California Department of Fish and Wildlife

Mourning Dove Banding Report 2023

Mourning dove, *Zenaida macroura*, photo courtesy of Steven Muench

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Overview

The mourning dove banding program managed by the California Department of Fish and Wildlife (hereafter “CDFW”) is a long-term population monitoring program critical to the Mourning Dove National Strategic Harvest Management Plan (2003). The program requires statewide coordination of volunteers from more than 20 counties and 100 volunteers. Volunteers include CDFW staff, other government agency staff, and the public. The Pacific Flyway has set a banding goal of 1,732 mourning dove per year in California, stratified to Bird Conservation Regions (Otis 2009).

Banders use modified Kniffin traps (Reeves et al. 1968) to trap dove, and apply butt-end style aluminum bands, one to each bird. During the 2023 banding season, 59 banders successfully trapped and banded 1,688 mourning dove (*Zenaida macroura*) (Figure 1) at 52 different trapping sites (Figure 2), indicating that effort continued to increase but banders banded fewer birds, compared to the recent low of 2020 (49 banders, 37 sites, and 1,861 dove).

This marks the first time since 2011 that we have not met our quota, in spite of banders’ strong efforts. This shortfall is likely a result of the preceding winter, which was wet and cool compared to the 30-year normal. Many sites reported that dove visited the bait piles placed in June, but once trapping commenced, the birds avoided the traps. The ample winter rain provided plenty of vegetative growth for doves and other wildlife. Many farmers received their water allotments this year, adding to the amount of forage available.

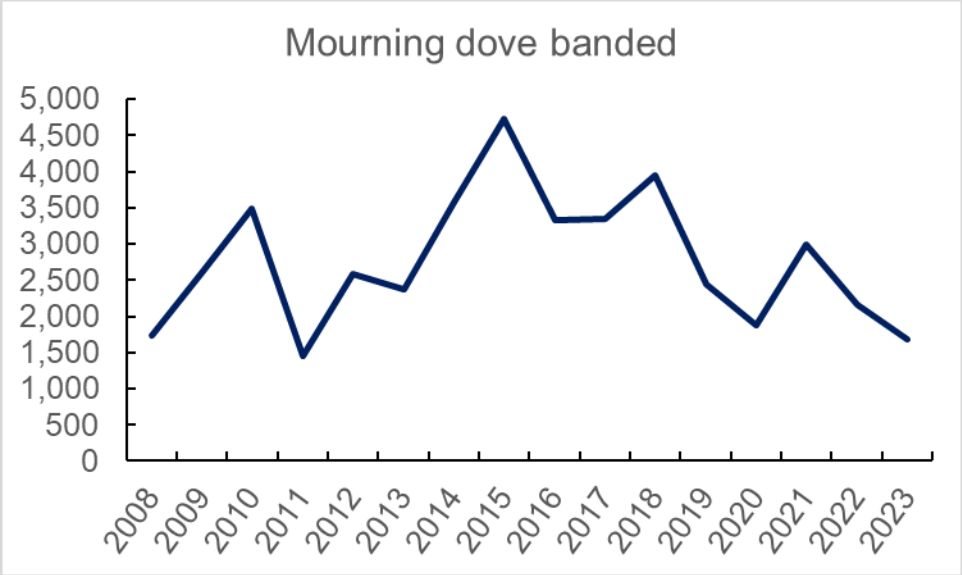

Figure 1: Total number of mourning dove (*Zenaida macroura*) banded in California, 2008-2023.

