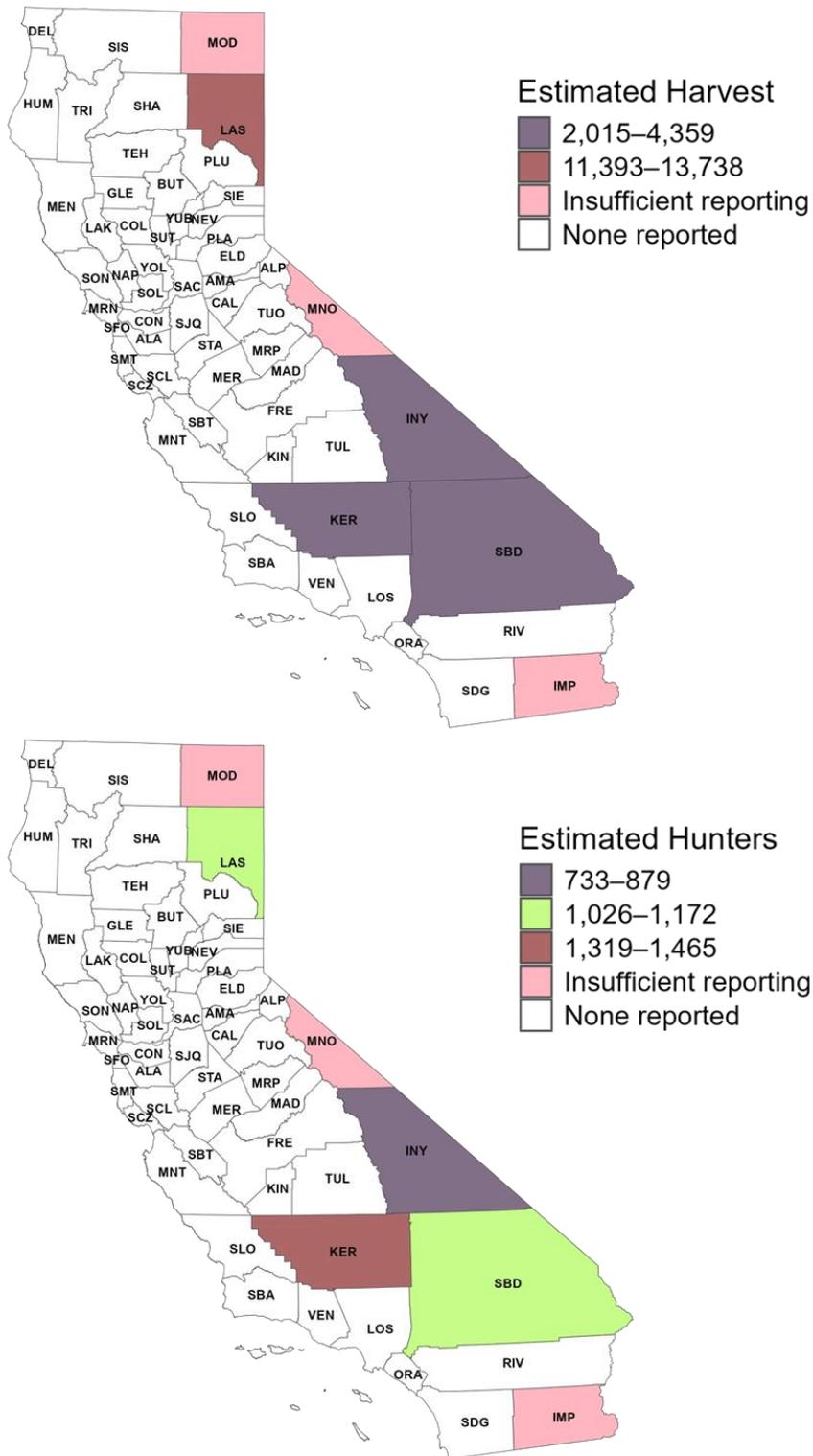


Figure 13. Estimated number of hunters and harvest by county for chukar during the 2023–2024 hunting season (*Alectoris chukar*). Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

### Band-tailed pigeon

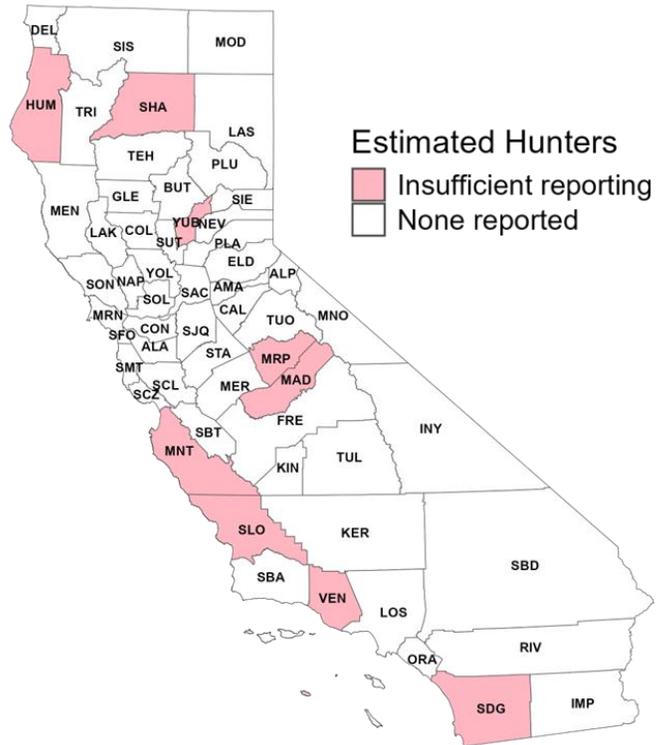
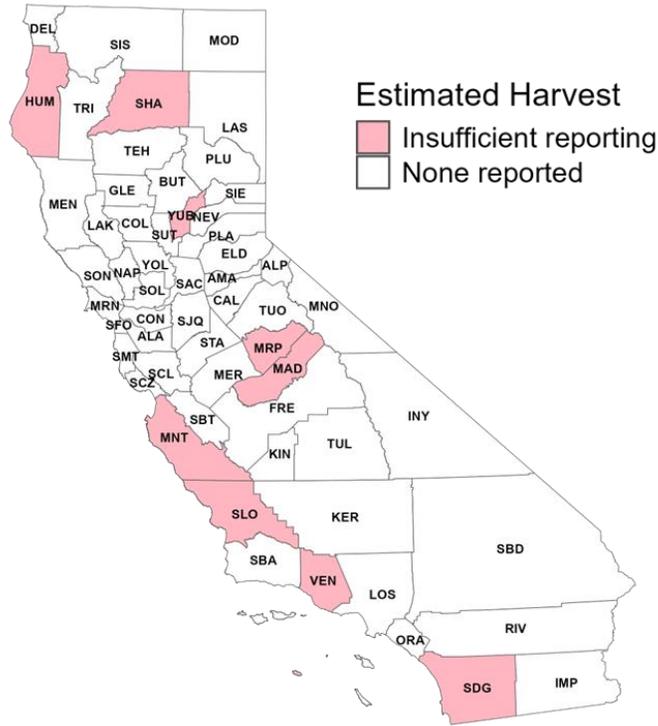


Figure 14. Estimated number of hunters and harvest by county for band-tailed pigeon during the 2023–2024 hunting season (*Patagioenas fasciata monilis*). Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

### Eurasian collared-dove

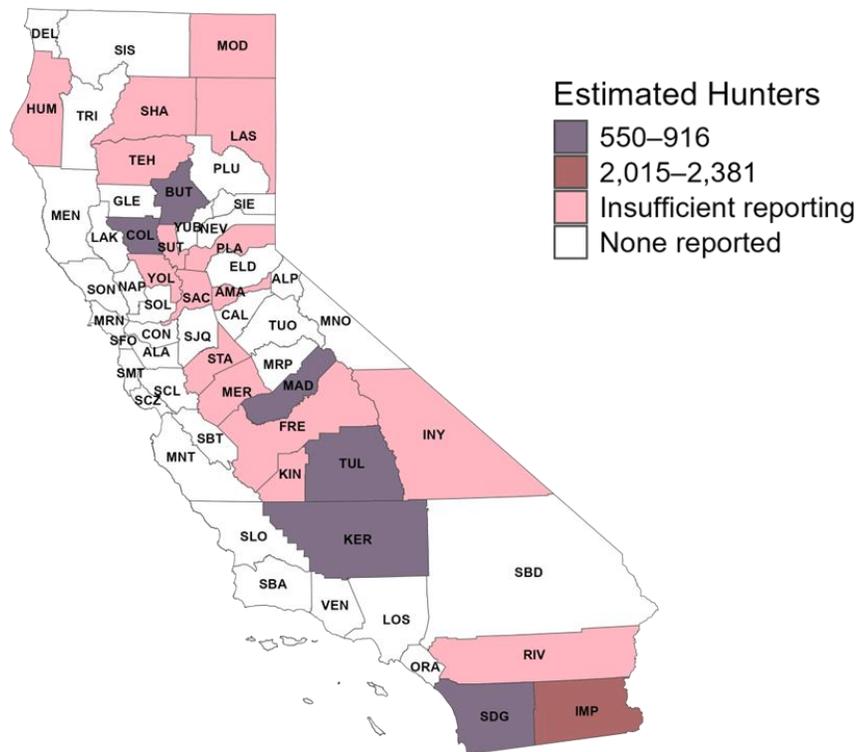
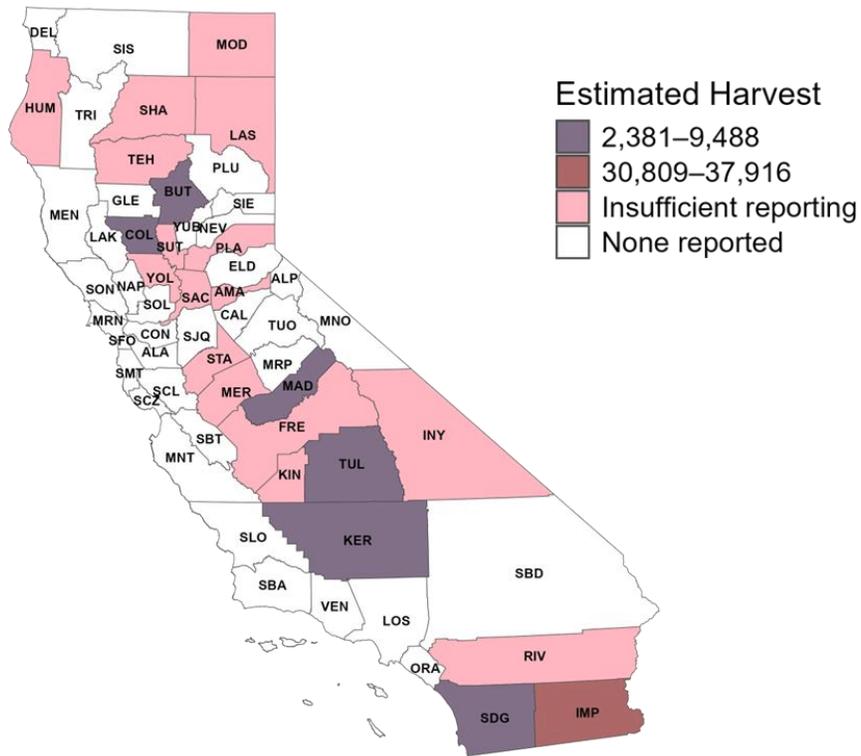


Figure 15. Estimated number of hunters and harvest by county for Eurasian collared-dove during the 2023–2024 hunting season (*Streptopelia decaocto*). Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

