

AMERICAN WOODCOCK MANAGEMENT PLAN



U.S. Department of the Interior
Fish and Wildlife Service
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INTRODUCTION

The American woodcock (*Scolopax minor*) is an avidly sought and highly regarded game bird in much of eastern North America. It provides considerable recreational opportunity, and therefore socioeconomic benefit. In several states it is the most important migratory game bird in terms of total harvest. The woodcock's welfare and population status have been of concern to game managers and sportsmen for decades.

Purpose

Primarily due to habitat losses, woodcock are now less abundant than in recent decades. Although the effect of hunting on woodcock populations is unknown, available data do not indicate that hunting has affected regional population status. Populations continue to decline in some parts of North America, and recreational opportunities have been lost. Public concern over this loss stimulated action to address this situation, and prompted the development of a Woodcock Management Plan (Plan) by the U.S. Fish and Wildlife Service.

The purpose of this Plan is to guide the conservation of woodcock in the United States. It describes ways in which the U.S. Fish and Wildlife Service (FWS), state conservation agencies, other public agencies, and private organizations can work cooperatively in addressing problems, developing management programs, and otherwise assuring the future well-being of woodcock.

Responsibilities

The Department of the Interior has principal responsibility and authority for managing migratory birds, including woodcock. This authority was established by treaty between the United States and Great Britain (on behalf of Canada). The *Convention for the Protection of Migratory Birds* has been the cornerstone of cooperative management of migratory birds since its signing in 1916. In regard to waterfowl, cooperative arrangements have functioned well because of administrative mechanisms such as advisory councils and liaison specialists. These mechanisms facilitate the exchange of views and information and foster close working relationships. For woodcock, cooperation has always existed in spirit and in more tangible forms such as survey work and periodic symposia for the exchange of ideas and information. However, effective continuous cooperation on a region-wide operational basis has been hampered by the lack of administrative mechanisms such as those that exist for waterfowl. This Plan was designed to build upon existing mechanisms to promote shared cooperation and responsibility in the management of woodcock.

Maintenance

Once the Plan is operational, it is anticipated that cooperative management will become easier and perhaps systematic. Periodic revision of the Plan will be necessary as situations, priorities and strategies change. The FWS and cooperators will review and update the Plan every 5 years. Annual work plans will be a logical consequence of the Plan. Due to the importance of Eastern Canada for breeding woodcock, the Plan will be reviewed and updated if the Canadian government wishes to join in the conservation measures outlined here.

Principles

1. Protection of woodcock populations and habitats requires cooperation and coordination of planning, research, and management activities between the individual states, flyway councils, and the United States Government.

2. Maintenance and enhancement of woodcock populations are dependent on the protection, restoration, and management of habitat.
3. Woodcock populations should be managed by identifiable populations where these can be biologically justified and for which management regimes are feasible.
4. Joint funding by both private and governmental organizations should be considered as an approach to financing high-priority research and management projects.
5. Managed recreational harvest of woodcock is desirable and consistent with its conservation.
6. Recreational hunting will continue to be managed under existing regulatory processes in the United States. States wishing liberalization of seasons, bag limits or other harvest strategies would have to demonstrate that these actions will not adversely affect the resource.

These principles will be subject to periodic public review to ensure they are consistent with sound management, to evaluate their environmental impacts, and to encourage public participation.

Plan Goal

The goal of this Plan is to increase woodcock populations to levels consistent with the demands of people who use and enjoy them. These population levels would allow recreational hunting opportunities as well as provide benefits to the thousands of individuals interested in observing this unusual species in its preferred habitats.

POPULATIONS

Woodcock occur throughout the forested portions of eastern North America. Their range is limited in boreal Canada by the distribution of earthworm populations, their primary food item; existence of permafrost; and unsuitable forest cover. The northern limit extends from southern Newfoundland through Quebec and Ontario to eastern Manitoba. The western boundary of their range is marked by the prairie. Breeding densities of woodcock are highest in Canada and the northern tier of states immediately adjacent to the Canadian border. Woodcock breed in southern states at low densities; however, the contribution, in terms of numbers of individuals, of these southern breeding areas to the continental population is unknown.

Woodcock annually migrate to southern wintering ranges, from Virginia to southeast Texas. Southward migration begins in early September in the northernmost areas. Peak concentrations occur in locations where migration is stalled by geographic or weather-related obstacles, which temporarily hinder continued movement. Winter distribution of woodcock is widespread, with highest densities occurring in Louisiana.

