

Interim American Woodcock Harvest Strategy



February 2010

Woodcock Harvest Strategy Working Group

**Proposal to:
Atlantic Flyway Council
Mississippi Flyway Council
Central Flyway Council
U.S. Fish and Wildlife Service**

EXECUTIVE SUMMARY

American woodcock populations, as measured by the Singing-ground Survey (SGS), have shown long-term declines in both the Eastern (EMR) and Central (CMR) Management Regions. Loss of early succession forest habitat is believed to be the major factor responsible for the population declines. Although hunting mortality is not believed to be a major factor for the declines, season lengths and bag limits were reduced twice in the EMR and once in the CMR over the past 40 years in response to the declines. The most recent restrictions in U.S. woodcock harvest were enacted in 1997. At that time, the U.S. Fish and Wildlife Service (USFWS) sought to work cooperatively with the Flyway Councils to develop a long-term harvest strategy to make more informed decisions about woodcock harvest management in the U.S. An interagency Woodcock Harvest Strategy Working Group (Working Group) was formed in 2007 to develop a draft harvest strategy. The Working Group is comprised of representatives from the Atlantic, Mississippi, and Central Flyways, USFWS, and the U.S. Geological Survey. The Working Group recommends that the following interim strategy be implemented for a period of 5 years (2011-2015). Meanwhile, the feasibility of developing a derived harvest strategy will be evaluated.

The woodcock harvest strategy has the following structure:

Regulatory packages:

Liberal season: 60 days, 3 bird bag
Moderate season: 45 days, 3 bird bag
Restrictive season: 30 days, 3 bird bag

Regulatory thresholds (determined by 3-year mean index from Singing-ground Survey):

Liberal season: Singing-ground Survey index of 3.25 males/route or higher
Moderate season: Singing-ground Survey index of 2.0 to 3.24
Restrictive season: Singing-ground Survey index of 1.0 to 1.99
Closed season: Singing-ground Survey index below 1.0

(see text for role of credible interval of SGS index in determining regulatory package)

Framework dates:

Eastern Management Region: October 1 to January 31
Central Management Region: Saturday nearest September 22 to January 31

Stabilization of regulations:

Any change in regulations would remain in place for three years.

INTRODUCTION

American woodcock populations, as measured by the Singing-ground Survey (SGS), have shown long-term declines in both the Eastern (EMR) and Central (CMR) Management Regions (Figs. 1 & 2; Cooper and Parker 2009; Sauer et al. 2007). In addition, reproductive success, as measured by the American Woodcock Wing Collection Survey (WCS), has been below the long-term mean for much of the past 20 years (Fig. 3). Loss of early succession forest habitat is believed to be the major factor responsible for the population declines. Although hunting mortality is not believed to be a major factor for the declines, season lengths and bag limits were reduced twice in the EMR and once in the CMR over the past 40 years in response to the declines in the SGS (Appendix A). The most recent restrictions in woodcock harvest in the U.S. were enacted in 1997. At that time, the U.S. Fish and Wildlife Service (USFWS) sought to work cooperatively with the Flyway Councils to develop a long-term harvest strategy to make more informed decisions about woodcock harvest management. Harvest regulations have remained unchanged since 1997 and development of a harvest strategy remained idle until the USFWS and the Flyways resumed working on a strategy in 2007.

An interagency Woodcock Harvest Strategy Working Group (Working Group; Appendix B) was formed to develop a draft harvest strategy for the U.S. The Working Group is comprised of representatives from the Atlantic, Mississippi, and Central Flyways, USFWS, and the U.S. Geological Survey. The Working Group examined a comprehensive review of woodcock Singing-ground Survey, Wing-collection Survey, Harvest Information Program, and banding data prepared by the Division of Migratory Bird Management (USFWS). Although the Working Group preferred a model-based, derived harvest strategy it was unclear whether such a strategy was feasible given the available data and how long the development process would take. Consequently, a decision was made to develop an interim harvest strategy based on the SGS index that is prescriptive in nature. The Working Group recommends that the following interim strategy be implemented for a period of 5 years (2011-2015). Meanwhile, the feasibility of developing a derived strategy will be evaluated.

