

National Dove Task Force 2024 Annual Meeting Report



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National Dove Task Force, 2024 Annual Meeting Report

PREFACE

This report summarizes presentations and discussions that occurred at the 2024 National Dove Task Force (NDTF) Meeting. The main topics covered at the 2024 meeting were revision of the national mourning dove harvest strategy, harvest management of white-winged doves in the Central and Pacific Flyways, and assessing the population decline of mourning doves in the Eastern Management Unit.

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ACKNOWLEDGEMENTS

The National Dove Task Force (formerly the National Mourning Dove Task Force) was established in 2006 under the auspices of the Association of Fish and Wildlife Agencies. At the time of its founding, the primary purposes of the NDTF were to (1) foster implementation of the Mourning Dove National Strategic Harvest Plan and coordinate activities related to its implementation (e.g., banding, wing collection, and wingbees) and (2) facilitate communication and information sharing among Mourning Dove Management Unit technical committees and their respective flyway councils, USGS–Biological Resources Division, and the USFWS. The NDTF still performs these tasks along with new tasks such as facilitating communications regarding white-winged dove harvest management among flyways and the USFWS.

We thank the Department of Natural Resources, Colorado State University, for providing space on campus for the 2024 NDTF meeting.

The 2024 NDTF meeting report was compiled by the USFWS, Division of Migratory Bird Management based on contributions from meeting participants. Mark Seamans (USFWS) was the principal compiler of this report and coordinated the annual meeting.

Cover Illustration: Mourning Dove drawing by Tim Knepp ©

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FLYWAY AND U.S. FISH AND WILDLIFE SERVICE UPDATES

Atlantic Flyway (Josh Homyak, Michael Hook)

The Atlantic Flyway Council signed a recommendation supporting the use of an integrated population model (IPM) for the Eastern Management Unit (EMU). The Atlantic Flyway will continue to discuss dove population trends and potential participation of states in any dove research projects proposed at the EMU (or larger) scales in the Migratory Shore and Upland Gamebird Committee meetings.

Mississippi Flyway (Jamie Feddersen, Nathan Stricker)

Recommendations were passed to support implementation of the integrated population model for both the EMU and Central Management Unit (CMU). The Mississippi Flyway is committed to including more discussion of dove population trends during their Webless Committee meetings.

Central Flyway (Owen Fitzsimmons, Rich Schultheis)

During the last regulatory cycle the flyway passed a recommendation to use the IPM population estimate for the CMU in the harvest strategy in spring 2023. There was discussion regarding some clarification or any need for action regarding the special white-winged dove season in Texas. Owen and Rich summarized progress with the white-winged dove IPM and harvest strategy goals with the group. Finally, there were some updates regarding dove research in the flyway, including the ongoing Kansas dove project, the upcoming Texas white-winged dove projects including an IPM with Dr Koons, and a Missouri project attempting a state level IPM and population estimate.

Pacific Flyway (Larisa Harding, Russ Woolstenhulme)

Adoption of the IPM for mourning doves is still an ongoing effort, and the Western Management Unit (WMU) plans to bring it forward at the upcoming Flyway meetings for implementation during the current regulatory cycle. Arizona and California are looking into white-winged dove management, and the flyway has finalized a management plan for western white-winged doves that the Pacific Flyway Council will vote on in August 2024. Washington has an ongoing telemetry/GSM band tailed pigeon project, and Nevada started a similar project (on the Pacific population) this past spring and may add the interior population next year. Arizona is also starting telemetry/GSM project on interior band-tailed pigeons.

U.S. Fish and Wildlife Service

Leadership in the USFWS directorate and DOI secretary's office remained unchanged since last year. Leadership at headquarters for the Migratory Bird Program (divisions of Migratory Bird Management [DMBM]; Bird Habitat Conservation; and Conservation, Permits and Regulations) were unchanged since last year. Primary responsibility for dove harvest management lies in the DMBM which includes the Branch of Assessment and Decision Support, Branch of Monitoring and Data Management, Branch of Migratory Bird Surveys, the four flyway representative offices, and the Raptor Group. Leadership in DMBM has not changed since last year. Since last year, staff changes in DMBM include Terry Liddick (pilot biologist, now retired), Tony Roberts (now NAWMP coordinator), Dave Fronczak (now

a refuge pilot for R6), and Emily Silverman (now a statistical policy advisor for DOI). The 2023–24 budget for Migratory Birds was again flat, and with increases in operating costs, resulted in lowered operational capability.