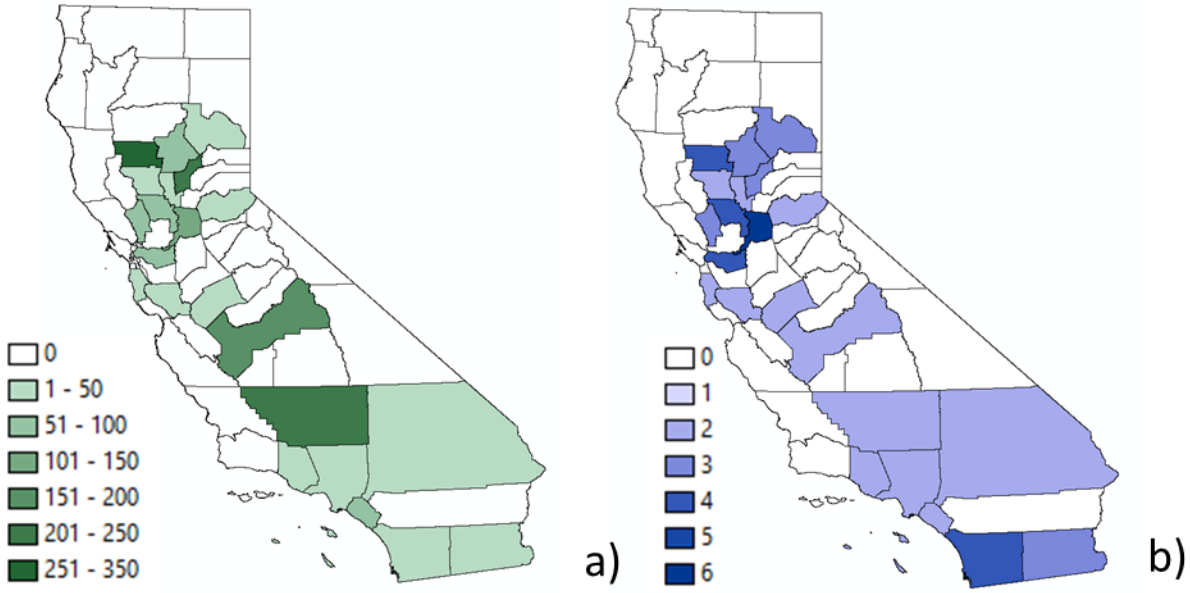

Figure 2: A) Number of mourning dove (*Zenaida macroura*) banded by county in 2023. B) Number of successful banding locations by county in 2023.

As part of data collection, banders classify mourning dove age based on the presence or absence of buffy tips on the primary coverts (Appendix 1). Birds with buffy tips on the coverts are Hatch Year (HY) birds, and were hatched during 2023. After Hatch Year (AHY) birds, hatched before January 2023, lack the buffy tips. Banders use Unknown for the potential case where birds hatched very early in the year could have molted their buffy tipped coverts by the time of capture. Unknown age is also a common classification towards the end of the banding season in late August, when more HY and AHY birds have finished molting their coverts and primary feathers, making age distinctions impossible.

In 2023, banders classified 39% (*n*=650) as HY birds, 56% (*n*=939) as AHY birds, and 5% (*n*=95) as unknown age (Figure 3). A higher percentage of birds were classified as Unknown age compared to previous years. Generally, most adult birds are in the process of their molt during capture. However, dove captured early in 2023 often were not molting and lacked buffy tipped coverts. The cool wet spring may have delayed the mourning dove molt and nesting cycles, so that many of the unknowns were likely AHYs, rather than HYs from very early nests. However, mourning dove can nest year-round and it is always possible that a very early HY could molt out its buffy tips before trapping season, hence the Unknown classification.

In addition to age demographics, management plans and population models require an understanding of the ratio of males to females in the population. Banders attempt to classify adult birds to sex. Of the adult birds banded, banders classified 69%

(*n*=646) male and 27% (*n*=254) as female. Banders classified 45% (*n*=764) birds as unknown sex, including all HY and unknown age birds.

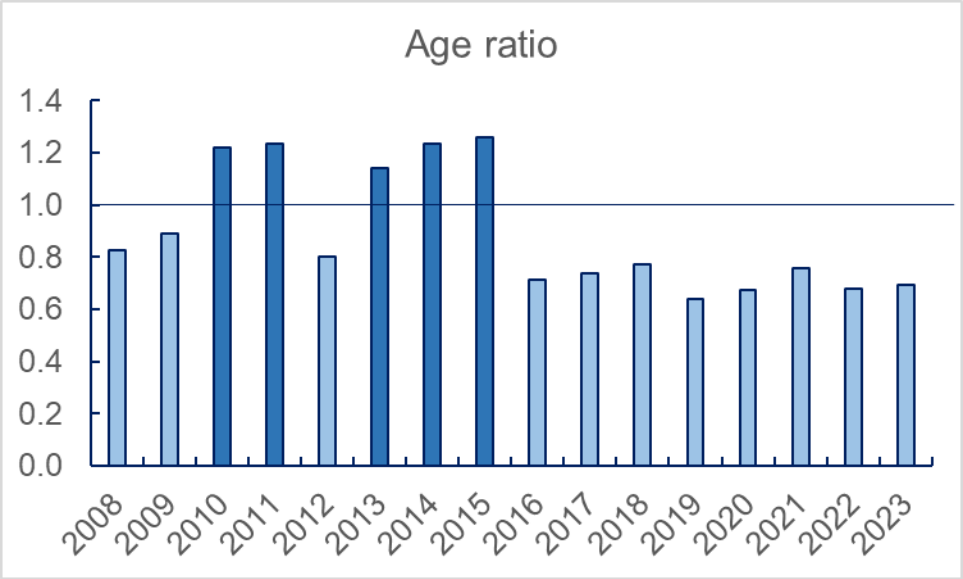

Figure 3: Age ratio (Hatch year:After hatch year) of mourning dove (*Zenaida macroura*) banded by age from 2008 to 2023. Dark blue bars indicate a higher number of hatch years in the banded population.