## White-winged dove

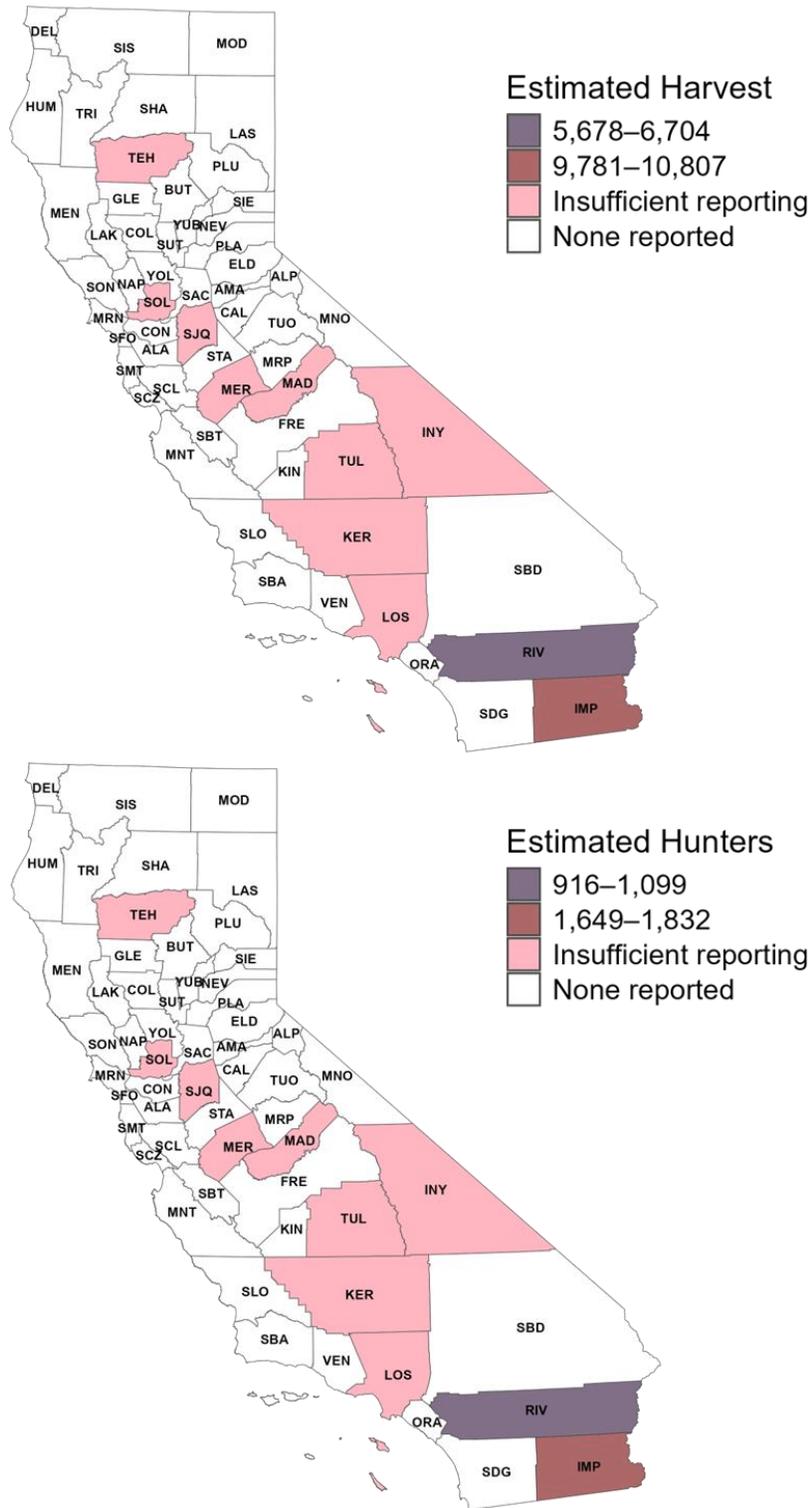


Figure 16. Estimated number of hunters and harvest by county for white-winged dove during the 2023–2024 hunting season (*Zenaida asiatica*). Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

## Mourning dove

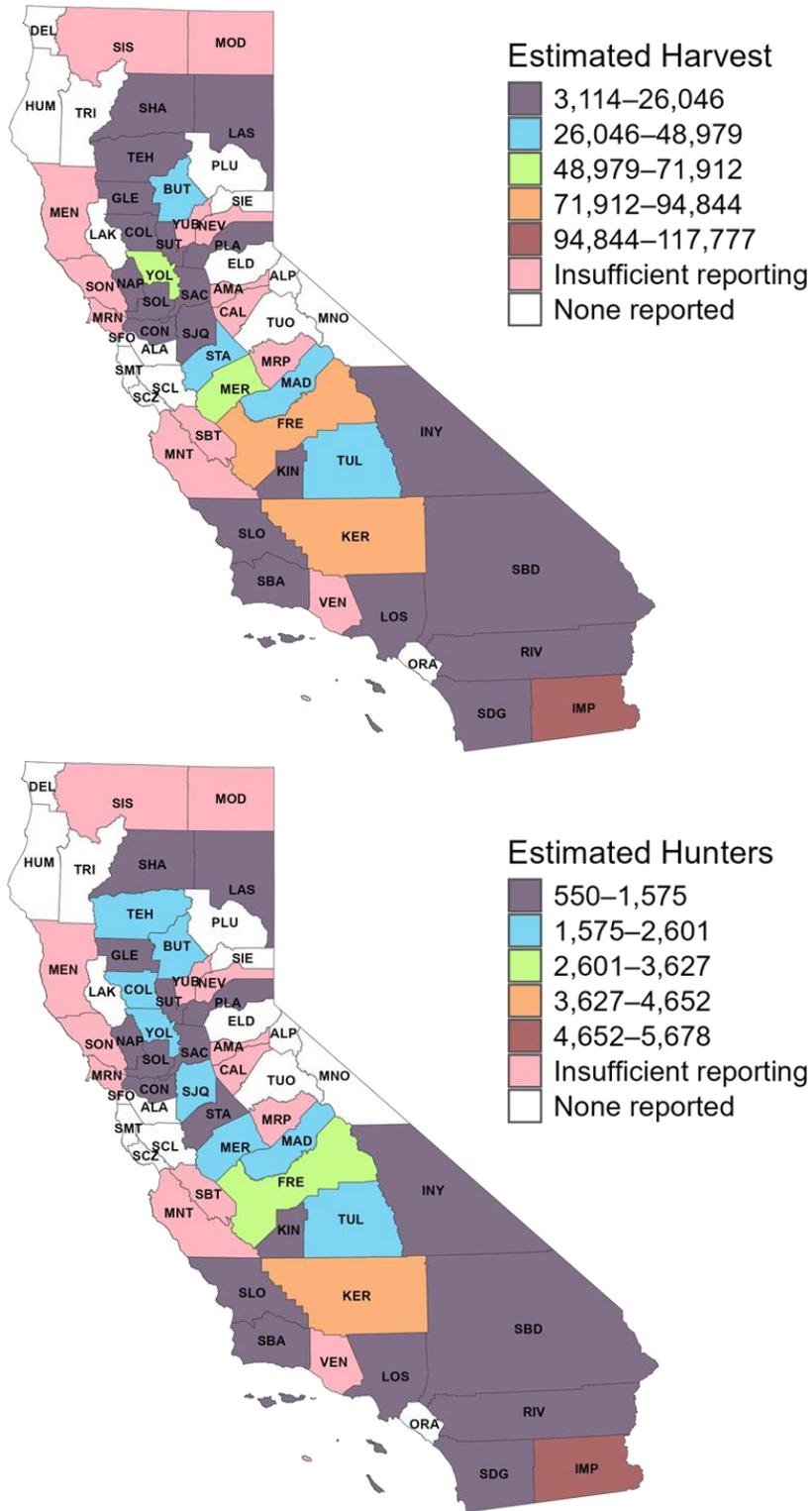


Figure 17. Estimated number of hunters and harvest by county for mourning dove during the 2023–2024 hunting season (*Zenaida macroura*). Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

## Wilson's snipe

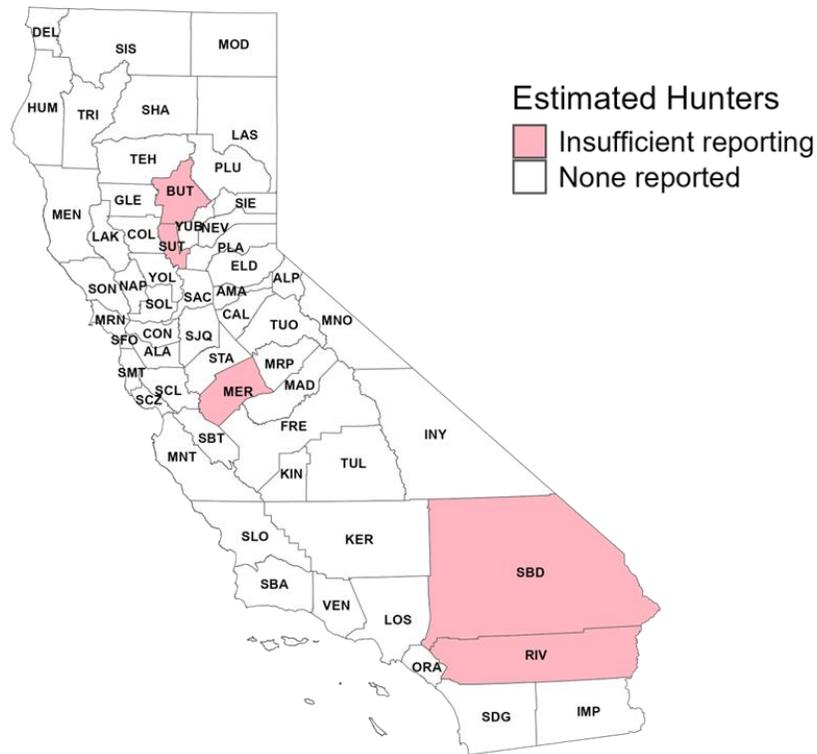
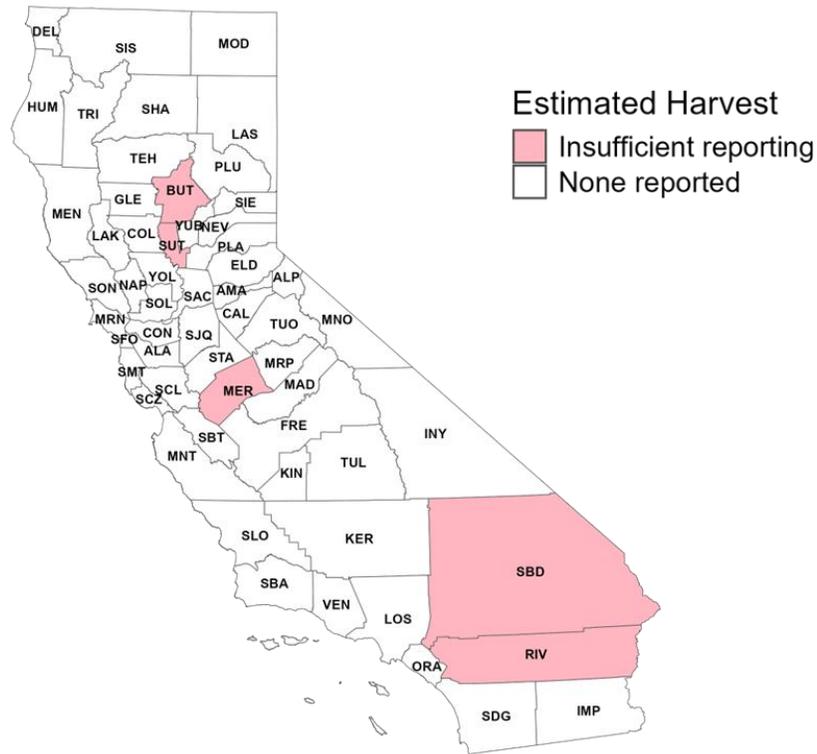


Figure 18. Estimated number of hunters and harvest by county for Wilson's snipe during the 2023–2024 hunting season (*Gallinago delicata*). Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