OBJECTIVES

The overarching objectives of the interim harvest strategy are to set woodcock harvest opportunity at a level commensurate with population status and to provide a transparent framework for making regulatory decisions for woodcock season length and bag limit.

HARVEST STRATEGY STRUCTURE

Current population status will be quantified as the most recent 3-year mean of the SGS index in each management region. Although regulatory decisions will be made separately for each management region, the decision thresholds and regulatory alternatives will be the same for both regions. If regulations change from the previous year, the new regulatory alternative would stay in place for a period of three years. Although the interim strategy does not pertain to regulations in Canada, an important component of the population index is derived from SGS

routes in Canada. Because a portion of the Canadian SGS data is not reported to the USFWS until after the early-seasons regulations cycle, there will be a one-year lag in the data used to make regulatory decisions in the U.S. For example, decisions for the 2011-2012 hunting season will be based on a 3-year mean of 2008, 2009, and 2010 data since we will not have complete 2011 SGS data in time for the regulations cycle.

Regulatory Alternatives

Regulatory alternatives differ only by season length, as the woodcock daily bag limit is 3 birds for all season lengths. The restrictive alternative is a 30-day season; the moderate alternative is a 45-day season; and the liberal alternative is a 60-day season. Framework dates for all season lengths are October 1 to January 31 in the EMR (U.S. portion of Atlantic Flyway), and from the Saturday nearest September 22 to January 31 in the CMR (U.S. portions of the Mississippi and Central Flyways).

Regulatory Thresholds

The harvest strategy evaluates current woodcock population status (3-year average SGS index) in relation to 3 regulatory thresholds selected by the Working Group through consensus-building (Figs. 4 and 5). The thresholds correspond to various SGS indices, represented as the number of singing males per SGS route at the management-region level.

If the current SGS index and its associated 70% credible interval (CI) are above the upper threshold of 3.25 singing males/route, then liberal regulations (60 day season) are implemented. If the SGS index is ≤ 3.25 and the lower 70% CI is > 2.0 then moderate regulations (45 days) are implemented. Restrictive regulations (30 days) are called for if the SGS index is ≤ 2.0 and the lower 70% CI is > 1.0 . Finally, if the lower 70% CI for the SGS index is below 1.0 for a given management region then the season would be closed for that region.

The strategy adopts a negative presumption approach with regards to selection of a regulatory package. For instance, if the 3-year mean SGS index value falls within the bounds of 2 regulatory thresholds, but the 70% credible interval dips below the lower threshold value, then we are not sufficiently confident to select the regulatory region within which the mean value falls. Consequently, we would drop to a more restrictive package. The strategy is conservative in that liberalization is not supported if a portion of the credible interval of the index goes above the next highest threshold level. For example, if the SGS index is > 3.25 , but the lower 70% CI is < 3.25 then moderate regulations are implemented. Therefore, using this approach, it is possible to have the SGS index in the moderate region and have restrictive regulations, but impossible to be in the moderate region and have liberal regulations. Similarly, it would be possible to be in the restrictive region and have a closed season, but impossible to be in the restrictive region and have moderate regulations.

TIMELINE

This report will be provided to the Atlantic, Mississippi, and Central Flyway Council Technical Sections for discussion at their winter 2010 meetings. The Division of Migratory Bird Management will provide a briefing to the USFWS Regulations Committee at the February 3, 2010 meeting. Flyway Councils will consider adoption of the strategy at their March meetings. The strategy will be formally considered by the Regulations Committee at the June 23-24, 2010 meeting. If approved during the 2010 regulatory process, the interim strategy will be used to promulgate woodcock regulations in the U.S. for the 2011-12 season. It is recommended that the strategy be followed for a 5 year period (2011-15). In the interim, technical assessments will be conducted to assess the feasibility of developing population models that can be used in a derived harvest strategy. If a derived approach is not possible, the interim prescribed strategy should be re-visited and evaluated for its potential use beyond the 2015 hunting season.

LITERATURE CITED

- Cooper, T.R., and K. Parker. 2009. American woodcock population status, 2009. U.S. Fish and Wildlife Service, Laurel, Maryland. 15 pp.
- Sauer, J. R., W. A. Link, W. L. Kendall, J.R. Kelley, and D. K. Niven. 2008. A hierarchical model for estimating change in American woodcock populations. *Journal of Wildlife Management*, 72 (1):204-214.