Bander Recruitment

In the 2023 banding season, CDFW held on-line trainings for returning and new banders. New banders were paired with experienced banders to ensure appropriate handling and adherence to protocols to ensure the welfare of the captured doves, and correct aging and sexing techniques and data recording. This season, we were able to recruit 15 new banders into the program through virtual trainings and coordination with experienced banders. We stationed a scientific aid at Sacramento Wildlife Refuge Complex for the first time this year, and hope to continue this location moving forward.

We conducted thorough quality assessments on data for 2023 and previous years, reviewing the number of mourning dove banded in each Bird Conservation Region (BCR, Bird Studies Canada and NABCI 2014), consistent with Otis' (2009) established goals. Our goal is to move forward in recruitment in a strategic manner to target and increase banding effort in BCRs where we do not meet the quota (Figure 4).

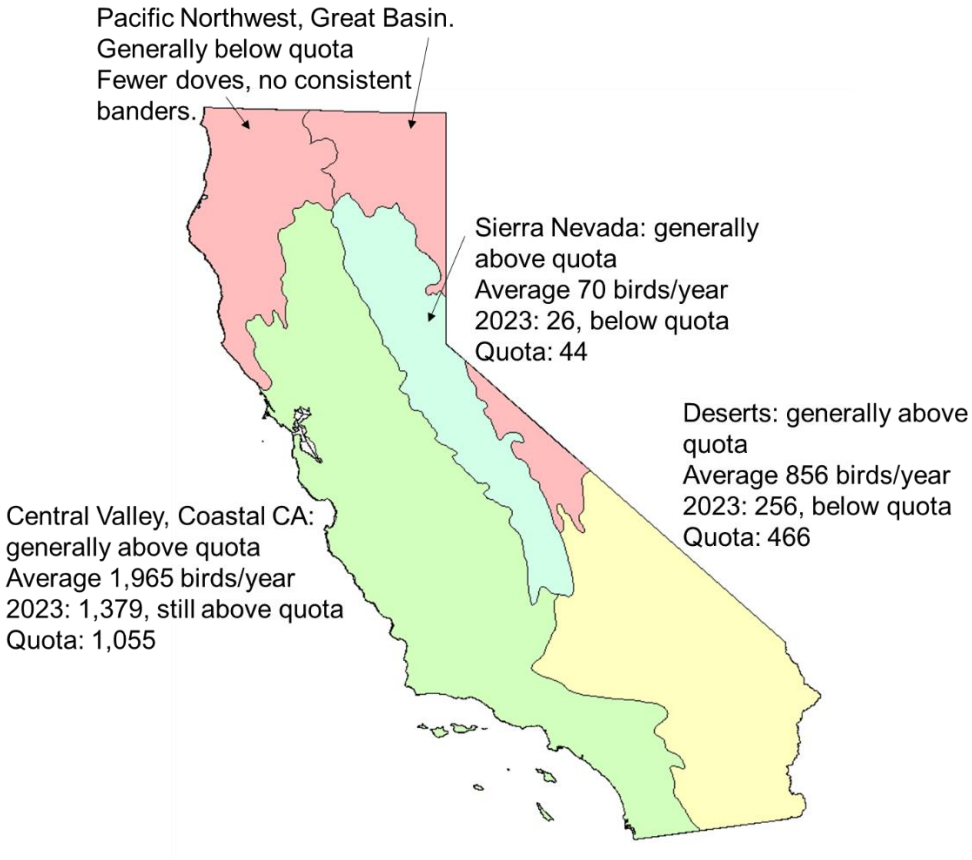

Figure 4: Comparison of quota to average number of dove banded from 2012 to 2022 and to 2023 totals.

Of interesting note for the 2023 season, two banders captured mourning doves with aberrant plumage. It is not rare for banders to capture a mourning dove with leucism, the partial loss of pigmentation, but it is usually restricted to a few primary feathers. One bander captured a leucistic dove exhibiting loss of brown pigments, and

thus pale plumage across the body (Figure 5a). Another bander banded a mourning dove with aberrant brown plumage, where the dove lost any black or grey pigmentation (Figure 5b).