Woodcock are managed on a regional basis. The regions are divided by the Appalachian Mountains, and are referred to as the Eastern and Central Regions (Fig. 1). These units are primarily administrative devices that roughly approximate patterns of woodcock distribution. Woodcock exhibit regional differences in migration patterns and population dynamics, and are therefore referred to as regional populations. However, individual woodcock from the Eastern Region can occur in winter within the Central Region and vice versa.

Status

The U.S. Fish and Wildlife Service, in cooperation with the Canadian Wildlife Service (CWS) and many state and provincial governments, annually coordinates a survey to monitor woodcock breeding populations. This survey, known as the Singing-ground Survey, determines a population index by counting the number of singing males in the spring along randomly selected routes throughout the northern breeding range (Fig. 1). The Singing-ground Survey has indicated an annual population decline of 1.8% in the Eastern Region since 1968, while the Central Region population index has declined at the rate of 0.8% over the same period (Fig. 2). These declines indicate total decreases of 36% in the Eastern population and 19% in Central population over the past 23 years.

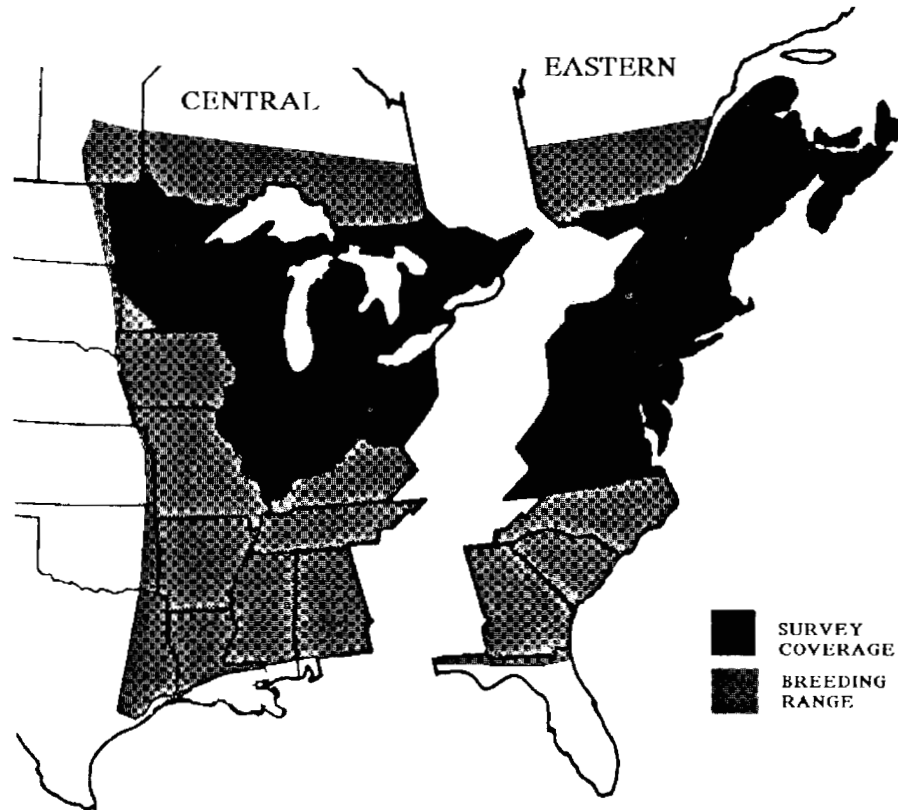


Fig. 1. American Woodcock breeding range, management regions, and Singing-ground Survey coverage.

Use

The Canadian Wildlife Service annually estimates woodcock harvest and numbers of woodcock hunters by surveying purchasers of Migratory Game Bird Hunting Permits. From this survey, CWS determines the age and sex composition of woodcock populations as well as harvest size, distribution, and hunter success. Trends in the last 10 years show that fewer Canadian hunters are pursuing woodcock, and hunter success there has declined as well. No trend is apparent in the age and sex composition of the Canadian harvest. In the United States, FWS monitors woodcock hunter success and the age and sex composition of the harvest by a non-random sample of veteran woodcock hunters and waterfowl hunters who also hunt woodcock. There is no apparent trend in age and sex composition in either U.S. management region. The U.S. Fish and Wildlife Service has no accurate measure of total harvest, harvest rate, or annual survival, and wing-collection data often do not agree with results of state

harvest surveys. Nevertheless, both Eastern and Central Region hunters have experienced much lower success in taking woodcock during the past 25 years. A composite estimate indicates that approximately 700,000 U.S. woodcock hunters harvest approximately 2 million woodcock annually.