DMBM continues to work with the Flyway Councils, Office of Management and Budget, and the Office of the Solicitor in DOI to craft a simpler process for setting annual migratory bird hunting regulations. A briefing paper was provided to the National Flyway Working Group July 2023. If changes are enacted, they would apply to the regulatory processes for all migratory birds. Regulatory changes to the Migratory Bird Treaty Act (MBTA) covering incidental take of birds has remained stalled. The proposed changes to MBTA aim to improve the conservation of migratory birds, codify the Service's longstanding interpretation that the MBTA prohibits incidental take, and provide greater certainty to the public. A final rule was issued September 2023 for Migratory Bird Tribal hunting, which allows tribes to set their own migratory bird hunting rules using FWS guidelines.

Branch of Monitoring and Data Management (Kathy Flemming)

Kathy gave an update on FWS Harvest Surveys: the Harvest Information Program (HIP), the Migratory Bird Harvest Survey (MBHS or diary survey), and the Parts Collection Survey. These surveys monitor the status of harvest of 5 species groups: waterfowl, doves, woodcock, cranes, and rails/coots/snipe/gallinules. Mourning dove harvest estimates from the MBHS have shown a steadily declining trend at the US national level, which corresponds with the trend in declining number of hunters registering with HIP. The steepness of this trend varies within management units.

In the last 2 years FWS has transitioned to an online diary survey (fws.gov/harvestsurvey) which has largely replaced the former paper survey. The online survey provides better data quality, less data processing time, and costs less than the paper survey. However, response rates to the online survey are lower than the paper survey. FWS conducted an overlap of the paper and online dove surveys during the 2020-21 and 2021-22 hunting seasons in Alabama, Georgia, South Carolina, and Texas, to compare response rates and harvest estimates between the two survey platforms. The dove harvest estimates from the online survey were lower (but still within confidence intervals) than the paper survey, while the estimate of active hunters was higher (but within confidence intervals) than the paper survey.

Precision targets for the mourning dove harvest estimates at the management unit scale are <3% CV. The actual %CV of the dove harvest estimates at this scale are 4-5% (average 2003-2019). At the state scale, target %CV is 5% or less; actual %CV (average 2003-2019) is approximately 17%. Precision of harvest estimates is benefited by a stratified estimate, where hunters are assigned to groups based on how they answered the HIP questions about hunting the previous year. Following the recommendations from Dave Otis' recent work, for the online survey we have adjusted stratum sampling rates to a more optimal allocation with increased sample allocation to stratum 1, and have increased sampling rates overall, especially for permit species (e.g., midcontinent cranes).

Bias in the harvest surveys may be in the responses (prestige or memory bias) or non-responses (differential response rates of hunters and non-hunters). Lower response rates may exacerbate non-response bias. Previous studies have identified response bias but did not detect non-response bias. We propose two projects to address both response and non-response bias: first, improvements to the online application to detect when hunters report party hunts instead of their individual harvest; and an intensive post-season survey to identify non-response bias.

DOVE TECHNICAL AND MANAGEMENT UPDATES

Mourning Dove Integrated Population Model & Harvest Strategy (Mark Seamans, Dave Otis, Dave Koons).

Using funds from the Webless Migratory Gamebird Program, an IPM for mourning doves in the CMU was developed by Drs. Dave Koons and Dave Otis. This IPM was formally peer reviewed spring 2024 by Drs. Todd Arnold (Univ of Minnesota) and Jeff Hostetler (USGS). The reviews were very positive and made valuable suggestions regarding clarity within the text. The only substantive modeling comment was related to trying a time-varying sub-model for vulnerability to harvest based on dove age. Concurrent with this review, IPMs were developed for the EMU and WMU by the USFWS, using the IPM from the Central as a prototype. The IPM for the CMU was used fall 2023 to inform harvest management decisions for the 2024–25 hunting season and will be used hereafter to inform regulatory decisions. The IPMs for the EMU and WMU will be used to inform harvest management decisions for the 2025–26 season.