## Tree squirrel

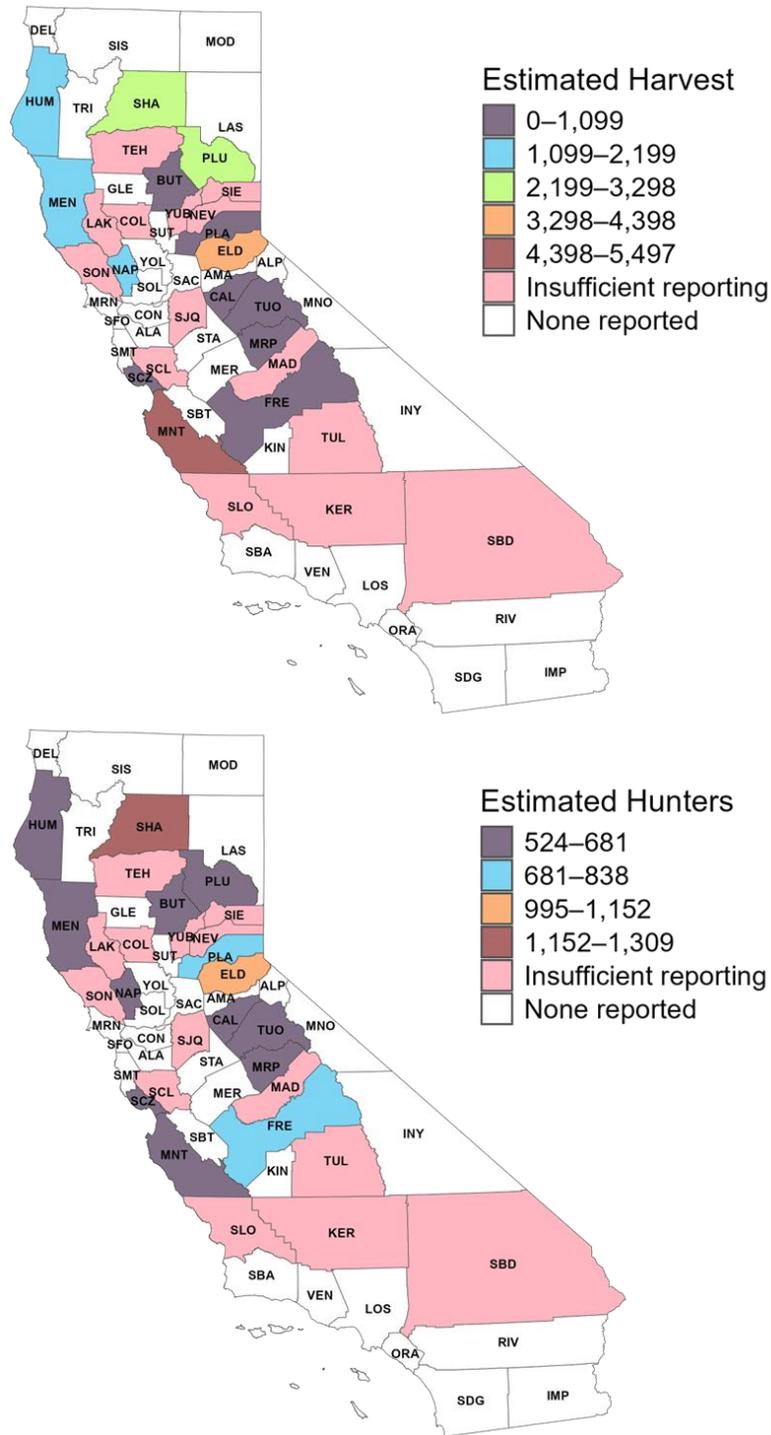


Figure 19: Estimated number of hunters and harvest by county for tree squirrels (Douglas', *Tamiasciurus douglasii*; western gray, *Sciurus griseus*; Eastern gray, *S. carolinensis*; and Eastern fox, *S. niger*) during the 2023–2024 hunting season. Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

## Jackrabbit

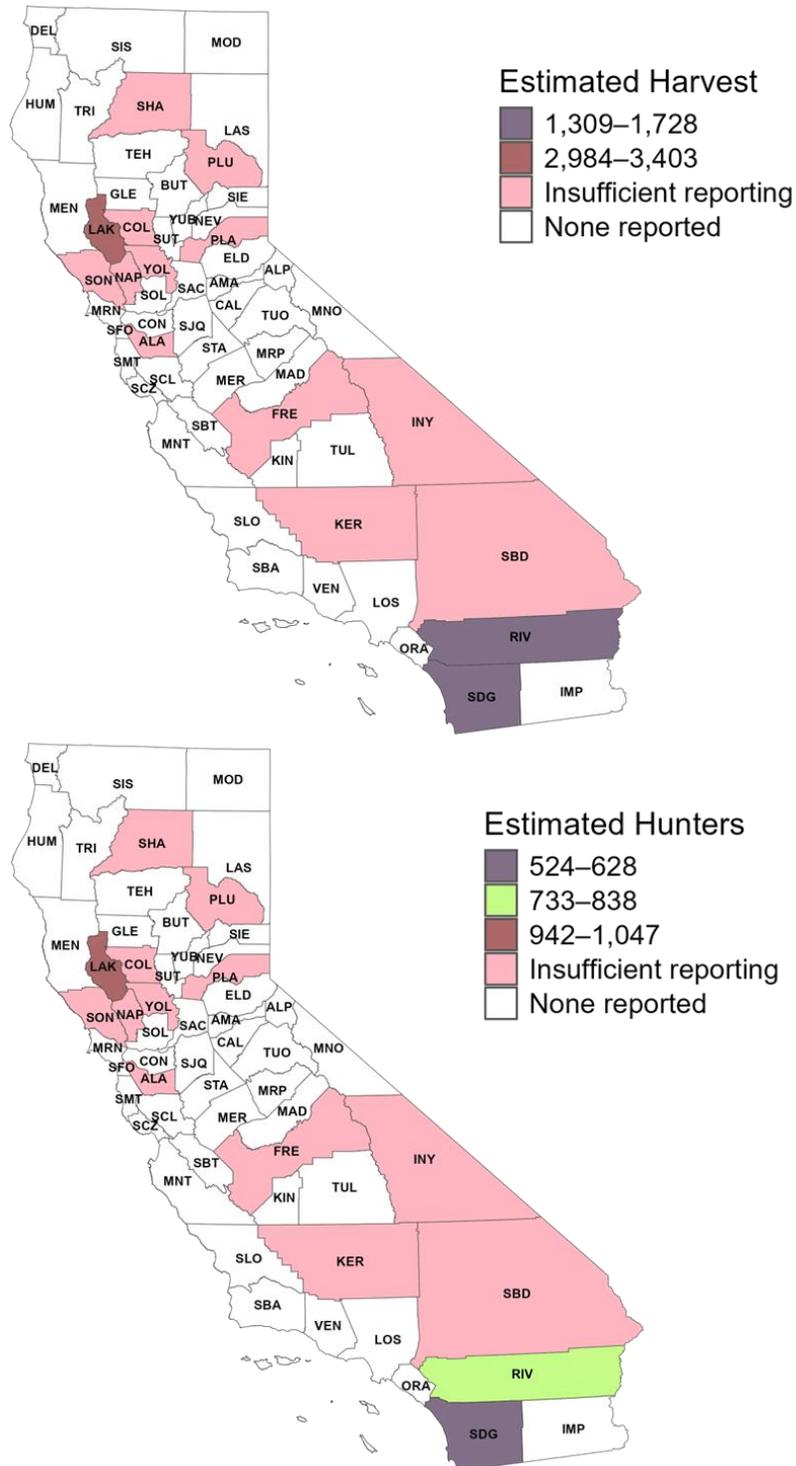


Figure 20. Estimated number of hunters and harvest by county for jackrabbit (black-tailed, *Lepus californicus*; white-tailed, *L. townsendii*) during the 2023–2024 hunting season (*Lepus californicus*). Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

### Cottontail rabbit

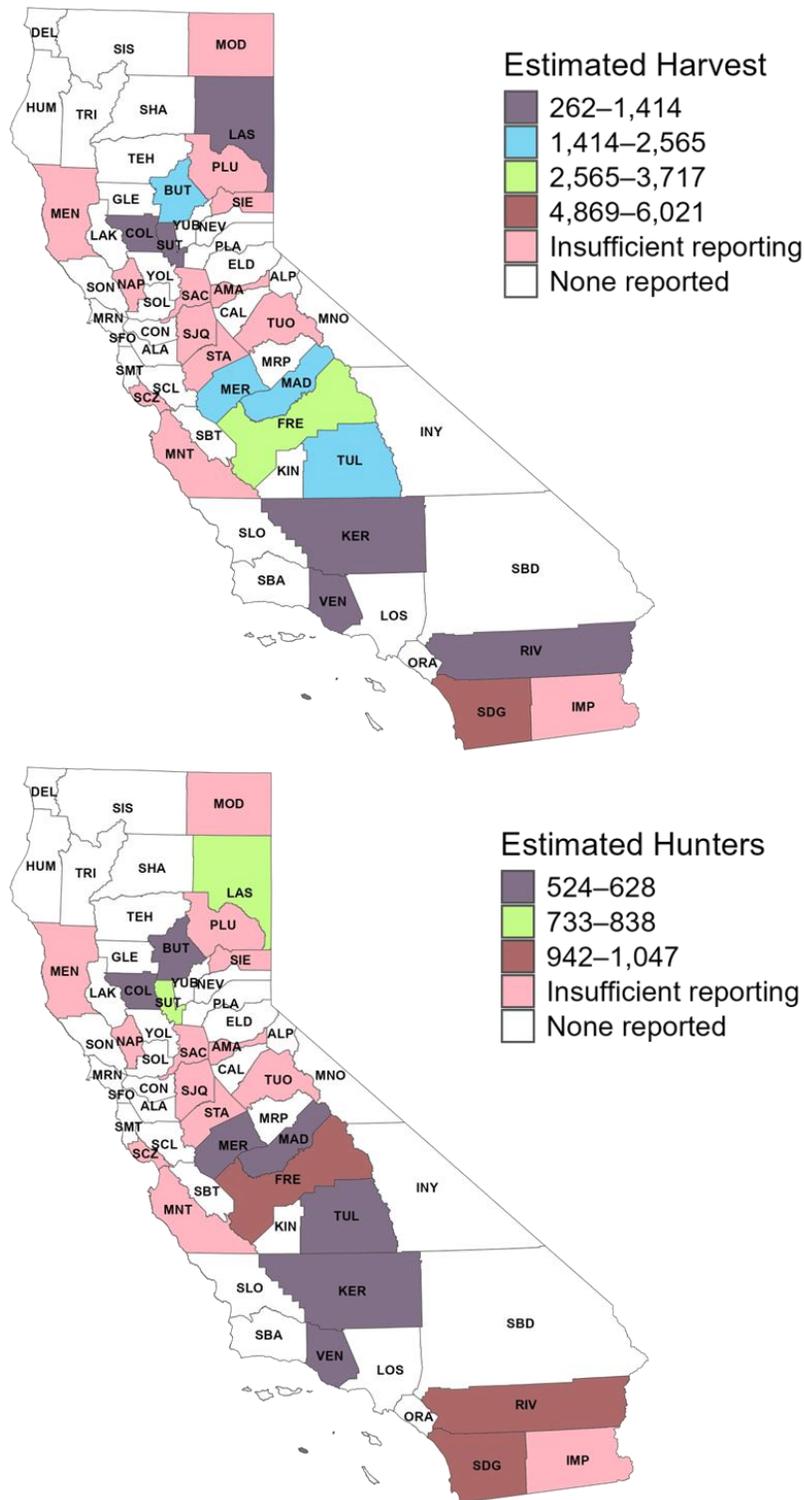


Figure 21. Estimated number of hunters and harvest by county for cottontail rabbit (*Sylvilagus auduboni*). Insufficient reporting indicates that fewer than three respondents reported harvest in a county.