A comparison of woodcock and waterfowl harvest data from the FWS Waterfowl Harvest Survey indicates that during most years woodcock are among the top 10 species in the migratory game bird harvest in both the Atlantic Flyway and the Mississippi Flyway. These estimates are conservative, and it is likely that if better woodcock harvest surveys were available, the relative importance of the woodcock harvest would be greater.

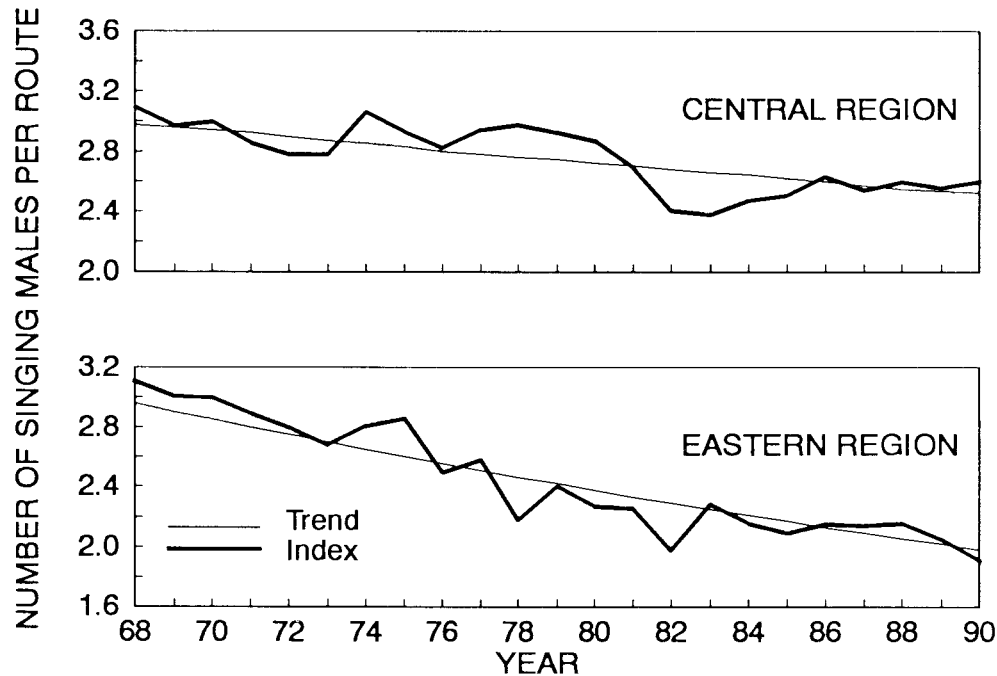


Fig. 2. American Woodcock population trends as indexed by average number of singing males per route during the Singing-ground Survey.

Woodcock hunters often join conservation organizations that promote woodcock and forest wildlife conservation and management. An unknown number of Americans derive pleasure from watching woodcock throughout the year. Male woodcock exhibit spectacular courtship displays on spring evenings at sunset. Viewing this ritual is a popular spring pastime in many areas. Park managers and naturalists can reliably schedule nature walks for park visitors during spring evenings to take advantage of these displays.

Population Objectives

The overall objective of management agencies is to accommodate the diverse public interests in woodcock and to assure that all citizens who wish to do so can have the opportunity to enjoy this resource. Population declines should be stabilized and population levels increased above current levels.

HABITAT

The loss and degradation of habitat is the major woodcock management problem in North America. Impacts to woodcock habitat include decreases in quantity and quality due to changing agricultural and forest practices; shifting land-ownership patterns; advancing natural plant succession; and urbanization and industrialization. Scientists hypothesize a link between decreasing habitat quality from advancing forest succession and declining woodcock populations. Reversing this trend is the key to restoring woodcock populations.

Status

Breeding woodcock are dependent on early successional habitats, such as brushy fields, abandoned farmland, and small forest openings. These areas provide suitable daytime feeding locations, nesting cover, singing grounds and night roosting sites. Good woodcock habitat is widespread but also patchy in distribution and short-lived. Land-use inventories have revealed that the amount of these preferred habitats has declined with increasing forest age, increasing urbanization, subdivision of larger parcels, and changing land management objectives and techniques. Many quality breeding habitats have been lost because they are more easily cleared and developed than mature woodland. Other habitats have been lost because of changes in land ownership. Previously, land was held for farming and timber harvesting, while it is now subdivided into small residential or recreational developments. The new owners often do not have similar management goals as the previous owners, and are not interested in timber harvesting or other activities that create forest openings. Most woodcock habitat in the northeast and northcentral U.S. is owned by private citizens, with timber companies controlling the next largest proportion, and state and federal agencies holding a small percentage of the total land base.