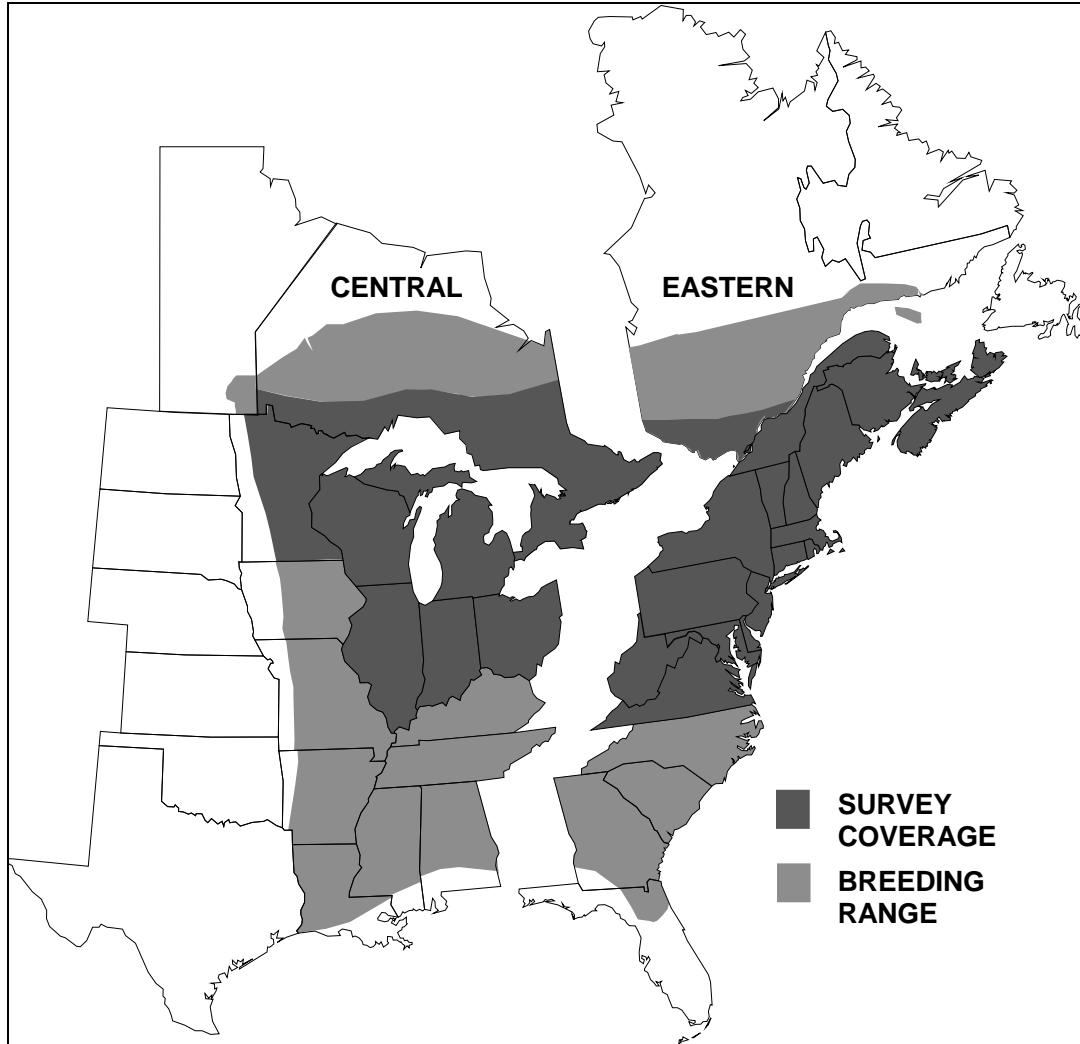


Figure 1. Map of Eastern and Central American Woodcock Management Regions. Note that the boundary between regions follows the boundary between the Atlantic and Mississippi Flyways. The Central Management Region also contains states in the eastern tier of the Central Flyway.