Demographic estimates from each management unit (MU) IPM were presented, as well as a simple derived harvest strategy for each MU based on the following objectives: (1) provide maximum hunting opportunity; and (2) conserve the mourning dove population. Beginning with the CMU, IPM results suggested that both harvest rate and survival outside the hunting season were declining over time, and that fecundity was negatively related to population size (i.e., a positive density dependent response with fecundity increasing with decreasing population size, $r = -0.53$). Relying on theory related to equilibrium population dynamics, a yield curve was developed for the CMU estimating points of equilibria, point of maximum sustain yield (MSY), and population carrying capacity. Observed harvest rates over the past 16 years indicate that the population size is far above the equilibrium abundance point where MSY is to be expected. Using HIP hunter diary data from 2004–2020 it was estimated that a bag of 5 was needed to reduce harvest rate by 50%. Ultimately, the determination of what regulations to include represent a policy decision that needs to be made, thus hypothesizing the effect of a 15, 5, and 0 bird bag on realized harvest rate was made for the sake of creating an example. Under this scenario, the optimum derived policy suggested that a restricted season did not need to occur until the population reached 28 million birds, while a closed season would occur at 27 million birds. Both points were below the equilibrium population size where MSY was expected to occur. These apparently low decision thresholds for population size were because expected (assumed) harvest rates with a 15 or 5 bird bag were much lower than expected harvest rate ($h=0.29$) at MSY derived from the IPM and yield curve.

The EMU results suggested that, for hatch-year birds, annual survival outside the hunting season and annual harvest rates were decreasing over time, and that annual fecundity was negatively related to population size (i.e., a density dependent response with fecundity increasing with decreasing population size, $r = -0.57$). Fall dove abundance declined over time in the EMU. Using HIP hunter diary data from 2004–2020 it was estimated that a bag of 6 was needed to reduce harvest rate by 50%, thus hypothesizing the effect of a 15, 6, and 0 bird bag on realized harvest rate was made for the sake of creating an example. Under this scenario, the optimum derived policy suggested that a restricted season did not need to occur until the population reached 23 million birds, while a closed season would occur at 22 million birds. Both points were below the equilibrium population size where MSY was expected to

occur. These apparently low decision thresholds for population size were because expected (assumed) harvest rates with a 15 or 6 bird bag were much lower than the harvest rate ($h=0.30$) at MSY derived from the IPM results and yield curve.

The WMU results suggested a positive trend in fecundity over time, and that annual after-hatch-year survival outside the hunting season was negatively related to population size (i.e., a positive density dependent in which survival increases with decreasing population size, $r = -0.79$). Using HIP hunter diary data from 2004–2020 it was estimated that a bag of 4 was needed to reduce harvest rate by 50%, thus hypothesizing the effect of a 15, 4, and 0 bird bag on realized harvest rate was made for the sake of creating an example. Under this scenario, the optimum derived policy suggested that a closed season would occur at 6 million birds. There was no indicated restrictive threshold. The closed threshold population size was below the equilibrium population size where MSY was expected to occur. The apparently low decision threshold for population size was because expected (assumed) harvest rates with a 15 or 4 bird bag were much lower than the harvest rate ($h=0.08$) at MSY derived from the IPM results and yield curve.

Key questions for further development of the harvest strategy are: how often (annually or less frequently) should selection of different sub-model structures occur, and, what additional form(s) of density dependence need to be assessed in the IPM. It was generally agreed that testing new model structures for annual survival, harvest rate, and fecundity does not need to occur every year, and maybe possibly every 5 years. Developing and using alternative competing models for density dependence, and weighting model contribution by strength of evidence, was also suggested. In addition, the Task Force suggested that IPM results should be used for reporting population status in the 2024 mourning dove status report.