During migration, woodcock often congregate at specific locations where weather and geography combine to cause high population densities on a temporary basis. This phenomenon is primarily due to the woodcock's habit of migrating with the passage of a weather front to take advantage of favorable winds because of its inability to fly long distances. The best-known concentration areas during fall migration are Cape May, New Jersey; Cape Charles, Virginia; and Canaan Valley, West Virginia. Eastern Shore of Virginia National Wildlife Refuge provides some protection to woodcock that become concentrated prior to crossing the mouth of the Chesapeake Bay at Cape Charles. The habitats at Canaan Valley, West Virginia are unprotected and under increasing development pressure, and existing cover is rapidly deteriorating. The Fish and Wildlife Service is establishing a national wildlife refuge at Cape May for the protection of woodcock and other migratory birds. Specific, discrete concentration areas have not been identified in the Central Region, with the possible exceptions of some Mississippi River islands and bottomland areas. Nevertheless, concentration areas important to migrating woodcock may be located with further research.

While much work has been accomplished in defining woodcock breeding habitat requirements, less has been done to investigate their requirements during the winter. Woodcock are known to concentrate along the Coastal Plain in the southern Atlantic states and in bottomland habitats in Louisiana. Coastal floodplain areas consisting of bottomland hardwoods with a brush and shrub understory are known to be important, especially when in close association with agricultural fields. Many of these southern habitats have been converted to pine forests, agricultural fields or lost to other developments. The effects of forest type conversion and large-scale clearing of forested wetlands on woodcock population levels are unknown or poorly understood. There are many aspects of woodcock wintering ecology that remain unknown.

Protection and Management

Habitat management promoting early successional forest types has been shown to increase local populations of breeding woodcock and other wildlife species. Additional species that benefit from this kind of habitat management include ruffed grouse, white-tailed deer, snowshoe hare, numerous passerine bird species, and many other wildlife species. Successful management techniques have been demonstrated on public lands in Maine, Pennsylvania, and Michigan. Private and corporate programs to manage woodlands for woodcock and other early successional species have also proven effective. Previous woodcock habitat programs, both private and public, have been focused on individual habitats; however, no large-scale initiative directed at widespread regional habitat conditions has been attempted. While it is unrealistic to expect government wildlife agencies to acquire and manage enough woodcock habitat to increase regional breeding populations, it may be possible through cooperation with various private and corporate entities to demonstrate how large tracts of private land can be managed to favor woodcock. A high degree of cooperation and coordination between all agencies and groups will be required to achieve this desired result.

Protection of migration and wintering habitats is extremely important. Without suitable habitat in these periods, woodcock experience poor survival to the next breeding season. Acquisition of key migration areas may be possible due to their discrete nature. It is doubtful that adequate winter habitat can be purchased by government agencies. But agencies, private organizations, and individual citizens working together through coordinated programs can benefit woodcock by protecting habitat. Efforts to coordinate activities among these entities should have the highest priority.

There is potential for increasing woodcock habitat on lands owned by various government entities. These include lands owned, managed, or licensed by, or within the jurisdiction of, the FWS, U.S. Forest Service, Corps of Engineers, Federal Energy Regulatory Commission, Department of Defense (including Army and Navy bases), Federal Aviation Administration, and other federal, state, regional, independent, and local governmental entities.

Management Priorities

Conservation and management of woodcock habitat is the key to achieving population objectives. A top priority is the implementation of a program to help commercial timber companies incorporate woodcock habitat management in their timber management activities and to inform private landowners about potential habitat management opportunities on their lands.

Other management priorities include the protection and enhancement of key migration areas and wintering habitats. There is need to investigate the habitat requirements of woodcock in key wintering areas such as Louisiana and other Gulf Coast states, and along the south Atlantic Coastal Plain. Once these requirements are more clearly understood, steps should be taken to protect or otherwise conserve habitats possessing the desired qualities. Maintenance of these habitats, once they are identified, will also be important.

