

Development of Harvest Management Strategies for Mourning Doves

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Goals and Objectives:

- Develop statistical techniques for combining CCS and population growth rate estimates derived from banding and harvest data to produce reliable predictions of population status and trend.
 - Develop a detailed harvest management framework that continuously integrates monitoring data, population models, and harvest and population objectives into a harvest management system.
 - Develop a Banding Needs Document driven by information required for accomplishment of objectives above.
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Progress:

Based on a renewed emphasis on more informed harvest management for mourning doves, the Mourning Dove National Strategic Harvest Management Plan (National Plan) was approved in 2003 by the Flyway Councils. The foundation of this strategy is a set of population models that predict population growth and harvest as a function of survival and recruitment rates. In 2004, the USFWS became concerned about the need for a more formalized harvest strategy during the time period required for implementation of the National Plan. In 2006, the USFWS requested interim strategies that would rely more heavily for the next few years on CCS trends and more rigorously derived regulation change thresholds. Subsequent discussions within the dove management and research community led to the concept of development of interim strategies that utilize CCS and BBS survey databases and the time series of population growth rates that will result from an operational banding program and continuing harvest survey. These strategies and associated statistical technique development must be constructed within the context of continuous progress toward implementation of the National Plan, and thus this project is also intended to serve as a catalyst for development of a more specific stepwise plan for transition to the National Plan.

In consultation with state and federal dove harvest management biologists, it was decided that a composite estimator of annual trend derived from application of Bayesian hierarchical modeling techniques would be used as the basic metric for making harvest regulation decisions in a new interim strategy. Population indices at the state level from the CCS (both number heard and number seen) and BBS surveys (1966 - 2006), as well as population estimates derived from harvest data (2003 - 2006), constitute input into the statistical model. Estimates of retrospective trends and their posterior probability distributions for several alternative time periods were derived from this composite model, and initial simulated results of the performance of alternative harvest management strategies based on these estimates were provided to the management unit technical committees in fall 2007. Finalized harvest strategies based on these results were presented and subsequently approved in 2008 by the flyway technical committees and the USFWS in 2008. The harvest regulation system was implemented in the 2009 dove harvest regulation cycle.

We finalized the Mourning Dove Banding Needs Document (BND) that contains a statistically derived protocol for allocation of state banding effort in a national cooperative state and federal operational banding program. The document will serve to inform all banding cooperators in the future about desired banding goals and spatial allocation of effort.

Future Plans:

We will begin to explore alternative approaches for derived harvest management strategies based on mechanistic population and harvest models and principles of adaptive harvest management.