Eastern Management Unit Mourning Dove Population Decline (Jamie Feddersen, Nathan Stricker, Josh Homyak, Michael Hook)

There is growing concern among federal and state wildlife managers in the Atlantic and Mississippi Flyways about the status of the mourning dove population in the EMU. The EMU dove population has been declining for over a decade and managers don't understand the main drivers of this decline. At the February 2024 meeting of the Eastern Management Unit Dove Technical Committee (EMUDTC) in Frankfort Kentucky, all present agreed we urgently need to identify the main drivers of this decline and determine what management actions can be taken to stop or reverse it. Some general ideas were discussed at the 2024 EMUDTC meeting and quick follow-up discussions were proposed for a path forward.

A list of potential hypotheses was developed and shared for discussion with the NDTF, including: landscape habitat change negatively affecting dove populations, changes in use of herbicides and pesticides negatively affecting dove populations, diseases and their effects on changing effects on dove populations over time, increasing exposure to lead in the environment, effects of sport harvest, climate change, changes in vulnerability to predators, increasing collision mortality with manmade objects, increases in interspecific competition with other dove species, impacts on dove populations outside US borders, and potential bias in parameter estimates and data sources, leading to exaggerated or masked population trajectory.

There was discussion regarding the need for a large-scale ecology study. There was particular focus on the need to investigate hatch-year survival. Knowing the survival of that age cohort may lead to understanding issues with productivity. Additionally, conducting nest surveys on a large geographic scale

could also answer questions introduced by several of the listed decline hypotheses. There was also discussion around the need for a reconstitution of the Dove Call Count Survey. However, most agreed the Breeding Bird Survey is adequate.

No firm decisions were made, and the EMU will continue to discuss and develop strategies and projects to address identifying reasons for the decline.

White-winged Dove Management

Western Management Unit (Larisa Harding)

The Pacific Flyway Council Study Committee has finalized revisions to the 2004 management plan for western white-winged doves (*Zenaida asiatica mearnsi*) to reflect current numbers and the Pacific Flyway Council will vote to adopt the Plan in August 2024. The revised plan has implemented a harvest strategy that uses an annual index of abundance from the North American Breeding Bird Survey (BBS) to set harvest limits. Although most of the white-winged doves in the WMU occur in Arizona and California, index data for all states in the WMU are used. BBS abundance indices suggest that white-winged dove numbers have been relatively stable over the past 50 years in the WMU. Using these data to manage western white-winged dove populations also aligns with management strategies for other columbiform birds in the WMU, i.e., mourning doves (*Zenaida macroura*) and Pacific Coast band-tailed pigeons (*Patagioenas fasciata monilis*).

The harvest management objective is to maintain hunting regulations that meet the overall objectives of the proposed plan and align with the National Mourning Dove Harvest Strategy as part of an aggregate dove bag limit. The white-winged dove harvest strategy involves four regulatory alternatives: Standard, Restrictive, Very Restrictive, and Closed. Threshold values for each alternative will use the most moving 3-year average of the most recent BBS index values as a percentage of the long-term average index of abundance (birds/route) modeled from BBS data for white-winged doves in the WMU during 1968–2022.

- a. The Standard alternative of 60 days and 15 white-winged doves daily bag limit will be prescribed when 85% confidence (lower 70% credible interval) in the most recent moving 3-year average BBS index is $\geq 50\%$ of the long-term average.
- b. The Restrictive alternative of 60 days and 10 white-winged doves daily bag limit will be prescribed when 85% confidence (lower 70% credible interval) in the most recent moving 3-year average BBS index is $\geq 30\%$ of the long-term average.
- c. The Very Restrictive alternative of 60 days and 2 white-winged dove daily bag limit will be prescribed when 85% confidence (lower 70% credible interval) in the most recent moving 3-year average BBS index is $\geq 20\%$ of the long-term average.
- d. The Closed season alternative will be prescribed when either the above conditions for an open season are not met or when the season for the WMU population of mourning doves is closed.