Habitat Objectives

We must manage and protect habitats that will maintain or increase woodcock populations. Our objective is to achieve this within the next 15 years. Action plans within each FWS region and state should be prepared, to include specific objectives that are to be attained within the period. These plans should contain precise descriptions of actions to achieve the following components:

1. Increase woodcock breeding habitat in the northeast and northcentral U.S. by improving public land management practices for woodcock and encouraging habitat management on private lands.
2. Protect key concentration areas that are important during migration from loss and deterioration. For example, Canaan Valley, West Virginia is currently unprotected and is threatened with loss to development projects as well as habitat deterioration, and only limited habitats at Cape Charles, Virginia are protected. Efforts to protect threatened habitats at Cape May have just begun.
3. Identify habitat requirements of woodcock wintering in southern areas, determine the availability of these habitats, and make efforts to protect key winter habitats.
4. Promote woodcock habitat management on available state and federal lands where appropriate and consistent with respective agency land management goals.

RECOMMENDATIONS

Habitat

General Recommendations

- Funding for this Plan must come from all segments of the affected community, including federal, and state governments as well as private organizations and individuals who enjoy and utilize woodcock.
- Financial incentives will be needed to induce timber companies, farmers and other landowners to manage their lands for the benefit of woodcock, whether it is breeding or wintering habitat.
- Many landowners are currently unaware of the value of their lands as woodcock habitat. Programs that inform and educate private landowners about habitat management techniques are critical to accomplishing these habitat goals.
- To preserve and maintain certain lands of extraordinary value as woodcock habitat, conservation of these lands should be assured through acquisition or other methods. Such lands should be managed for the benefit of woodcock. Acquisition of such lands should be willing buyer-willing seller transactions.
- Public agencies, both land-management and regulatory entities that authorize land and water uses, should be encouraged to zone, license, or otherwise regulate land and water uses to prevent the destruction or degradation of woodcock habitats.

- Public agencies that own, license, or otherwise have land-management jurisdiction should be encouraged to manage their lands to increase woodcock productivity and carrying capacity.
- Natural resource agencies should provide assistance to other agencies, private companies, and individuals in planning woodcock habitat management projects. The Soil Conservation Service should be encouraged to continue including woodcock habitat management guidelines in their landowner technical assistance programs. The Cooperative Extension Service should be encouraged to include woodcock habitat management in their landowner education and extension programs.
- Public works projects and federally-licensed development projects should avoid the destruction and degradation of woodcock habitats. However, when these actions will cause unavoidable adverse effects to woodcock habitats, adequate mitigative measures should be included in planning and development.
- Financial participation by private conservation organizations is critical to the implementation of the Plan. Land acquisition and habitat management cost-sharing and demonstration projects are examples of participation that may be necessary.
- Joint ventures should be encouraged, enabling governments and private organizations to cooperate in the planning, funding, and implementation of projects designed to preserve or enhance woodcock habitat.

Specific Recommendations

1. Both public and private organizations in the United States should be encouraged to cooperate in the planning, funding, and implementation of projects to improve woodcock habitat by promoting habitat management and preservation. These programs should include landowner educational packages, newspaper and magazine articles, video presentations, and other multi-media forums.
2. Teams of biologists and foresters from state agencies should provide technical assistance to timber and other land-holding companies and private individuals. Teams would assist in refining timber management plans for the benefit of early successional wildlife, while maintaining timber production. Professional exchanges of biologists and foresters between companies and agencies would provide company personnel with cross-training in wildlife habitat analysis and management, and would foster improved communication between organizations.
3. Integration of wildlife habitat management techniques into timber management plans would increase timber harvesting costs; however, these costs could be offset by access fees, providing landowners with tax credits for management costs, and refining silvicultural prescriptions that would allow for increased harvesting efficiency. Consulting foresters and land managers should be provided with silvicultural guidelines for woodcock habitat management. A catalog of existing state and federal landowner programs incentives should be prepared. A program to provide private landowners with land management incentives should be developed if existing state and federal programs do not meet the need.