## Tables

Table 1. Statewide estimated harvest, hunters, and hunter effort for 18 species reported from the 2023–2024 Upland Game Bird and Small Game Mammal Harvest Survey. Ninety-five percent confidence interval = 95% CI.

| Species                 | Harvest (95% CI)            | Hunters (95% CI)         | Days hunted (95% CI)        |
|-------------------------|-----------------------------|--------------------------|-----------------------------|
| Mountain quail          | 35,168 (21,548 – 48,788)    | 12,089 (9,308 – 14,870)  | 48,906 (33,041 – 64,770)    |
| California quail        | 221,633 (161,432 – 281,834) | 25,643 (21,816 – 29,471) | 129,500 (97,282 – 161,717)  |
| Gambel's quail          | 3,114 (0 – 6,448)           | 733 (18 – 1,447)         | 1,099 (0 – 2,338)           |
| Wild turkey Fall 2023   | 6,594 (4,053 – 9,135)       | 9,708 (7,193 – 12,223)   | 31,322 (17,867 – 44,776)    |
| Wild turkey Spring 2024 | 19,965 (14,782 – 25,148)    | 26,010 (22,162 – 29,858) | 109,351 (87,115 – 131,587)  |
| Ruffed grouse*          | 0                           | 3                        | 20                          |
| White-tailed ptarmigan* | None reported               | None reported            | None reported               |
| Sooty grouse            | 2,198 (54 – 4,342)          | 2,015 (835 – 3,194)      | 6,411 (1,721 – 11,101)      |
| Ring-necked pheasant    | 28,757 (14,660 – 42,855)    | 10,624 (8,002 – 13,246)  | 28,574 (18,354 – 38,795)    |
| Chukar                  | 30,955 (11,545 – 50,365)    | 4,946 (3,117 – 6,774)    | 27,109 (9,408 – 44,810)     |
| Band-tailed pigeon      | 2,381 (330 – 4,432)         | 2,564 (1,236 – 3,892)    | 4,946 (1,584 – 8,307)       |
| Eurasian collared-dove  | 99,826 (60,924 – 138,728)   | 9,891 (7,354 – 12,428)   | 38,832 (24,615 – 53,048)    |
| White-winged dove       | 29,856 (16,328 – 43,385)    | 4,579 (2,818 – 6,341)    | 12,455 (6,592 – 18,319)     |
| Mourning dove           | 796,413 (676,875 – 915,952) | 46,891 (42,228 – 51,554) | 136,826 (117,355 – 156,298) |
| Wilson's snipe          | 8,243 (0 – 16,903)          | 1,099 (225 – 1,973)      | 4,213 (219 – 8,207)         |
| Tree squirrels          | 31,413 (15,963 – 46,862)    | 12,041 (8,649 – 15,434)  | 53,401 (30,989 – 75,813)    |
| Jackrabbit              | 11,256 (3,137 – 19,375)     | 5,497 (3,175 – 7,820)    | 23,036 (9,833 – 36,239)     |
| Cottontail rabbit       | 37,957 (20,860 – 55,054)    | 11,256 (7,971 – 14,541)  | 43,978 (26,594 – 61,361)    |

\* Reporting raw results from survey responses.

Table 2. Statewide estimated harvest and hunter effort for 18 species reported from the 2023–2024 Upland Game Bird and Small Game Mammal Harvest Survey. Ninety-five percent confidence interval = 95% CI.

| Species                 | Average bag per hunter (95% CI) | Average days hunted (95% CI) |
|-------------------------|---------------------------------|------------------------------|
| Mountain quail          | 2.91 (1.57 – 4.25)              | 4.05 (2.44 – 5.65)           |
| California quail        | 8.64 (5.96 – 11.32)             | 5.05 (3.58 – 6.52)           |
| Gambel's quail          | 4.25 (0.00 – 10.41)             | 1.50 (0.00 – 3.74)           |
| Wild turkey Fall 2023   | 0.68 (0.36 – 0.99)              | 3.23 (1.61 – 4.84)           |
| Wild turkey Spring 2024 | 0.77 (0.54 – 1.00)              | 4.20 (3.15 – 5.26)           |
| Ruffed grouse           | 0.00 (NA – NA)                  | 6.67 (0 – 17.96)             |
| White-tailed ptarmigan* | NA                              | NA                           |
| Sooty grouse            | 1.09 (0 – 2.33)                 | 3.18 (0.20 – 6.16)           |
| Ring-necked pheasant    | 2.71 (1.22 – 4.19)              | 2.69 (1.52 – 3.86)           |
| Chukar                  | 6.26 (1.70 – 10.82)             | 5.48 (1.37 – 9.59)           |
| Band-tailed pigeon      | 0.93 (0.00 – 1.86)              | 1.93 (0.28 – 3.58)           |
| Eurasian collared-dove  | 10.09 (5.38 – 14.80)            | 3.93 (2.17 – 5.68)           |
| White-winged dove       | 6.52 (2.64 – 10.40)             | 2.72 (1.07 – 4.37)           |
| Mourning dove           | 16.98 (13.93 – 20.04)           | 2.92 (2.41 – 3.42)           |
| Wilson's snipe          | 7.50 (0.00 – 17.38)             | 3.83 (0.00 – 8.58)           |
| Tree squirrels          | 2.61 (1.13 – 4.09)              | 4.43 (2.19 – 6.68)           |
| Jackrabbit              | 2.05 (0.34 – 3.76)              | 4.19 (1.21 – 7.17)           |
| Cottontail rabbit       | 3.37 (1.56 – 5.18)              | 3.91 (1.99 – 5.83)           |

\* Reporting raw results from survey responses.

Table 3. Estimated harvest, hunters, and hunter effort for mountain quail and California quail across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted.

| County       | Mountain quail harvest | Mountain quail hunters | Mountain quail days    | California quail harvest | California quail hunters | California quail days  |
|--------------|------------------------|------------------------|------------------------|--------------------------|--------------------------|------------------------|
| Alameda      |                        |                        |                        | insufficient reporting   | insufficient reporting   | insufficient reporting |
| Alpine       |                        |                        |                        | insufficient reporting   | insufficient reporting   | insufficient reporting |
| Amador       | Insufficient reporting | Insufficient reporting | Insufficient reporting | insufficient reporting   | insufficient reporting   | insufficient reporting |
| Butte        | 2,198                  | 733                    | 1,832                  | 6,960                    | 1,099                    | 4,762                  |
| Calaveras    |                        |                        |                        | insufficient reporting   | insufficient reporting   | insufficient reporting |
| Colusa       |                        |                        |                        |                          |                          |                        |
| Contra Costa |                        |                        |                        |                          |                          |                        |
| Del Norte    |                        |                        |                        |                          |                          |                        |
| El Dorado    | 4,396                  | 733                    | 3,114                  | insufficient reporting   | insufficient reporting   | insufficient reporting |
| Fresno       | 1,465                  | 550                    | 4,213                  | 2,015                    | 916                      | 3,663                  |
| Glenn        |                        |                        |                        |                          |                          |                        |
| Humboldt     | 5,312                  | 916                    | 5,495                  | insufficient reporting   | insufficient reporting   | insufficient reporting |
| Imperial     |                        |                        |                        | insufficient reporting   | insufficient reporting   | insufficient reporting |
| Inyo         | Insufficient reporting | Insufficient reporting | Insufficient reporting | 15,203                   | 1,282                    | 12,455                 |
| Kern         | Insufficient reporting | Insufficient reporting | Insufficient reporting | 22,896                   | 3,663                    | 13,738                 |
| Kings        |                        |                        |                        |                          |                          |                        |
| Lake         | Insufficient reporting | Insufficient reporting | Insufficient reporting | 1,832                    | 550                      | 1,832                  |
| Lassen       | Insufficient reporting | Insufficient reporting | Insufficient reporting | 9,342                    | 916                      | 3,480                  |
| Los Angeles  | Insufficient reporting | Insufficient reporting | Insufficient reporting | 7,510                    | 916                      | 5,129                  |
| Madera       | Insufficient reporting | Insufficient reporting | Insufficient reporting | 8,243                    | 550                      | 1,465                  |

|                        |                        |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <b>Marin</b>           |                        |                        |                        | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>Mariposa</b>        | Insufficient reporting |
| <b>Mendocino</b>       |                        |                        |                        | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>Merced</b>          |                        |                        |                        | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>Modoc</b>           | Insufficient reporting | Insufficient reporting | Insufficient reporting | 8,059                  | 733                    | 2,381                  |
| <b>Mono</b>            | 183                    | 550                    | 1,282                  |                        |                        |                        |
| <b>Monterey</b>        | Insufficient reporting | Insufficient reporting | Insufficient reporting | 20,148                 | 1,282                  | 9,891                  |
| <b>Napa</b>            |                        |                        |                        | 10,624                 | 1,465                  | 8,243                  |
| <b>Nevada</b>          | 1,832                  | 733                    | 1,832                  | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>Orange</b>          |                        |                        |                        |                        |                        |                        |
| <b>Placer</b>          | 183                    | 550                    | 1,282                  |                        |                        |                        |
| <b>Plumas</b>          | 1,282                  | 550                    | 1,832                  | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>Riverside</b>       | Insufficient reporting |
| <b>Sacramento</b>      |                        |                        |                        |                        |                        |                        |
| <b>San Benito</b>      |                        |                        |                        | 3,114                  | 733                    | 2,381                  |
| <b>San Bernardino</b>  | 1,465                  | 550                    | 4,030                  | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>San Diego</b>       | Insufficient reporting | Insufficient reporting | Insufficient reporting | 13,738                 | 2,015                  | 9,708                  |
| <b>San Francisco</b>   |                        |                        |                        |                        |                        |                        |
| <b>San Joaquin</b>     | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| <b>San Luis Obispo</b> |                        |                        |                        | 9,342                  | 1,282                  | 4,946                  |
| <b>San Mateo</b>       |                        |                        |                        | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>Santa Barbara</b>   |                        |                        |                        | 1,649                  | 1,282                  | 5,495                  |
| <b>Santa Clara</b>     |                        |                        |                        | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>Santa Cruz</b>      |                        |                        |                        |                        |                        |                        |

|                   |                        |                        |                        |                        |                        |                        |
|-------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <b>Shasta</b>     | 1,465                  | 550                    | 1,649                  | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>Sierra</b>     | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| <b>Siskiyou</b>   |                        |                        |                        |                        |                        |                        |
| <b>Solano</b>     |                        |                        |                        | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>Sonoma</b>     |                        |                        |                        | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>Stanislaus</b> |                        |                        |                        |                        |                        |                        |
| <b>Sutter</b>     |                        |                        |                        | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>Tehama</b>     | 2,198                  | 916                    | 2,748                  | 29,673                 | 1,282                  | 4,946                  |
| <b>Trinity</b>    | 2,931                  | 550                    | 3,297                  | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>Tulare</b>     | Insufficient reporting | Insufficient reporting | Insufficient reporting | 8,059                  | 916                    | 1,832                  |
| <b>Tuolumne</b>   | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| <b>Ventura</b>    | 183                    | 550                    | 1,282                  | 2,381                  | 1,099                  | 3,114                  |
| <b>Yolo</b>       |                        |                        |                        | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>Yuba</b>       |                        |                        |                        | 5,495                  | 733                    | 6,411                  |

Table 4. Estimated harvest, hunters, and hunter-effort for Gambel’s quail across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted.

