American Woodcock Habitat

Best Management Practices for the Central Appalachian Mountains Region

Wildlife Management Institute

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Acknowledgments

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Cover photo by Tim Flanigan.

Tim Flanigan

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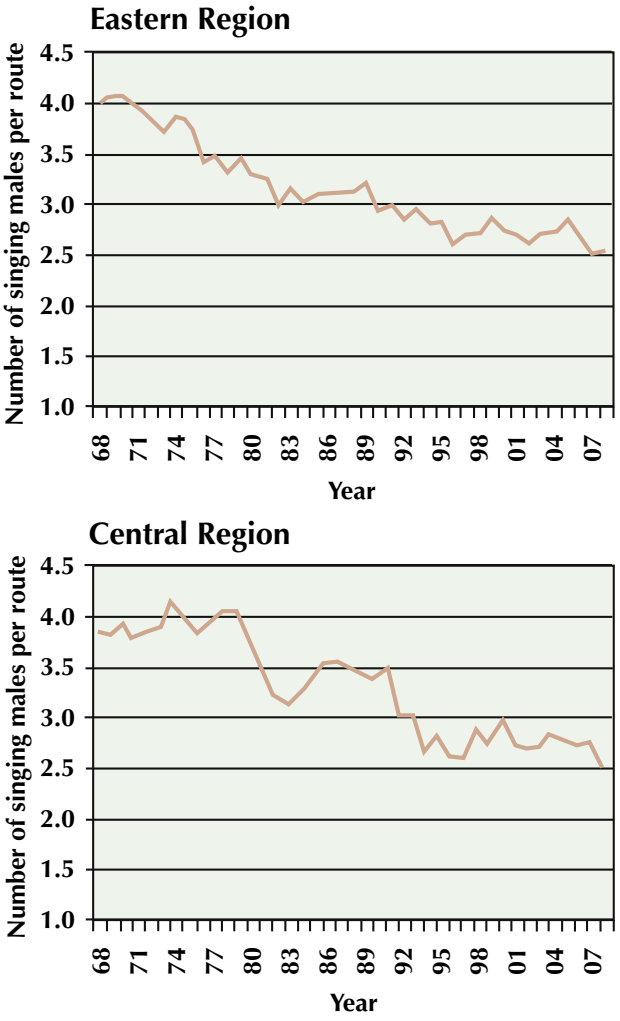
Introduction

American Woodcock/Eric Dresser

Figure 1: Long-term trends of the number of woodcock heard on the Singing Ground Survey, 1968-2008 (Cooper et al. 2008)



The American Woodcock *(Scolopax minor)* is a migratory shorebird that has adapted to forested habitats. Its distinctive features include stocky body, camouflage feather coloration and a long prehensile bill used to probe moist soils for earthworms, the primary food.

American woodcock populations have steadily decreased over the last quarter century at a rate of 1-2% per year (Figure 1). Wildlife researchers attribute the decline to the loss of young forest and shrubland areas in the eastern and central United States due to human development and changing forestry management practices.

The Appalachian Mountains Woodcock Initiative was created to document best management practices for the Appalachian Mountains Region of Pennsylvania, eastern Ohio, West Virginia, western portions of Maryland and Virginia. This Technical Note summarizes work to develop a regional system of demonstration areas, and to monitor the response of woodcock to habitat treatments. Information contained within applies to these states but may be applicable elsewhere.

Woodcock Habitat Needs

Woodcock need diverse habitats to survive, including small clearings for courtship, dense shrubland or young forest thickets for diurnal foraging for earthworms, early successional forests for nesting and brooding and clearings for summer roosting.

Woodcock need diverse habitats./Scot J. Williamson

Courtship Areas

Male woodcock return to breeding ranges in early spring and immediately occupy courtship territories, usually referred to as "singing grounds." Male woodcock perform courtship activities in a variety of openings such as clearcuts, natural openings, roads, pastures, cultivated fields and reverting agricultural fields. The quality of singing grounds is influenced by the proximity of nesting and brood-rearing habitat. Singing grounds are usually adjacent or close to diurnal cover.