4. Development of habitat management demonstration areas should be encouraged at all levels of government, private industry, and other appropriate forums. National and state wildlife refuges, wildlife management areas, and forests should consider developing areas where woodcock habitat and timber management can be demonstrated. These areas will prove valuable in encouraging landowners to initiate management practices on their lands.
5. Landowners should be informed about the American Tree Farm System. This program provides landowners with some technical assistance and provides them with recognition for undertaking management. Programs of this type are effective in promoting wildlife and timber management on a local basis because adjacent landowners become interested in participating after observing their neighbors' land management success. The tree and wildlife "farms" also act as local demonstration areas.
6. The habitat requirements of woodcock during the winter need to be investigated. More information is needed on habitat use by wintering woodcock and on habitat management techniques for preferred winter habitats. Research into these areas should be encouraged.
7. Protection of key staging or migration concentration areas is needed, especially at Cape May, New Jersey; Canaan Valley, West Virginia; and Cape Charles, Virginia.
8. There should be a periodic inventory and continued monitoring of woodcock habitat in North America in cooperation with states and private conservation organizations. Understanding the relationship between woodcock populations and the amount and quality of habitat is important in adjusting habitat and population objectives. Large-scale land-use inventories can be made utilizing satellite technologies.

Population Management

General Recommendations

- Woodcock harvests should be managed through the existing regulatory processes. Harvest regulations should be promulgated so that harvest level is commensurate with population status. Bag limits and season lengths have traditionally been stabilized for long periods of time. This should continue as long as populations are above minimum levels.
- Woodcock population monitoring should continue via the cooperative North American Woodcock Singing-ground Survey, and the Woodcock Wing-Collection Survey. Improved measures of harvest are needed. Information exchange between Canada and the United States should be continued.

Specific recommendations

1. Harvest regulations should be handled through the existing regulatory process. A formalized system of technical consultation with the states is being established through the Atlantic and Mississippi Flyway Councils. These Councils should continue these mechanisms to provide technical review of woodcock information and provide regulatory assistance.

2. Harvest management strategies should continue to be based on a regional population basis as long as biological information provides adequate justification for separate management objectives. If future investigation indicates significant shifts in winter or migrational distribution, or harvest derivation, appropriate administrative action should be implemented.
3. Better estimates of total woodcock harvest are needed. A program that allows estimation of hunter numbers and total harvest annually should be developed and implemented.
4. Research on the effects of hunting mortality on woodcock populations at both local and regional levels is needed because of concerns about the impacts of harvests on declining breeding populations.
5. Breeding population surveys should be continued in the current cooperative effort. Further efforts to refine, improve, and validate the Singing-ground Survey should be continued.
6. A coordinated effort to band woodcock prior to the hunting season is needed to determine harvest rates, define harvest derivation, measure sex and age differences in survival, and evaluate effects of regulations on harvest. The cost of banding adequate pre-season samples of woodcock may be prohibitive, so the cost-effectiveness of normal banding, reward banding, radio telemetry, and other marking techniques must be examined, and the feasibility of such efforts determined.

IMPLEMENTATION OF THE WOODCOCK MANAGEMENT PLAN

The Plan is a broad policy framework that describes the overall scope of requirements for management of woodcock in the United States. To implement this important Plan, the FWS and states should establish regional, and state plans that step-down national objectives to the operational level. These plans should include realistic cost estimates.

1. FWS Regional Woodcock Management Plans should outline recommendations for achieving national Woodcock Management Plan objectives at the regional office level. These recommendations should delineate the responsibilities of the regional offices and how the operational program should be conducted. Federally-coordinated programs should be identified, and detailed descriptions of on-going and future management and research directions should be included.
2. State Action Plans should further scale-down the national Plan to the state level with specific programs outlined and should be the vehicle for practical implementation of general strategies. These plans require specific details of cooperative efforts and implementation schedules.
3. Joint Venture Projects should be implemented through negotiated agreements. Planning, funding, implementation and evaluation measures should be integral components of each plan or project proposal. Specific details of the responsibilities, obligations, and contributions of each agency or organization should be clearly presented. Each project proposal should be forwarded to the appropriate Flyway

technical committee for its review and recommendation.

4. Initial Implementing Actions should progress according to the following schedule:
- (a) The Atlantic and Mississippi Flyway Councils should reaffirm and continue formal mechanisms to provide woodcock technical and regulatory assistance.
 - (b) The U.S.D.A. Forest Service, Ruffed Grouse Society, and FWS should hold initial discussions under their new Memorandum of Understanding during 1991.
 - (c) States should establish teams of biologists and foresters to assist landowners in habitat management planning during 1991. States should develop action plans implementing this Plan by the end of 1992.
 - (d) Joint venture action groups should be established to pursue individual projects, when the need for a specific project is identified and forwarded to the respective Flyway Council.
 - (e) FWS Regional Plans should be developed by spring 1992, and initial implementation by the end of 1993.