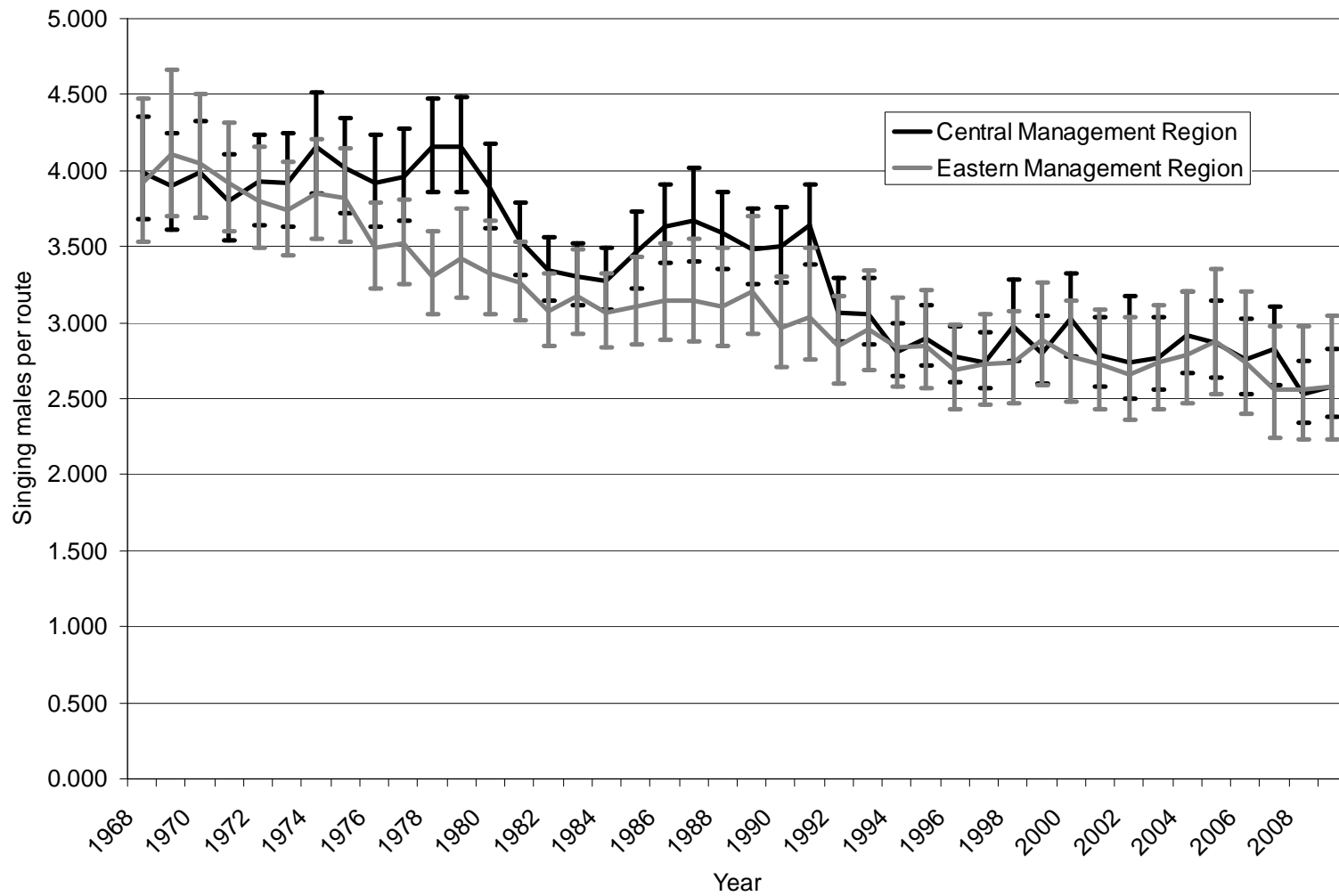


Figure 2. Annual indices of the number of woodcock heard on the Singing-ground Survey, 1968-2008 as estimated using hierarchical modeling. Vertical bars represent the 90% credible interval as shown in the annual woodcock status report.