| <b>County</b>       | <b>Gambel' s quail harvest</b> | <b>Gambel' s quail hunters</b> | <b>Gambel' s quail days</b> |
|---------------------|--------------------------------|--------------------------------|-----------------------------|
| <b>Alameda</b>      |                                |                                |                             |
| <b>Alpine</b>       |                                |                                |                             |
| <b>Amador</b>       |                                |                                |                             |
| <b>Butte</b>        |                                |                                |                             |
| <b>Calaveras</b>    |                                |                                |                             |
| <b>Colusa</b>       |                                |                                |                             |
| <b>Contra Costa</b> |                                |                                |                             |
| <b>Del Norte</b>    |                                |                                |                             |
| <b>El Dorado</b>    |                                |                                |                             |
| <b>Fresno</b>       |                                |                                |                             |
| <b>Glenn</b>        |                                |                                |                             |
| <b>Humboldt</b>     |                                |                                |                             |
| <b>Imperial</b>     | Insufficient reporting         | Insufficient reporting         | Insufficient reporting      |
| <b>Inyo</b>         |                                |                                |                             |
| <b>Kern</b>         |                                |                                |                             |
| <b>Kings</b>        |                                |                                |                             |
| <b>Lake</b>         |                                |                                |                             |
| <b>Lassen</b>       |                                |                                |                             |
| <b>Los Angeles</b>  |                                |                                |                             |
| <b>Madera</b>       |                                |                                |                             |
| <b>Marin</b>        |                                |                                |                             |
| <b>Mariposa</b>     |                                |                                |                             |
| <b>Mendocino</b>    |                                |                                |                             |
| <b>Merced</b>       |                                |                                |                             |
| <b>Modoc</b>        |                                |                                |                             |
| <b>Mono</b>         |                                |                                |                             |
| <b>Monterey</b>     |                                |                                |                             |
| <b>Napa</b>         |                                |                                |                             |
| <b>Nevada</b>       |                                |                                |                             |

|                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|
| <b>Orange</b>          |                        |                        |                        |
| <b>Placer</b>          |                        |                        |                        |
| <b>Plumas</b>          |                        |                        |                        |
| <b>Riverside</b>       |                        |                        |                        |
| <b>Sacramento</b>      |                        |                        |                        |
| <b>San Benito</b>      |                        |                        |                        |
| <b>San Bernardino</b>  | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>San Diego</b>       |                        |                        |                        |
| <b>San Francisco</b>   |                        |                        |                        |
| <b>San Joaquin</b>     |                        |                        |                        |
| <b>San Luis Obispo</b> |                        |                        |                        |
| <b>San Mateo</b>       |                        |                        |                        |
| <b>Santa Barbara</b>   |                        |                        |                        |
| <b>Santa Clara</b>     |                        |                        |                        |
| <b>Santa Cruz</b>      |                        |                        |                        |
| <b>Shasta</b>          |                        |                        |                        |
| <b>Sierra</b>          |                        |                        |                        |
| <b>Siskiyou</b>        |                        |                        |                        |
| <b>Solano</b>          |                        |                        |                        |
| <b>Sonoma</b>          |                        |                        |                        |
| <b>Stanislaus</b>      |                        |                        |                        |
| <b>Sutter</b>          |                        |                        |                        |
| <b>Tehama</b>          |                        |                        |                        |
| <b>Trinity</b>         |                        |                        |                        |
| <b>Tulare</b>          |                        |                        |                        |
| <b>Tuolumne</b>        |                        |                        |                        |
| <b>Ventura</b>         |                        |                        |                        |
| <b>Yolo</b>            |                        |                        |                        |
| <b>Yuba</b>            |                        |                        |                        |

Table 5. Estimated harvest, hunters, and hunter-effort for wild turkey across all California counties during the 2023-2024 hunting season. F and S refer to Fall 2023 and Spring 2024, respectively. Blank cells indicate no data available. Insufficient reporting indicates counties with less than three hunters reporting harvest or days hunted.

| County       | Wild turkey F harvest  | Wild turkey F hunters  | Wild turkey F days     | Wild turkey S harvest  | Wild turkey S hunters  | Wild turkey S days     |
|--------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Alameda      | 6,594                  | 9,708                  | 31,322                 | 19,965                 | 26,010                 | 109,351                |
| Alpine       | Insufficient reporting | Insufficient reporting | Insufficient reporting | 183                    | 550                    | 1,099                  |
| Amador       |                        |                        |                        |                        |                        |                        |
| Butte        | Insufficient reporting | Insufficient reporting | Insufficient reporting | 550                    | 1,099                  | 3,663                  |
| Calaveras    | 1,649                  | 1,649                  | 4,579                  | 1,649                  | 2,564                  | 9,708                  |
| Colusa       | 183                    | 733                    | 2,381                  | 0                      | 916                    | 4,030                  |
| Contra Costa |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| Del Norte    |                        |                        |                        | 366                    | 550                    | 1,099                  |
| El Dorado    |                        |                        |                        |                        |                        |                        |
| Fresno       | Insufficient reporting | Insufficient reporting | Insufficient reporting | 1,832                  | 2,015                  | 9,158                  |
| Glenn        | 366                    | 916                    | 2,198                  | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| Humboldt     |                        |                        |                        | 183                    | 733                    | 3,297                  |
| Imperial     | Insufficient reporting |
| Inyo         |                        |                        |                        |                        |                        |                        |
| Kern         |                        |                        |                        |                        |                        |                        |
| Kings        |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| Lake         |                        |                        |                        |                        |                        |                        |
| Lassen       | Insufficient reporting |
| Los Angeles  |                        |                        |                        |                        |                        |                        |
| Madera       |                        |                        |                        |                        |                        |                        |
| Marin        |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |

|                        |                        |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <b>Mariposa</b>        |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Mendocino</b>       | Insufficient reporting | Insufficient reporting | Insufficient reporting | 1,099                  | 733                    | 6,045                  |
| <b>Merced</b>          |                        |                        |                        | 183                    | 550                    | 1,465                  |
| <b>Modoc</b>           |                        |                        |                        |                        |                        |                        |
| <b>Mono</b>            |                        |                        |                        |                        |                        |                        |
| <b>Monterey</b>        |                        |                        |                        |                        |                        |                        |
| <b>Napa</b>            | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| <b>Nevada</b>          | Insufficient reporting |
| <b>Orange</b>          | Insufficient reporting | Insufficient reporting | Insufficient reporting | 183                    | 1,099                  | 2,381                  |
| <b>Placer</b>          |                        |                        |                        |                        |                        |                        |
| <b>Plumas</b>          | Insufficient reporting | Insufficient reporting | Insufficient reporting | 1,099                  | 1,282                  | 5,495                  |
| <b>Riverside</b>       |                        |                        |                        | 550                    | 550                    | 1,649                  |
| <b>Sacramento</b>      |                        |                        |                        |                        |                        |                        |
| <b>San Benito</b>      |                        |                        |                        | 550                    | 550                    | 916                    |
| <b>San Bernardino</b>  | Insufficient reporting |
| <b>San Diego</b>       |                        |                        |                        |                        |                        |                        |
| <b>San Francisco</b>   | 550                    | 1,282                  | 3,297                  | 733                    | 1,465                  | 7,144                  |
| <b>San Joaquin</b>     |                        |                        |                        |                        |                        |                        |
| <b>San Luis Obispo</b> |                        |                        |                        |                        |                        |                        |
| <b>San Mateo</b>       |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Santa Barbara</b>   |                        |                        |                        |                        |                        |                        |
| <b>Santa Clara</b>     |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Santa Cruz</b>      |                        |                        |                        | 183                    | 550                    | 916                    |
| <b>Shasta</b>          | Insufficient reporting |
| <b>Sierra</b>          | 183                    | 550                    | 3,297                  | 366                    | 1,465                  | 8,426                  |
| <b>Siskiyou</b>        |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |

|                   |                        |                        |                        |                        |                        |                        |
|-------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <b>Solano</b>     |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Sonoma</b>     | Insufficient reporting | Insufficient reporting | Insufficient reporting | 733                    | 733                    | 3,297                  |
| <b>Stanislaus</b> |                        |                        |                        | 916                    | 733                    | 2,748                  |
| <b>Sutter</b>     |                        |                        |                        |                        |                        |                        |
| <b>Tehama</b>     | Insufficient reporting | Insufficient reporting | Insufficient reporting | 550                    | 733                    | 4,213                  |
| <b>Trinity</b>    | Insufficient reporting | Insufficient reporting | Insufficient reporting | 1,465                  | 1,099                  | 4,762                  |
| <b>Tulare</b>     |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Tuolumne</b>   | Insufficient reporting |
| <b>Ventura</b>    |                        |                        |                        | 916                    | 1,282                  | 2,015                  |
| <b>Yolo</b>       |                        |                        |                        |                        |                        |                        |
| <b>Yuba</b>       | 366                    | 550                    | 733                    | 1,832                  | 1,099                  | 5,129                  |

Table 6. Estimated harvest, hunters, and hunter-effort for ruffed grouse and sooty grouse across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted.

| County       | Ruffed grouse harvest | Ruffed grouse hunters | Ruffed grouse days | Sooty grouse harvest   | Sooty grouse hunters   | Sooty grouse days      |
|--------------|-----------------------|-----------------------|--------------------|------------------------|------------------------|------------------------|
| Alameda      |                       |                       |                    |                        |                        |                        |
| Alpine       |                       |                       |                    |                        |                        |                        |
| Amador       |                       |                       |                    |                        |                        |                        |
| Butte        |                       |                       |                    |                        |                        |                        |
| Calaveras    |                       |                       |                    |                        |                        |                        |
| Colusa       |                       |                       |                    |                        |                        |                        |
| Contra Costa |                       |                       |                    |                        |                        |                        |
| Del Norte    |                       |                       |                    |                        |                        |                        |
| El Dorado    |                       |                       |                    |                        |                        |                        |
| Fresno       |                       |                       |                    | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| Glenn        |                       |                       |                    |                        |                        |                        |
| Humboldt *   | 0                     | 3                     | 20                 | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| Imperial     |                       |                       |                    |                        |                        |                        |
| Inyo         |                       |                       |                    |                        |                        |                        |
| Kern         |                       |                       |                    |                        |                        |                        |
| Kings        |                       |                       |                    |                        |                        |                        |
| Lake         |                       |                       |                    |                        |                        |                        |
| Lassen       |                       |                       |                    |                        |                        |                        |
| Los Angeles  |                       |                       |                    |                        |                        |                        |
| Madera       |                       |                       |                    |                        |                        |                        |
| Marin        |                       |                       |                    |                        |                        |                        |
| Mariposa     |                       |                       |                    |                        |                        |                        |
| Mendocino    |                       |                       |                    | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| Merced       |                       |                       |                    |                        |                        |                        |
| Modoc        |                       |                       |                    | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| Mono         |                       |                       |                    | 0                      | 550                    | 1,099                  |
| Monterey     |                       |                       |                    |                        |                        |                        |

|                        |  |  |  |                        |                        |                        |
|------------------------|--|--|--|------------------------|------------------------|------------------------|
| <b>Napa</b>            |  |  |  |                        |                        |                        |
| <b>Nevada</b>          |  |  |  | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Orange</b>          |  |  |  |                        |                        |                        |
| <b>Placer</b>          |  |  |  |                        |                        |                        |
| <b>Plumas</b>          |  |  |  | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Riverside</b>       |  |  |  |                        |                        |                        |
| <b>Sacramento</b>      |  |  |  |                        |                        |                        |
| <b>San Benito</b>      |  |  |  |                        |                        |                        |
| <b>San Bernardino</b>  |  |  |  |                        |                        |                        |
| <b>San Diego</b>       |  |  |  |                        |                        |                        |
| <b>San Francisco</b>   |  |  |  |                        |                        |                        |
| <b>San Joaquin</b>     |  |  |  |                        |                        |                        |
| <b>San Luis Obispo</b> |  |  |  |                        |                        |                        |
| <b>San Mateo</b>       |  |  |  |                        |                        |                        |
| <b>Santa Barbara</b>   |  |  |  |                        |                        |                        |
| <b>Santa Clara</b>     |  |  |  |                        |                        |                        |
| <b>Santa Cruz</b>      |  |  |  |                        |                        |                        |
| <b>Shasta</b>          |  |  |  |                        |                        |                        |
| <b>Sierra</b>          |  |  |  |                        |                        |                        |
| <b>Siskiyou</b>        |  |  |  |                        |                        |                        |
| <b>Solano</b>          |  |  |  |                        |                        |                        |
| <b>Sonoma</b>          |  |  |  |                        |                        |                        |
| <b>Stanislaus</b>      |  |  |  |                        |                        |                        |
| <b>Sutter</b>          |  |  |  |                        |                        |                        |
| <b>Tehama</b>          |  |  |  |                        |                        |                        |
| <b>Trinity</b>         |  |  |  |                        |                        |                        |
| <b>Tulare</b>          |  |  |  |                        |                        |                        |
| <b>Tuolumne</b>        |  |  |  | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Ventura</b>         |  |  |  |                        |                        |                        |
| <b>Yolo</b>            |  |  |  |                        |                        |                        |
| <b>Yuba</b>            |  |  |  |                        |                        |                        |

\* Reporting raw results from survey responses.