A. Things to Look For:

1. Forest openings with sparse ground cover

2. Log landings and forest roadsides

3. Pastures

4. Small hay fields, especially close to wet areas

5. Reverting farmland

6. Reclaimed/abandoned mining areas

B. Characteristics:

1. Open herbaceous ground cover

2. Openings with scattered small shrubs and trees

3. Openings with ground cover flattened by winter snow packs

4. Generally singing grounds are ½ acre in size or larger

Woodcock singing ground./Scot J. Williamson

Forest openings are frequently used as woodcock singing grounds./Scot J. Williamson

Adjacent to young forest, woods roads can be used as singing grounds./Scot J. Williamson

Woodcock use grazed pastures as singing grounds./Scot J. Williamson

Western Maryland woodcock singing ground./Tim Flanigan

Feeding Areas and Diurnal Habitat

A wide variety of plant species may comprise suitable diurnal habitat, but important indicators of good habitat are those that are early-successional or have growth forms that provide adequate protection for birds. The abundance of earthworms is a critical determinant of woodcock use of a site. Birds may sometimes use more mature forest if there is a dense understory. Use of coniferous stands is minimal in Appalachian Mountain breeding areas, but can be critical for survival during droughts and dry conditions.

A. Things to Look For:

1. Abandoned farmland, especially abandoned, overtopped apple orchards, when located within ½ mile of forested or shrub/scrub wetlands.

2. Riparian Habitats: rich moist habitats located adjacent to streams and waterbodies. Riparian stream habitats should be along second order and higher streams (at least one upstream branch). To be considered as high potential for woodcock habitat, stream courses should be low gradient, slow flowing, with flat topography.

3. Lower Benches: young forest or shrubland habitats located adjacent to riparian habitats and extending up to 2 benches or terraces uphill from the wetland edge. Also, in general, any young forest habitat within ½ mile of a stream, wetland, pond, or waterbody, including flood plains, valley floors or forested coves. Refer to the preferred forest types mentioned below for a more specific picture of woodcock preferred feeding areas.

4. Within the National Wetland Inventory (www.nwi.fws.gov), important woodcock habitats may be included in the following NWI wetland types: Palustrine Shrub/Scrub and Palustrine Forested. View the wetland mapping tool on the NWI website or the NWI data on Google Earth (http://wetlandswms.er.usgs.gov/). Other smaller wetlands which may not be typed by NWI but which can be recognized on the ground by the presence of perched water tables, seeps, vernal pools, or hardpan/shallow to pan soils.

B. Characteristics of Feeding Areas:

1. Moist rich soils with abundant earthworms.

2. In young forest and shrubland habitats, feeding areas should have greater than 10,000 stems per acre of young trees or shrubs. Many times these shrubland habitats are regenerating hardwood clearcuts between 3 and 15 years of age. (Data suggests that woodcock will use stands of variable size classes and densities. Woodcock have been observed on sites with 161 to 316 trees greater than 3 inches DBH/acre; a sapling density of 565 to 1,817 stems/acre; and a shrub density of 5,450 to 19,883 stems/acre.)

3. Preferred forest types for woodcock feeding include those generally labeled as shade intolerant hardwoods and shrubs, including aspen, alder/willow, birch, dogwood, viburnum spp., hawthorn, shrub honeysuckle, black locust, and multiflora rose.

4. Secondary forest types include young forest and shrubland size classes (with associated shrub layers) in the following forest types: northern hardwood; hickory; cherry; yellow poplar, and oak.

5. In general, most preferred forest types are prone to root suckering or stump sprouting.

Abandoned farm lands provide good feeding habitat for woodcock./Scot J. Williamson

Riparian areas provide a consistent source of earthworms. /Scot J. Williamson

Nesting Cover

Most woodcock nests are in young second-growth hardwood stands that are near feeding areas and/or singing grounds. Nesting cover may also serve as diurnal feeding cover. The woody stem density of nesting areas should be at least 6000 stems per acre. Preferred brood habitat is characterized by a protective dense hardwood cover on fertile soils that support an abundance of earthworms.