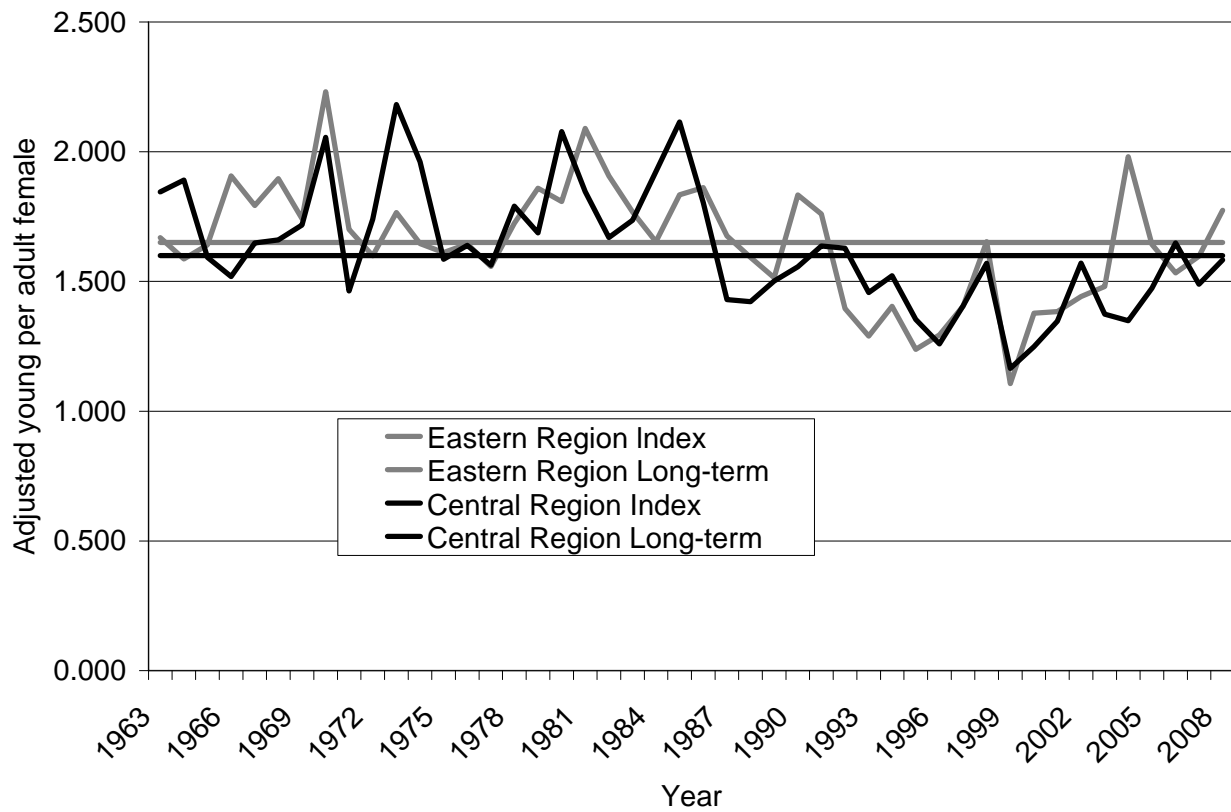


Figure 3. Weighted annual indices of recruitment (U.S.), 1963-2007. The dashed line is the 1963-2006 average.