Table 7. Estimated harvest, hunters, and hunter-effort for chukar across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted.

| County       | Ring-necked pheasant harvest | Ring-necked pheasant hunters | Ring-necked pheasant days | Chukar harvest         | Chukar hunters         | Chukar days            |
|--------------|------------------------------|------------------------------|---------------------------|------------------------|------------------------|------------------------|
| Alameda      |                              |                              |                           |                        |                        |                        |
| Alpine       |                              |                              |                           |                        |                        |                        |
| Amador       | Insufficient reporting       | Insufficient reporting       | Insufficient reporting    |                        |                        |                        |
| Butte        | 2,015                        | 550                          | 1,649                     |                        |                        |                        |
| Calaveras    |                              |                              |                           |                        |                        |                        |
| Colusa       | 8,426                        | 2,015                        | 9,158                     |                        |                        |                        |
| Contra Costa | 1,099                        | 550                          | 1,099                     |                        |                        |                        |
| Del Norte    |                              |                              |                           |                        |                        |                        |
| El Dorado    |                              |                              |                           |                        |                        |                        |
| Fresno       | Insufficient reporting       | Insufficient reporting       | Insufficient reporting    |                        |                        |                        |
| Glenn        | 2,015                        | 916                          | 2,198                     |                        |                        |                        |
| Humboldt     |                              |                              |                           |                        |                        |                        |
| Imperial     | Insufficient reporting       | Insufficient reporting       | Insufficient reporting    | insufficient reporting | insufficient reporting | insufficient reporting |
| Inyo         | Insufficient reporting       | Insufficient reporting       | Insufficient reporting    | 2,015                  | 733                    | 3,114                  |
| Kern         | Insufficient reporting       | Insufficient reporting       | Insufficient reporting    | 3,847                  | 1,465                  | 3,297                  |
| Kings        |                              |                              |                           |                        |                        |                        |
| Lake         |                              |                              |                           |                        |                        |                        |
| Lassen       | Insufficient reporting       | Insufficient reporting       | Insufficient reporting    | 13,738                 | 1,099                  | 5,861                  |
| Los Angeles  |                              |                              |                           |                        |                        |                        |
| Madera       | Insufficient reporting       | Insufficient reporting       | Insufficient reporting    |                        |                        |                        |
| Marin        |                              |                              |                           |                        |                        |                        |
| Mariposa     |                              |                              |                           |                        |                        |                        |
| Mendocino    |                              |                              |                           |                        |                        |                        |
| Merced       | 0                            | 733                          | 1,282                     |                        |                        |                        |

|                        |                        |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <b>Modoc</b>           |                        |                        |                        | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>Mono</b>            |                        |                        |                        | insufficient reporting | insufficient reporting | insufficient reporting |
| <b>Monterey</b>        |                        |                        |                        |                        |                        |                        |
| <b>Napa</b>            |                        |                        |                        |                        |                        |                        |
| <b>Nevada</b>          |                        |                        |                        |                        |                        |                        |
| <b>Orange</b>          |                        |                        |                        |                        |                        |                        |
| <b>Placer</b>          |                        |                        |                        |                        |                        |                        |
| <b>Plumas</b>          |                        |                        |                        |                        |                        |                        |
| <b>Riverside</b>       |                        |                        |                        |                        |                        |                        |
| <b>Sacramento</b>      |                        |                        |                        |                        |                        |                        |
| <b>San Benito</b>      |                        |                        |                        |                        |                        |                        |
| <b>San Bernardino</b>  |                        |                        |                        | 4,030                  | 1,099                  | 3,480                  |
| <b>San Diego</b>       |                        |                        |                        |                        |                        |                        |
| <b>San Francisco</b>   |                        |                        |                        |                        |                        |                        |
| <b>San Joaquin</b>     | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| <b>San Luis Obispo</b> |                        |                        |                        |                        |                        |                        |
| <b>San Mateo</b>       |                        |                        |                        |                        |                        |                        |
| <b>Santa Barbara</b>   |                        |                        |                        |                        |                        |                        |
| <b>Santa Clara</b>     |                        |                        |                        |                        |                        |                        |
| <b>Santa Cruz</b>      |                        |                        |                        |                        |                        |                        |
| <b>Shasta</b>          |                        |                        |                        |                        |                        |                        |
| <b>Sierra</b>          |                        |                        |                        |                        |                        |                        |
| <b>Siskiyou</b>        | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| <b>Solano</b>          | 1,282                  | 916                    | 1,465                  |                        |                        |                        |
| <b>Sonoma</b>          |                        |                        |                        |                        |                        |                        |
| <b>Stanislaus</b>      |                        |                        |                        |                        |                        |                        |
| <b>Sutter</b>          | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| <b>Tehama</b>          | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| <b>Trinity</b>         |                        |                        |                        |                        |                        |                        |
| <b>Tulare</b>          | 1,282                  | 733                    | 1,282                  |                        |                        |                        |

|                 |                        |                        |                        |  |  |  |
|-----------------|------------------------|------------------------|------------------------|--|--|--|
| <b>Tuolumne</b> |                        |                        |                        |  |  |  |
| <b>Ventura</b>  |                        |                        |                        |  |  |  |
| <b>Yolo</b>     | 4,946                  | 1,832                  | 3,847                  |  |  |  |
| <b>Yuba</b>     | Insufficient reporting | Insufficient reporting | Insufficient reporting |  |  |  |

Table 8. Estimated harvest, hunters, and hunter-effort for band-tailed pigeon and Eurasian collared-dove across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted.

| County       | Band-tailed pigeon harvest | Band-tailed pigeon hunters | Band-tailed pigeon days | Eur. Collared dove harvest | Eur. Collared dove hunters | Eur. Collared dove days |
|--------------|----------------------------|----------------------------|-------------------------|----------------------------|----------------------------|-------------------------|
| Alameda      |                            |                            |                         |                            |                            |                         |
| Alpine       |                            |                            |                         |                            |                            |                         |
| Amador       |                            |                            |                         | Insufficient reporting     | Insufficient reporting     | Insufficient reporting  |
| Butte        |                            |                            |                         | 3,847                      | 733                        | 916                     |
| Calaveras    |                            |                            |                         |                            |                            |                         |
| Colusa       |                            |                            |                         | 2,748                      | 550                        | 733                     |
| Contra Costa |                            |                            |                         |                            |                            |                         |
| Del Norte    |                            |                            |                         |                            |                            |                         |
| El Dorado    |                            |                            |                         |                            |                            |                         |
| Fresno       |                            |                            |                         | Insufficient reporting     | Insufficient reporting     | Insufficient reporting  |
| Glenn        |                            |                            |                         |                            |                            |                         |
| Humboldt     | Insufficient reporting     | Insufficient reporting     | Insufficient reporting  | Insufficient reporting     | Insufficient reporting     | Insufficient reporting  |
| Imperial     |                            |                            |                         | 37,916                     | 2,381                      | 7,876                   |
| Inyo         |                            |                            |                         | Insufficient reporting     | Insufficient reporting     | Insufficient reporting  |
| Kern         |                            |                            |                         | 5,129                      | 733                        | 4,579                   |
| Kings        |                            |                            |                         | Insufficient reporting     | Insufficient reporting     | Insufficient reporting  |
| Lake         |                            |                            |                         |                            |                            |                         |
| Lassen       |                            |                            |                         | Insufficient reporting     | Insufficient reporting     | Insufficient reporting  |
| Los Angeles  |                            |                            |                         |                            |                            |                         |
| Madera       | Insufficient reporting     | Insufficient reporting     | Insufficient reporting  | 2,381                      | 550                        | 3,114                   |
| Marin        |                            |                            |                         |                            |                            |                         |
| Mariposa     | Insufficient reporting     | Insufficient reporting     | Insufficient reporting  |                            |                            |                         |
| Mendocino    |                            |                            |                         |                            |                            |                         |

|                        |                        |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <b>Merced</b>          |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Modoc</b>           |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Mono</b>            |                        |                        |                        |                        |                        |                        |
| <b>Monterey</b>        | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| <b>Napa</b>            |                        |                        |                        |                        |                        |                        |
| <b>Nevada</b>          |                        |                        |                        |                        |                        |                        |
| <b>Orange</b>          |                        |                        |                        |                        |                        |                        |
| <b>Placer</b>          |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Plumas</b>          |                        |                        |                        |                        |                        |                        |
| <b>Riverside</b>       |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Sacramento</b>      |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>San Benito</b>      |                        |                        |                        |                        |                        |                        |
| <b>San Bernardino</b>  |                        |                        |                        |                        |                        |                        |
| <b>San Diego</b>       | Insufficient reporting | Insufficient reporting | Insufficient reporting | 8,426                  | 550                    | 1,282                  |
| <b>San Francisco</b>   |                        |                        |                        |                        |                        |                        |
| <b>San Joaquin</b>     |                        |                        |                        |                        |                        |                        |
| <b>San Luis Obispo</b> | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| <b>San Mateo</b>       |                        |                        |                        |                        |                        |                        |
| <b>Santa Barbara</b>   |                        |                        |                        |                        |                        |                        |
| <b>Santa Clara</b>     |                        |                        |                        |                        |                        |                        |
| <b>Santa Cruz</b>      |                        |                        |                        |                        |                        |                        |
| <b>Shasta</b>          | Insufficient reporting |
| <b>Sierra</b>          |                        |                        |                        |                        |                        |                        |
| <b>Siskiyou</b>        |                        |                        |                        |                        |                        |                        |
| <b>Solano</b>          |                        |                        |                        |                        |                        |                        |
| <b>Sonoma</b>          |                        |                        |                        |                        |                        |                        |

|                   |                        |                        |                        |                        |                        |                        |
|-------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <b>Stanislaus</b> |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Sutter</b>     |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Tehama</b>     |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Trinity</b>    |                        |                        |                        |                        |                        |                        |
| <b>Tulare</b>     |                        |                        |                        | 7,876                  | 733                    | 2,748                  |
| <b>Tuolumne</b>   |                        |                        |                        |                        |                        |                        |
| <b>Ventura</b>    | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| <b>Yolo</b>       |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Yuba</b>       | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |

Table 9. Estimated harvest, hunters, and hunter-effort for white-winged dove and mourning dove across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted.

