

# Assessment of the American Woodcock Wing-Collection Survey

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**ABSTRACT:** The American Woodcock Wing-collection Survey (WCS) is a cooperative survey (U.S. Fish and Wildlife Service [FWS], State Wildlife Agencies, and U.S. woodcock hunters) that has been conducted annually since 1963 in the United States. The primary objective of the WCS is to provide an index to the reproductive success of American woodcock (*Scolopax minor*; hereafter, woodcock) because age and sex of harvested birds can be determined using feather characteristics. Based on recent harvest survey information, U.S. woodcock hunters harvest  $\approx$  300,000 woodcock per year, whereas hunters participating in the WCS contributed an average of 13,400 wings per year during the 2008–2012 seasons. Based on the sample size and harvest estimate, the WCS currently samples about 4.5% of the harvested woodcock every year, which is a much higher rate than sampled for waterfowl. For example, the Waterfowl Parts Collection Survey sampled  $\approx$  0.25% of the Mississippi Flyway waterfowl harvest in 2012. My objective was to assess if there were any differences in the proportion of wings by cohort (adult male, adult female, juvenile male, juvenile female) if wing collection was limited to a hunter's first 5 successful hunts, rather than all of their successful hunts as is currently done. I analyzed WCS data from the 2008–2012 woodcock seasons and used Pearson's Chi-Square Goodness of Fit test to assess if the proportion of wings for each cohort differed between the full data set and data from a hunter's first 5 successful hunts. Limiting data collection to the first 5 successful hunts resulted in a 5-year average (2008–2012) of 1,848 fewer envelopes and 4,202 fewer wings being submitted to the survey. Chi-square analysis indicated there was no difference in the proportion of wings by cohort between the full and partial data set. My results indicate that reducing the sample size of woodcock wings would not bias age ratio estimates and would result in considerable cost savings to the WCS. The FWS would realize cost savings through fewer envelopes having to be mailed and less staff time in processing wings when they are received.

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**KEY WORDS:** American woodcock, hunter harvest, sample size, wing-collection survey

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