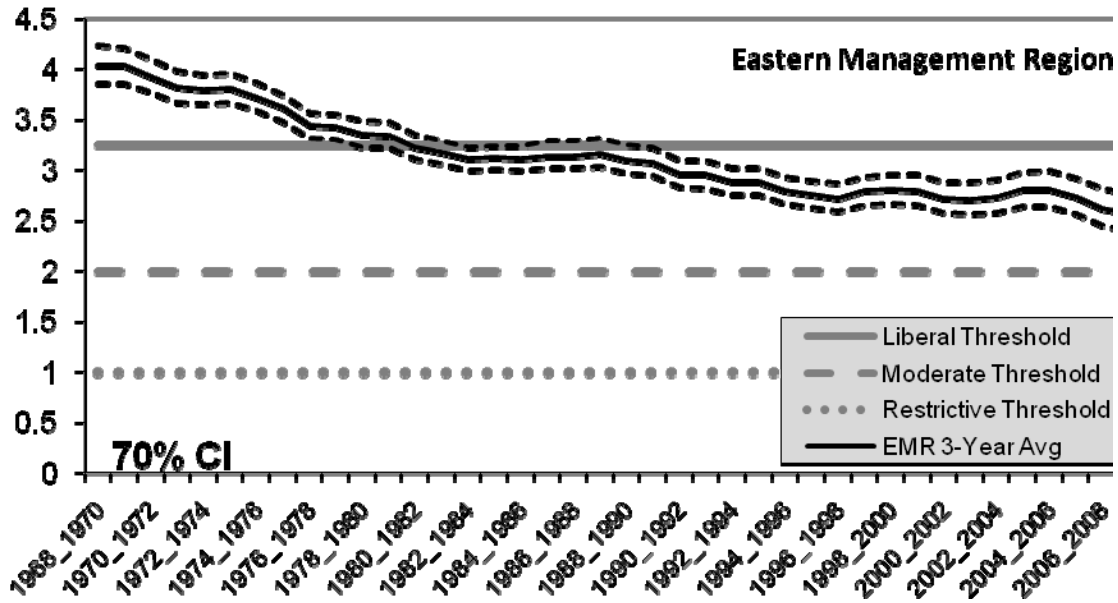


Figure 4. Woodcock Singing-ground Survey indices (3-year average; singing males/route) in the Eastern Management Region in relation to regulatory thresholds. Upper and lower bounds of the 70 % credible interval of the index (solid line) are depicted by the dashed lines.

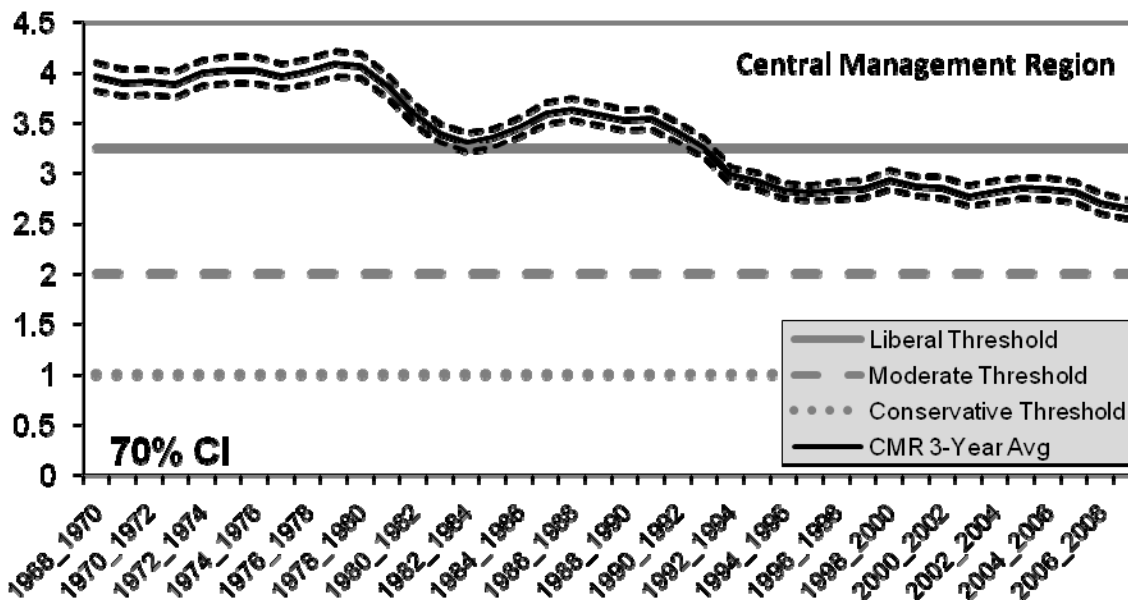


Figure 5. Woodcock Singing-ground Survey indices (3-year average; singing males/route) in the Central Management Region in relation to regulatory thresholds. Upper and lower bounds of the 70 % credible interval of the index (solid line) are depicted by the dashed lines.