| County       | White-winged dove harvest | White-winged dove hunters | White-winged dove days | Mourning dove harvest  | Mourning dove hunters  | Mourning dove days     |
|--------------|---------------------------|---------------------------|------------------------|------------------------|------------------------|------------------------|
| Alameda      |                           |                           |                        |                        |                        |                        |
| Alpine       |                           |                           |                        |                        |                        |                        |
| Amador       |                           |                           |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| Butte        |                           |                           |                        | 34,069                 | 2,381                  | 5,495                  |
| Calaveras    |                           |                           |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| Colusa       |                           |                           |                        | 23,445                 | 2,381                  | 4,213                  |
| Contra Costa |                           |                           |                        | 12,455                 | 733                    | 1,465                  |
| Del Norte    |                           |                           |                        |                        |                        |                        |
| El Dorado    |                           |                           |                        |                        |                        |                        |
| Fresno       |                           |                           |                        | 79,861                 | 3,480                  | 11,540                 |
| Glenn        |                           |                           |                        | 9,525                  | 733                    | 2,198                  |
| Humboldt     |                           |                           |                        |                        |                        |                        |
| Imperial     | 10,807                    | 1,832                     | 5,861                  | 117,777                | 5,678                  | 15,386                 |
| Inyo         |                           |                           |                        | 10,074                 | 733                    | 1,649                  |
| Kern         |                           |                           |                        | 86,455                 | 4,396                  | 14,104                 |
| Kings        |                           |                           |                        | 15,569                 | 550                    | 1,282                  |
| Lake         |                           |                           |                        |                        |                        |                        |
| Lassen       |                           |                           |                        | 13,371                 | 916                    | 2,748                  |
| Los Angeles  |                           |                           |                        | 3,297                  | 550                    | 916                    |
| Madera       |                           |                           |                        | 32,054                 | 1,832                  | 7,144                  |
| Marin        |                           |                           |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| Mariposa     |                           |                           |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| Mendocino    |                           |                           |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| Merced       |                           |                           |                        | 53,302                 | 2,198                  | 6,594                  |
| Modoc        |                           |                           |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |

|                        |       |     |       |                        |                        |                        |
|------------------------|-------|-----|-------|------------------------|------------------------|------------------------|
| <b>Mono</b>            |       |     |       |                        |                        |                        |
| <b>Monterey</b>        |       |     |       | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Napa</b>            |       |     |       | 4,579                  | 733                    | 2,381                  |
| <b>Nevada</b>          |       |     |       | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Orange</b>          |       |     |       |                        |                        |                        |
| <b>Placer</b>          |       |     |       | 4,213                  | 550                    | 916                    |
| <b>Plumas</b>          |       |     |       |                        |                        |                        |
| <b>Riverside</b>       | 5,678 | 916 | 2,198 | 15,386                 | 1,099                  | 1,832                  |
| <b>Sacramento</b>      |       |     |       | 12,639                 | 1,282                  | 3,297                  |
| <b>San Benito</b>      |       |     |       | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>San Bernardino</b>  |       |     |       | 11,723                 | 1,099                  | 4,762                  |
| <b>San Diego</b>       |       |     |       | 15,936                 | 1,282                  | 2,931                  |
| <b>San Francisco</b>   |       |     |       |                        |                        |                        |
| <b>San Joaquin</b>     |       |     |       | 21,614                 | 1,649                  | 2,931                  |
| <b>San Luis Obispo</b> |       |     |       | 3,114                  | 550                    | 550                    |
| <b>San Mateo</b>       |       |     |       |                        |                        |                        |
| <b>Santa Barbara</b>   |       |     |       | 5,312                  | 733                    | 1,649                  |
| <b>Santa Clara</b>     |       |     |       |                        |                        |                        |
| <b>Santa Cruz</b>      |       |     |       |                        |                        |                        |
| <b>Shasta</b>          |       |     |       | 11,173                 | 916                    | 3,847                  |
| <b>Sierra</b>          |       |     |       |                        |                        |                        |
| <b>Siskiyou</b>        |       |     |       | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Solano</b>          |       |     |       | 13,738                 | 733                    | 2,015                  |
| <b>Sonoma</b>          |       |     |       | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Stanislaus</b>      |       |     |       | 36,634                 | 1,282                  | 4,946                  |
| <b>Sutter</b>          |       |     |       | 14,653                 | 1,099                  | 3,480                  |
| <b>Tehama</b>          |       |     |       | 22,163                 | 1,832                  | 4,213                  |
| <b>Trinity</b>         |       |     |       |                        |                        |                        |
| <b>Tulare</b>          |       |     |       | 27,109                 | 1,649                  | 6,228                  |
| <b>Tuolumne</b>        |       |     |       |                        |                        |                        |

|                |  |  |  |                        |                        |                        |
|----------------|--|--|--|------------------------|------------------------|------------------------|
| <b>Ventura</b> |  |  |  | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Yolo</b>    |  |  |  | 49,638                 | 2,198                  | 6,228                  |
| <b>Yuba</b>    |  |  |  | Insufficient reporting | Insufficient reporting | Insufficient reporting |

Table 10. Estimated harvest, hunters, and hunter-effort for Wilson’s snipe across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted.

| <b>County</b>       | <b>Wilson’s snipe harvest</b> | <b>Wilson’s snipe hunters</b> | <b>Wilson’s snipe days</b> |
|---------------------|-------------------------------|-------------------------------|----------------------------|
| <b>Alameda</b>      |                               |                               |                            |
| <b>Alpine</b>       |                               |                               |                            |
| <b>Amador</b>       |                               |                               |                            |
| <b>Butte</b>        | Insufficient reporting        | Insufficient reporting        | Insufficient reporting     |
| <b>Calaveras</b>    |                               |                               |                            |
| <b>Colusa</b>       |                               |                               |                            |
| <b>Contra Costa</b> |                               |                               |                            |
| <b>Del Norte</b>    |                               |                               |                            |
| <b>El Dorado</b>    |                               |                               |                            |
| <b>Fresno</b>       |                               |                               |                            |
| <b>Glenn</b>        |                               |                               |                            |
| <b>Humboldt</b>     |                               |                               |                            |
| <b>Imperial</b>     |                               |                               |                            |
| <b>Inyo</b>         |                               |                               |                            |
| <b>Kern</b>         |                               |                               |                            |
| <b>Kings</b>        |                               |                               |                            |
| <b>Lake</b>         |                               |                               |                            |
| <b>Lassen</b>       |                               |                               |                            |
| <b>Los Angeles</b>  |                               |                               |                            |
| <b>Madera</b>       |                               |                               |                            |
| <b>Marin</b>        |                               |                               |                            |
| <b>Mariposa</b>     |                               |                               |                            |
| <b>Mendocino</b>    |                               |                               |                            |
| <b>Merced</b>       | Insufficient reporting        | Insufficient reporting        | Insufficient reporting     |
| <b>Modoc</b>        |                               |                               |                            |
| <b>Mono</b>         |                               |                               |                            |
| <b>Monterey</b>     |                               |                               |                            |
| <b>Napa</b>         |                               |                               |                            |
| <b>Nevada</b>       |                               |                               |                            |

|                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|
| <b>Orange</b>          |                        |                        |                        |
| <b>Placer</b>          |                        |                        |                        |
| <b>Plumas</b>          |                        |                        |                        |
| <b>Riverside</b>       | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Sacramento</b>      |                        |                        |                        |
| <b>San Benito</b>      |                        |                        |                        |
| <b>San Bernardino</b>  | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>San Diego</b>       |                        |                        |                        |
| <b>San Francisco</b>   |                        |                        |                        |
| <b>San Joaquin</b>     |                        |                        |                        |
| <b>San Luis Obispo</b> |                        |                        |                        |
| <b>San Mateo</b>       |                        |                        |                        |
| <b>Santa Barbara</b>   |                        |                        |                        |
| <b>Santa Clara</b>     |                        |                        |                        |
| <b>Santa Cruz</b>      |                        |                        |                        |
| <b>Shasta</b>          |                        |                        |                        |
| <b>Sierra</b>          |                        |                        |                        |
| <b>Siskiyou</b>        |                        |                        |                        |
| <b>Solano</b>          |                        |                        |                        |
| <b>Sonoma</b>          |                        |                        |                        |
| <b>Stanislaus</b>      |                        |                        |                        |
| <b>Sutter</b>          | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Tehama</b>          |                        |                        |                        |
| <b>Trinity</b>         |                        |                        |                        |
| <b>Tulare</b>          |                        |                        |                        |
| <b>Tuolumne</b>        |                        |                        |                        |
| <b>Ventura</b>         |                        |                        |                        |
| <b>Yolo</b>            |                        |                        |                        |
| <b>Yuba</b>            |                        |                        |                        |

Table 11. Estimated harvest, hunters, and hunter-effort for tree squirrels across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted.

| <b>County</b>       | <b>Tree squirrel harvest</b> | <b>Tree squirrel hunters</b> | <b>Tree squirrel days</b> |
|---------------------|------------------------------|------------------------------|---------------------------|
| <b>Alameda</b>      |                              |                              |                           |
| <b>Alpine</b>       |                              |                              |                           |
| <b>Amador</b>       |                              |                              |                           |
| <b>Butte</b>        | 1,047                        | 524                          | 1,309                     |
| <b>Calaveras</b>    | 262                          | 524                          | 1,832                     |
| <b>Colusa</b>       | Insufficient reporting       | Insufficient reporting       | Insufficient reporting    |
| <b>Contra Costa</b> |                              |                              |                           |
| <b>Del Norte</b>    |                              |                              |                           |
| <b>El Dorado</b>    | 3,927                        | 1,047                        | 4,188                     |
| <b>Fresno</b>       | 524                          | 785                          | 3,403                     |
| <b>Glenn</b>        |                              |                              |                           |
| <b>Humboldt</b>     | 1,309                        | 524                          | 8,377                     |
| <b>Imperial</b>     |                              |                              |                           |
| <b>Inyo</b>         |                              |                              |                           |
| <b>Kern</b>         | Insufficient reporting       | Insufficient reporting       | Insufficient reporting    |
| <b>Kings</b>        |                              |                              |                           |
| <b>Lake</b>         | Insufficient reporting       | Insufficient reporting       | Insufficient reporting    |
| <b>Lassen</b>       |                              |                              |                           |
| <b>Los Angeles</b>  |                              |                              |                           |
| <b>Madera</b>       | Insufficient reporting       | Insufficient reporting       | Insufficient reporting    |
| <b>Marin</b>        |                              |                              |                           |
| <b>Mariposa</b>     | 262                          | 524                          | 3,927                     |
| <b>Mendocino</b>    | 1,832                        | 524                          | 1,047                     |
| <b>Merced</b>       |                              |                              |                           |
| <b>Modoc</b>        |                              |                              |                           |
| <b>Mono</b>         |                              |                              |                           |
| <b>Monterey</b>     | 5,497                        | 524                          | 4,188                     |
| <b>Napa</b>         | 1,832                        | 524                          | 2,094                     |

|                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|
| <b>Nevada</b>          | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Orange</b>          |                        |                        |                        |
| <b>Placer</b>          | 262                    | 785                    | 1,047                  |
| <b>Plumas</b>          | 2,618                  | 524                    | 1,832                  |
| <b>Riverside</b>       |                        |                        |                        |
| <b>Sacramento</b>      |                        |                        |                        |
| <b>San Benito</b>      |                        |                        |                        |
| <b>San Bernardino</b>  | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>San Diego</b>       |                        |                        |                        |
| <b>San Francisco</b>   |                        |                        |                        |
| <b>San Joaquin</b>     | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>San Luis Obispo</b> | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>San Mateo</b>       |                        |                        |                        |
| <b>Santa Barbara</b>   |                        |                        |                        |
| <b>Santa Clara</b>     | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Santa Cruz</b>      | 1,047                  | 524                    | 2,094                  |
| <b>Shasta</b>          | 3,141                  | 1,309                  | 6,021                  |
| <b>Sierra</b>          | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Siskiyou</b>        |                        |                        |                        |
| <b>Solano</b>          |                        |                        |                        |
| <b>Sonoma</b>          | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Stanislaus</b>      |                        |                        |                        |
| <b>Sutter</b>          |                        |                        |                        |
| <b>Tehama</b>          | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Trinity</b>         |                        |                        |                        |
| <b>Tulare</b>          | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Tuolumne</b>        | 0                      | 524                    | 1,309                  |
| <b>Ventura</b>         |                        |                        |                        |
| <b>Yolo</b>            |                        |                        |                        |

|      |                        |                        |                        |
|------|------------------------|------------------------|------------------------|
| Yuba | Insufficient reporting | Insufficient reporting | Insufficient reporting |
|------|------------------------|------------------------|------------------------|

Table 12. Estimated harvest, hunters, and hunter effort for jackrabbit and cottontail rabbit across all California counties during the 2023-2024 hunting season. Blank cells indicate no data available. Insufficient reporting is indicated for counties with less than three hunters reporting harvest or days hunted.