A. Things to Look For:

1. Forest sites somewhat drier than feeding areas with sapling to small pole sized trees. These areas may include young forest or shrubland habitats on uplands adjacent to riparian areas (second bench);

Dense alder provides an open understory for feeding and protection from predation./Scot J. Williamson

Regenerating forest stands are frequently used as feeding areas./Scot J. Williamson

2. Also, young, open second growth hardwood –seedling/sapling size class from 2-15 year following clearcutting if there is no dense ground cover. Bare ground is necessary for brood rearing.

3. Nesting habitats may include large sapling/small-pole sized hardwoods (15-25 years post cut) with dense shrub layer (aspen with hazel understory, or dogwood, viburnum spp., and alder)

4. Where there is overlap with feeding areas, woodcock will nest on drier site alder (up to 10-15 feet in height) stand.

Woodcock hen with chicks./Eric Dresser

Woodcock nest in sapling stands./Scot J. Williamson

Woodcock chicks./Eric Dresser

Small pole-sized stands with dense understory may be used for nesting./Tim Flanigan

B. Characteristics of Nesting Cover:

1. Areas as small as 1 acre can be used, although 5-acre units are better from a management perspective.

2. Preferences for forest types for nesting are the same as preferences for feeding areas.

Roosting Areas

Woodcock often leave diurnal areas at dusk and fly to openings such as clearcuts, abandoned agricultural fields, and pastures to spend the night. Use of roosting fields begins generally in July and continues up to time of migration. On southern winter habitats, woodcock use roosting areas from the time of arrival to onset of spring migration. In the Central Region of the Appalachians, woodcock do not generally feed on roosting habitats, seeking out instead protection from predators at night. In general, the structure of roosting habitats needs to be open enough for woodcock to detect ground predators while affording scattered overhead protection from avian predators. On smaller openings it would be advantageous to have a tapered edge of small trees and shrubs rather than a hard edge of tall trees.

A. Things to Look For:

1. Pastures with light to moderate grazing

2. Recent clearcuts and log landings

3. Newly established or herbicide-released forestry tree plantations

4. Revegetated mining areas

5. Recently abandoned farmland

B. Characteristics of Roosting Areas:

1. Barren, light herbaceous ground cover

2. Some bare ground

3. Occasional weed/shrub cover for overhead protection

4. Clump grasses are preferred over sod grasses

5. Scattered small shrubs and trees less than 4 feet in height

Military tank range used as woodcock roosting field. /Scot J. Williamson)

Woodcock fly to open fields or new clearcuts at dusk from late July till migration. Roosting fields provide protection from predation. /Scot J. Williamson