Appendix A. History of federal framework dates, season lengths, and daily bag limits for hunting American woodcock in the U.S. portion of the Eastern and Central Regions, 1918-2009.

| Eastern Region | | | | Central Region | | | |
|----------------|------------------|---------------|-----------------|----------------|---------------------|---------------|-----------------|
| Year (s) | Outside dates | Season length | Daily bag limit | Year (s) | Outside dates | Season length | Daily bag limit |
| 1918-26 | Oct. 1 - Dec. 31 | 60 | 6 | 1918-26 | Oct. 1 - Dec. 31 | 60 | 6 |
| 1927 | Oct. 1 - Dec. 31 | 60 | 4 | 1927 | Oct. 1 - Dec. 31 | 60 | 4 |
| 1928-39 | Oct. 1 - Dec. 31 | 30 | 4 | 1928-39 | Oct. 1 - Dec. 31 | 30 | 4 |
| 1940-47 | Oct. 1 - Jan. 6 | 15 | 4 | 1940-47 | Oct. 1 - Jan. 6 | 15 | 4 |
| 1948-52 | Oct. 1 - Jan. 20 | 30 | 4 | 1948-52 | Oct. 1 - Jan. 20 | 30 | 4 |
| 1953 | Oct. 1 - Jan. 20 | 40 | 4 | 1953 | Oct. 1 - Jan. 20 | 40 | 4 |
| 1954 | Oct. 1 - Jan. 10 | 40 | 4 | 1954 | Oct. 1 - Jan. 10 | 40 | 4 |
| 1955-57 | Oct. 1 - Jan. 20 | 40 | 4 | 1955-57 | Oct. 1 - Jan. 20 | 40 | 4 |
| 1958-60 | Oct. 1 - Jan. 15 | 40 | 4 | 1958-60 | Oct. 1 - Jan. 15 | 40 | 4 |
| 1961-62 | Sep. 1 - Jan. 15 | 40 | 4 | 1961-62 | Sep. 1 - Jan. 15 | 40 | 4 |
| 1963-64 | Sep. 1 - Jan. 15 | 50 | 5 | 1963-64 | Sep. 1 - Jan. 15 | 50 | 5 |
| 1965-66 | Sep. 1 - Jan. 30 | 50 | 5 | 1965-66 | Sep. 1 - Jan. 30 | 50 | 5 |
| 1967-69 | Sep. 1 - Jan. 31 | 65 | 5 | 1967-69 | Sep. 1 - Jan. 31 | 65 | 5 |
| 1970-71 | Sep. 1 - Feb. 15 | 65 | 5 | 1970-71 | Sep. 1 - Feb. 15 | 65 | 5 |
| 1972-81 | Sep. 1 - Feb. 28 | 65 | 5 | 1972-90 | Sep. 1 - Feb. 28 | 65 | 5 |
| 1982 | Oct. 5 - Feb. 28 | 65 | 5 | 1991-96 | Sep. 1 - Jan. 31 | 65 | 5 |
| 1983-84 | Oct. 1 - Feb. 28 | 65 | 5 | 1997-09 | * Sep. 22 - Jan. 31 | 45 | 3 |
| 1985-96 | Oct. 1 - Jan. 31 | 45 | 3 | | | | |
| 1997-01 | Oct. 6 - Jan. 31 | 30 | 3 | | | | |
| 2002-09 | Oct. 1 - Jan. 31 | 30 | 3 | | | | |

* Saturday nearest September 22

Appendix B. Woodcock Working Group Members

Central Management Region Group

Dave Luukkonen (Michigan Department of Natural Resources) (March 08 – current)

Mike Olinde (Louisiana Department of Wildlife and Fisheries) (March 08 – current)

David Kremmentz (U.S. Geological Survey) (March 08 – current)

Jay Roberson (Texas Parks and Wildlife) (March 08 – March 09)

Corey Mason (Texas Parks and Wildlife) (March 09 – current)

Eastern Management Region Group

John Dunn (Pennsylvania Game Commission) (March 09 – current)

Bill Harvey (Maryland Department of Natural Resources) (March 08 – current)

Brad Allen (Maine Department of Inland Fisheries and Wildlife) (March 08 – March 09)

Dan McAuley (U.S. Geological Survey) (March 08 – current)

U.S. Fish and Wildlife Service Representatives

Guthrie Zimmerman, Wildlife Biologist (March 08 – current)

Paul Padding, Atlantic Flyway Representative (March 08 – current)

Jim Kelley, Mississippi Flyway Representative (March 08 – current)

Dave Sharp, Central Flyway Representative (March 08 – current)

Mark Koneff, Chief, Population and Habitat Assessment Branch (March 08 – current)