| County       | Jackrabbit harvest     | Jackrabbit hunters     | Jackrabbit days        | Cottontail harvest     | Cottontail hunters     | Cottontail days        |
|--------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Alameda      | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| Alpine       |                        |                        |                        |                        |                        |                        |
| Amador       |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| Butte        |                        |                        |                        | 1,832                  | 524                    | 1,047                  |
| Calaveras    |                        |                        |                        |                        |                        |                        |
| Colusa       | Insufficient reporting | Insufficient reporting | Insufficient reporting | 524                    | 524                    | 1,047                  |
| Contra Costa |                        |                        |                        |                        |                        |                        |
| Del Norte    |                        |                        |                        |                        |                        |                        |
| El Dorado    |                        |                        |                        |                        |                        |                        |
| Fresno       | Insufficient reporting | Insufficient reporting | Insufficient reporting | 2,618                  | 1,047                  | 2,094                  |
| Glenn        |                        |                        |                        |                        |                        |                        |
| Humboldt     |                        |                        |                        |                        |                        |                        |
| Imperial     |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| Inyo         | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| Kern         | Insufficient reporting | Insufficient reporting | Insufficient reporting | 1,309                  | 785                    | 2,356                  |
| Kings        |                        |                        |                        |                        |                        |                        |
| Lake         | 3,403                  | 1,047                  | 6,021                  |                        |                        |                        |
| Lassen       |                        |                        |                        | 1,047                  | 785                    | 1,309                  |
| Los Angeles  |                        |                        |                        |                        |                        |                        |
| Madera       |                        |                        |                        | 2,094                  | 524                    | 3,927                  |
| Marin        |                        |                        |                        |                        |                        |                        |
| Mariposa     |                        |                        |                        |                        |                        |                        |
| Mendocino    |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| Merced       |                        |                        |                        | 2,356                  | 524                    | 1,309                  |

|                        |                        |                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <b>Modoc</b>           |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Mono</b>            |                        |                        |                        |                        |                        |                        |
| <b>Monterey</b>        |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Napa</b>            | Insufficient reporting |
| <b>Nevada</b>          |                        |                        |                        |                        |                        |                        |
| <b>Orange</b>          |                        |                        |                        |                        |                        |                        |
| <b>Placer</b>          | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| <b>Plumas</b>          | Insufficient reporting |
| <b>Riverside</b>       | 1,309                  | 785                    | 2,618                  | 262                    | 1,047                  | 4,188                  |
| <b>Sacramento</b>      |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>San Benito</b>      |                        |                        |                        |                        |                        |                        |
| <b>San Bernardino</b>  | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| <b>San Diego</b>       | 1,309                  | 524                    | 2,879                  | 6,021                  | 1,047                  | 5,759                  |
| <b>San Francisco</b>   |                        |                        |                        |                        |                        |                        |
| <b>San Joaquin</b>     |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>San Luis Obispo</b> |                        |                        |                        |                        |                        |                        |
| <b>San Mateo</b>       |                        |                        |                        |                        |                        |                        |
| <b>Santa Barbara</b>   |                        |                        |                        |                        |                        |                        |
| <b>Santa Clara</b>     |                        |                        |                        |                        |                        |                        |
| <b>Santa Cruz</b>      |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Shasta</b>          | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| <b>Sierra</b>          |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Siskiyou</b>        |                        |                        |                        |                        |                        |                        |
| <b>Solano</b>          |                        |                        |                        |                        |                        |                        |
| <b>Sonoma</b>          | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |

|                   |                        |                        |                        |                        |                        |                        |
|-------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <b>Stanislaus</b> |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Sutter</b>     |                        |                        |                        | 785                    | 785                    | 2,094                  |
| <b>Tehama</b>     |                        |                        |                        |                        |                        |                        |
| <b>Trinity</b>    |                        |                        |                        |                        |                        |                        |
| <b>Tulare</b>     |                        |                        |                        | 1,571                  | 524                    | 1,832                  |
| <b>Tuolumne</b>   |                        |                        |                        | Insufficient reporting | Insufficient reporting | Insufficient reporting |
| <b>Ventura</b>    |                        |                        |                        | 1,047                  | 524                    | 1,047                  |
| <b>Yolo</b>       | Insufficient reporting | Insufficient reporting | Insufficient reporting |                        |                        |                        |
| <b>Yuba</b>       |                        |                        |                        |                        |                        |                        |

Table 13. Long-term average (LTA), 3-year average, within-season results, and change among years of hunter harvest, hunters and effort (days afield) for resident upland game bird species.

| Level                              | Quail (All) | MOQU    | CAQU    | GAQU   | RUGR   | SOGR   | CHUK   | RNEP    | WITU (All) | WITU Fall | WITU Spring | EUCD    |
|------------------------------------|-------------|---------|---------|--------|--------|--------|--------|---------|------------|-----------|-------------|---------|
| Years of Data                      | 46          | 24      | 24      | 24     | 14     | 15     | 26     | 26      | 46         | 24        | 24          | 7       |
| LTA Harvest                        | 1,061,365   | 126,340 | 510,325 | 46,076 | 3,830  | 3,988  | 46,049 | 135,891 | 14,022     | 7,055     | 16,112      | 75,946  |
| LTA Hunters                        | 112,680     | 22,165  | 46,545  | 5,013  | 2,179  | 2,785  | 9,714  | 41,084  | 24,376     | 11,939    | 22,907      | 7,111   |
| LTA Effort (Days)                  | 554,958     | 129,589 | 269,481 | 27,397 | 13,861 | 12,358 | 47,414 | 185,627 | 98,537     | 40,794    | 99,886      | 30,335  |
| LTA Harvest/Hunters                | 9.4         | 5.7     | 11.0    | 9.2    | 1.8    | 1.4    | 4.7    | 3.3     | 0.6        | 0.6       | 0.7         | 10.7    |
| LTA Effort/Hunters                 | 4.9         | 5.8     | 5.8     | 5.5    | 6.4    | 4.4    | 4.9    | 4.5     | 4.0        | 3.4       | 4.4         | 4.3     |
| 3-year Avg. Harvest                | 255,308     | 39,190  | 204,174 | 11,944 | 1,724  | 1,426  | 20,479 | 32,613  | 25,342     | 6,084     | 19,258      | 111,978 |
| 3-year Avg. Hunters                | 36,517      | 10,414  | 24,702  | 1,400  | 1,107  | 1,457  | 3,920  | 13,186  | 37,273     | 11,183    | 25,509      | 9,632   |
| 3-year Avg. Effort                 | 175,066     | 45,472  | 123,533 | 6,061  | 5,969  | 5,384  | 20,104 | 49,629  | 144,636    | 37,376    | 107,260     | 38,510  |
| 3-year Avg Harvest/Hunters         | 7.0         | 3.8     | 8.3     | 8.5    | 1.6    | 1.0    | 5.2    | 2.5     | 0.7        | 0.5       | 0.8         | 11.6    |
| 3-year Avg Effort/Hunters          | 4.8         | 4.4     | 5.0     | 4.3    | 5.4    | 3.7    | 5.1    | 3.8     | 3.9        | 3.3       | 4.2         | 4.0     |
| 2023 Harvest                       | 259,915     | 35,168  | 221,633 | 3,114  | NA     | 2,198  | 30,955 | 28,255  | 26,559     | 6,594     | 19,965      | 99,826  |
| 2023 Hunters                       | 38,465      | 12,089  | 25,643  | 733    | NA     | 2,015  | 4,946  | 8,912   | 35,718     | 9,708     | 26,010      | 9,891   |
| 2023 Effort                        | 179,505     | 48,906  | 129,500 | 1,099  | NA     | 6,411  | 27,109 | 33,894  | 140,673    | 31,322    | 109,351     | 38,832  |
| 2023 Harvest/Hunters               | 6.6         | 4.5     | 7.7     | 5.6    | NA     | 0.9    | 4.4    | 3.2     | 0.6        | 0.5       | 0.7         | 15.1    |
| 2023 Effort/Hunters                | 4.9         | 4.7     | 5.0     | 4.6    | NA     | 3.7    | 5.1    | 3.8     | 3.9        | 3.3       | 4.2         | 4.1     |
| 2023 vs LTA Harvest                | -76%        | -72%    | -57%    | -93%   | NA     | -45%   | -33%   | -79%    | 89%        | -7%       | 24%         | 31%     |
| 2023 vs LTA Hunters                | -66%        | -45%    | -45%    | -85%   | NA     | -28%   | -49%   | -78%    | 47%        | -19%      | 14%         | 39%     |
| 2023 vs LTA Effort                 | -68%        | -62%    | -52%    | -96%   | NA     | -48%   | -43%   | -82%    | 43%        | -23%      | 9%          | 28%     |
| 2023 vs LTA Harvest/Hunters        | -30%        | -22%    | -30%    | -39%   | NA     | -39%   | -6%    | -4%     | 5%         | -21%      | -5%         | 41%     |
| 2023 vs LTA Effort/Hunters         | -1%         | -20%    | -14%    | -16%   | NA     | -17%   | 4%     | -16%    | -4%        | -5%       | -4%         | -3%     |
| 2023 vs 3-year Avg Harvest         | 2%          | -10%    | 9%      | -74%   | NA     | 54%    | 51%    | -13%    | 5%         | 8%        | 4%          | -11%    |
| 2023 vs 3-year Avg Hunters         | 5%          | 16%     | 4%      | -48%   | NA     | 38%    | 26%    | -32%    | -4%        | -13%      | 2%          | 3%      |
| 2023 vs 3-year Avg Effort          | 3%          | 8%      | 5%      | -82%   | NA     | 19%    | 35%    | -32%    | -3%        | -16%      | 2%          | 1%      |
| 2023 vs 3-year Avg Harvest/Hunters | -5%         | 18%     | -7%     | -35%   | NA     | -11%   | -15%   | 28%     | -11%       | -14%      | -12%        | 30%     |
| 2023 vs 3-year Avg Effort/Hunters  | 1%          | 7%      | -1%     | 6%     | NA     | 0%     | -1%    | 1%      | 0%         | -3%       | 0%          | 4%      |

MOQU = Mountain quail, CAQU = California quail, GAQU = Gambel's quail, RUGR = Ruffed grouse, SOGR = Sooty grouse, CHUK = Chukar, RNEP = Ring-necked pheasant, WITU = Wild turkey, EUCD = Eurasian collard-dove.

Table 14. Long-term average, within-season results, and change among years of hunter harvest, hunters and effort (days afield) for statewide tree squirrel, cottontail, and jackrabbit.

| <b>Level</b>             | <b>Tree Squirrel</b> | <b>Cottontail</b> | <b>Jackrabbit</b> |
|--------------------------|----------------------|-------------------|-------------------|
| Years of Data            | 64                   | 66                | 66                |
| LTA Harv.                | 117,972              | 389,623           | 748,776           |
| LTA Hunters              | 32,680               | 52,526            | 61,527            |
| LTA Effort*              | 169,269              | 275,549           | 426,336           |
| LTA Avg. Harv.**         | 4.2                  | 6.5               | 9.6               |
| LTA Avg. Effort***       | 5.9                  | 6.3               | 7.5               |
| 2023 Harvest             | 31,413               | 37,957            | 11,256            |
| 2023 Hunters             | 12,041               | 11,256            | 5,497             |
| 2023 Effort              | 53,401               | 43,978            | 23,036            |
| 2023 Avg. Harv.          | 2.61                 | 3.37              | 2.05              |
| 2023 Avg. Effort         | 4.43                 | 3.91              | 4.19              |
| 2023 vs LTA Harv.        | -73%                 | -90%              | -98%              |
| 2023 vs LTA Hunters      | -63%                 | -79%              | -91%              |
| 2023 vs LTA Effort       | -68%                 | -84%              | -95%              |
| 2023 vs LTA Avg. Harv.   | -38%                 | -48%              | -79%              |
| 2023 vs LTA Avg. Effort  | -25%                 | -38%              | -44%              |
| 2023 vs 2022 Harv.       | -12%                 | 21%               | -21%              |
| 2023 vs 2022 Hunters     | 39%                  | 56%               | 22%               |
| 2023 vs 2022 Effort      | 8%                   | 16%               | -23%              |
| 2023 vs 2022 Avg. Harv.  | -40%                 | -23%              | -35%              |
| 2023 vs 2022 Avg. Effort | -17%                 | -26%              | -36%              |

\*LTA Effort = Long Term Average of days afield

\*\*Avg. Harv = Average harvest: Total Harvest/Hunters

\*\*\*Avg. effort = Average Effort: Total Days/Hunters