Central Management Unit (Owen Fitzsimmons)

Harvest estimates for white-winged doves in the CMU from the USFWS HIP survey indicate a recent decline, similar to Texas Parks and Wildlife Department (TPWD) state harvest survey estimates (Texas accounts for 95% of CMU harvest). TPWD survey data indicate a declining response rate and very strong bias towards responses from hunters 55 years and older, which is likely skewing harvest and hunter estimates. The response age bias may be worth investigating in USFWS harvest survey responses, as well.

TPWD conducts an annual statewide spring dove survey using distance sampling methodology, and regional-level results from the survey were presented (2008-23). In addition, TPWD conducts an annual white-winged dove banding program modeled after the USFWS Mourning Dove Banding Program, along with 4 years of a Texas-specific parts collection survey for white-winged doves. Data from these monitoring programs, along with BBS and band recovery data, will be used in the development of an IPM for white-winged doves in Texas in a TPWD research project in collaboration with Dr. Koons. This project will begin sometime in 2024 and Texas expects to use this IPM in the development of a CMU management plan.

Information needs for the eventual development of either a range-wide or CMU harvest management plan were discussed. Much of the available white-winged dove life history information is dated, and major knowledge gaps exist on species status and harvest in Latin America. Identified information needs include determination of geographic management units, possibly using historic banding data and genetic studies, the improvement of wing-aging classification techniques, potentially expanded banding programs in other southwestern states, improved harvest estimates from Mexico, and potential implications of white-winged dove expansion on mourning dove harvest, among others.

DOVE TASK FORCE PRIORITIES 2024–2025

I. Further development of a mourning dove harvest strategy

- A. Assess different forms of density dependent form(s) for demographic parameters
- B. Assess biases in HIP harvest estimates
 - 1. Examine how hunters register for HIP
 - 2. Compare state study designs for collecting harvest information and state harvest estimates to HIP
- C. Include additional constraints on policy optimization (e.g., shoulder, new packages)
 - 1. Identify harvest packages to consider
- D. Explore use of non-hunt states in IPM and harvest decision structure
- E. Revisit definition of dove habitat for use in weighting estimates within IPM
- F. Updated banding needs assessment, and maybe updated parts collection assessment

II. Improve coordination of local/state/regional dove studies.

III. EMU mourning dove decline study (continuing)

IV. White-winged dove management

- A. Future management plan scale (east, west, or east and west under one plan)
- B. Identifying management unit (population) boundaries East/West
- C. Develop more accurate aging protocol
- D. Improved annual harvest estimates (in U.S. and Mexico)

2024 NATIONAL DOVE TASK FORCE ATTENDEES

State Representatives from each Flyway

Josh Homyak (Atlantic Flyway, Maryland Department of Natural Resources)

Michael Hook (Atlantic Flyway, South Carolina Department of Natural Resources)

Jamie Feddersen (Mississippi Flyway, Tennessee Wildlife Resources Agency)

Nathan Stricker (Mississippi Flyway, Ohio Department of Natural Resources)

Rachel Vanausdall (Mississippi Flyway, Missouri Department of Conservation)

Owen Fitzsimmons (Central Flyway, Texas Parks & Wildlife Department)

Rich Schultheis (Central Flyway, Kansas Department of Wildlife & Parks)

Larisa Harding (Pacific Flyway, Arizona Game and Fish Department)

Russel Woolstenhulme (Pacific Flyway, Nevada Department of Wildlife)

U.S. Fish and Wildlife Service

Mark Seamans (Division of Migratory Bird Management, Branch of Assessment and Decision Support)

Pat Devers (Atlantic Flyway Representative)

Todd Sanders (Pacific Flyway Representative)

Tom Cooper (Central Flyway Representative)

David Scott (Mississippi Flyway Representative)

Invited Guests in Attendance

Jim Gammonley (Colorado Parks and Wildlife)

David Olson (USFWS, Migratory Bird Program, Region 6)

David Otis (USGS emeritus)