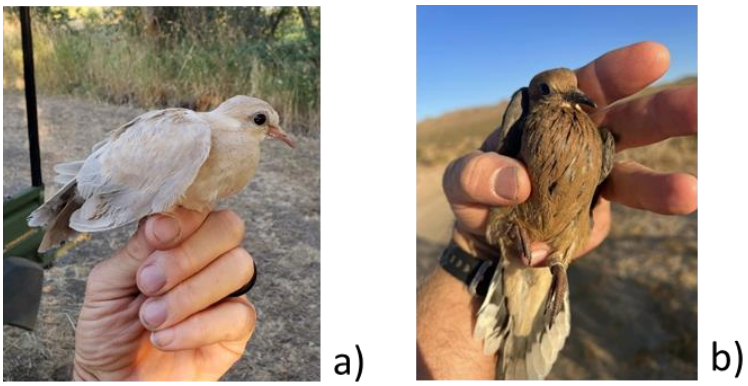

Figure 5: Photos of aberrant plumage in mourning dove (*Zenaida macroura*), seen in birds in 2023. Banders recorded both non-phaeomelonic, loss of brown pigments (a) and non-eumelanistic, loss of gray and black pigments (b) plumages.

Desert banding efforts

Dove banding in Imperial County was suspended for the 2020 season due to logistical difficulties for training and housing a scientific aid for the position. However, we were able to reestablish banding operations for the 2021–2023 seasons by partnering with Region 6 CDFW biologists. Biologists at two sites banded 29 mourning dove and 234 white-winged dove (*Z. asiatica*, Figure 6).

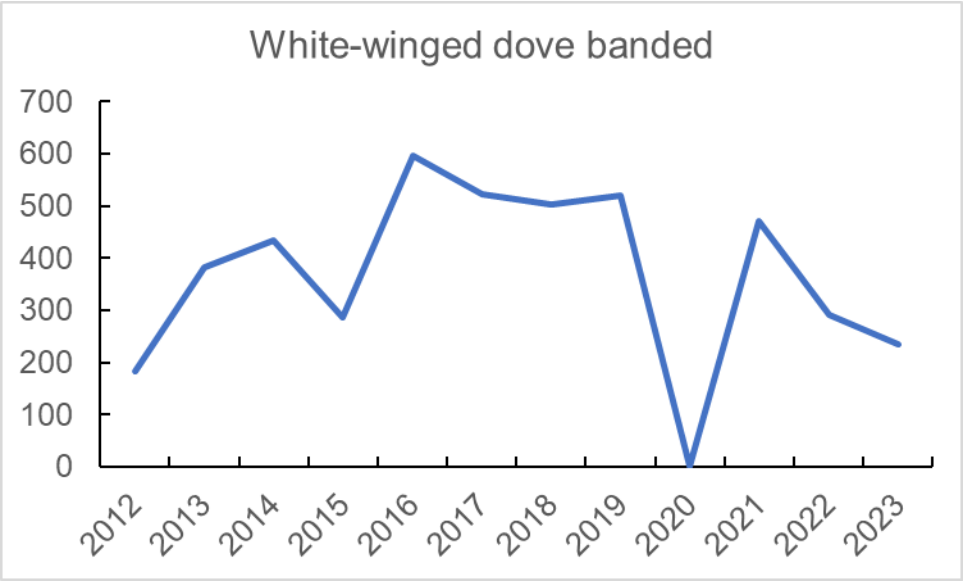

Figure 6: White-winged dove banding numbers in Imperial and San Bernardino counties, 2012-2023.

The Department intends to continue expanding banding sites for mourning and white-winged dove, and band-tailed pigeon (*Patagioenas fasciata monilis*) in a strategic manner to maximize effort and data collection. Improving our database will improve the federal harvest models and allow for strong conservation practices for these important game bird species for future generations.

Literature cited

Bird Studies Canada and NABCI. 2014. Bird Conservation Regions. Published by Bird Studies Canada on behalf of the North American Bird Conservation Initiative. https://birdscanada.org/bird-science/nabci-bird-conservation-regions. Accessed: 8 November 2022.

National Mourning Dove Planning Committee. 2003. Mourning dove national strategic harvest management plan. United States Fish and Wildlife Service.

Otis, D. 2009. Mourning dove banding needs assessment. United States Geological Survey Iowa Cooperative Fish and Wildlife Research Unit.

Reeves, H. M., A. D. Geis, and F. C. Kniffin. 1968. Mourning dove capture and banding. US Fish and Wildlife Service Special Scientific Report - Wildlife 117. 63 pages.

Appendix 1

A) B)

Figure 1: A) Hatch-year mourning dove (*Zenaida macroura*) wing. B) After hatch-year mourning dove wing (no buffy tipped coverts).