Annual burning of roosting fields improves use by woodcock. /Scot J. Williamson

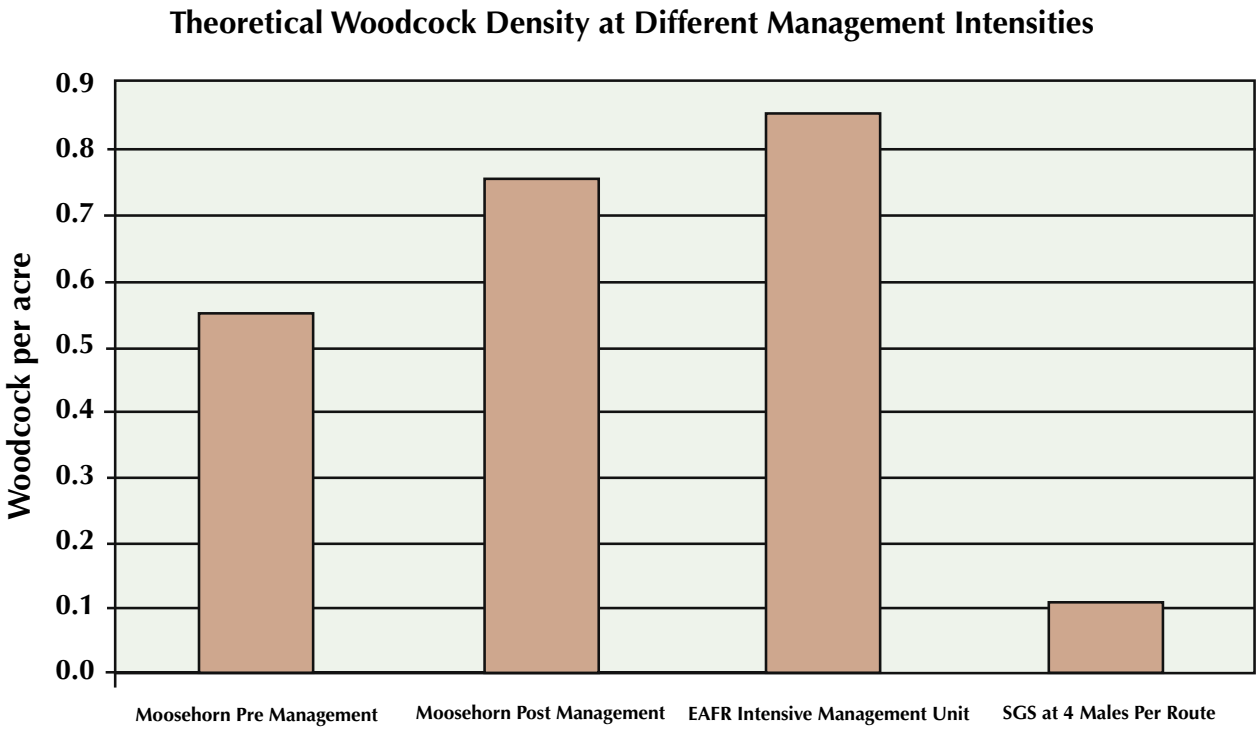
Eric Dresser

Woodcock Habitat Mosaics

Quality woodcock habitat mosaics are a combination of dense hardwood cover on fertile soils, with an abundance of earthworms, interspersed with both large and small openings. Farmland / hardwood forest mix is an ideal location to consider managing for woodcock. Birch *(Betula spp.)*, aspen *(Populus spp.),* alder *(Alnus spp.),* hawthorne *(Crataegus spp.),* arrowwood *(Viburnum spp.)* and dogwood *(Cornus spp.)* provide the cover densities preferred by this species.

Woodcock populations thrive when all habitat components are located in close proximity to each other. On a landscape scale, the goal of habitat management is to create a mosaic of quality habitat capable of supporting 500 woodcock. Scientists believe that 500 individuals in a population ensure viability of the population. By looking at some examples of areas managed intensively for woodcock, it becomes clear that a unit of 500-1,000 acres should support approximately 500 woodcock. In the table below, densities from the Moosehorn National Wildlife Refuge, the Ethan Allen Firing Range, and the national singing ground survey are contrasted. The two areas with intensive management show the greatest gains in woodcock numbers.

Figure 2: Densities of woodcock on intensively managed demonstration areas.



The ultimate goal for habitat managers is to create a habitat mosaic of 500-1000 acres whenever possible. Adjacent landowners will likely need to be considered for inclusion in the managed area. To ensure that climatic events or predation do not cause a population to go extinct, the conscientious manager positions several habitat mosaics within 1-2 miles of each other. This way if one population declines, there are suitable "source" populations nearby to allow for re-colonization of the management unit.

It is understood that, in many areas of the central Appalachian Mountains region, management units of 500 – 1000 acres may not exist. However, much of this region is a mosaic of various land-use types. Habitat elements such as singing grounds and roost fields may already exist on ownerships adjacent to tracts being assessed for an early successional habitat project. It is encouraged that the adjacent landowner be contacted and, if possible, included in the woodcock habitat management plan. Identifying, managing and expanding known woodcock habitats (feeding, nesting, and roosting habitats) wherever they may occur is critical to achieving habitat goals identified in the *American Woodcock Conservation Plan* (Woodcock Conservation Plan).

Tim Flanigan

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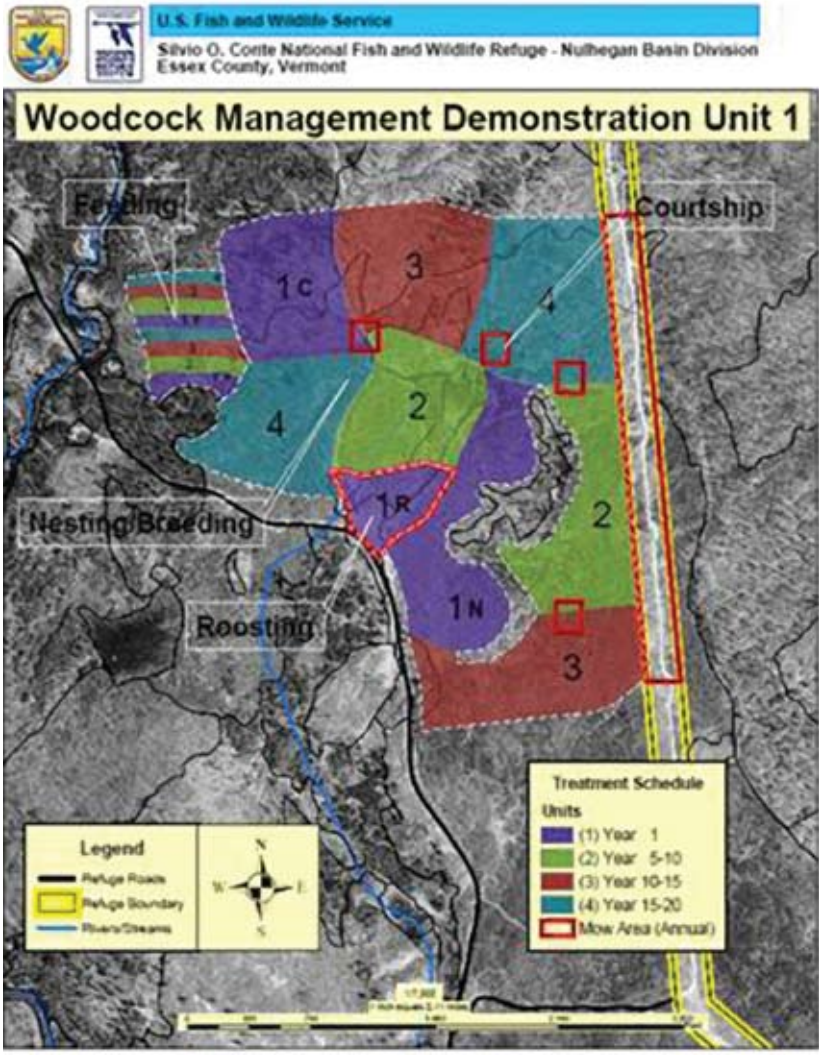
Composition of Habitat Mosaics



Suggested cutting cycle sequence to create a woodcock habitat mosaic of feeding, nesting, and brood rearing habitat on the Nulhegan Division of the Silvio Conte National Fish and Wildlife Refuge, Vermont.

In preferred forest types (defined in the feeding areas section), this important mosaic of feeding areas can be structured so that 25% of the unit is in one of four age classes: 0-10, 11-20, 21-30, and 31-40 years since cutting.

In the ideal woodcock management unit, the following habitat configuration should result in highest densities of woodcock:

- Locate the unit so that its center or core is an alder swale or other forested wetland (on the National Wetland Inventory, look for Palustrine shrub-scrub and Palustrine Forested Wetlands).

- Over 80% of the management unit should be dedicated to providing diurnal habitat areas. An important component of this diurnal habitat area is the core shrub-scrub or forested wetland that is used to define the center of the management unit. Here, the structure of the shrub-scrub or forested wetland should be managed so that it provides dense sapling growth. Because these areas are most likely to feature moist soils (important for earthworms) regardless of drought conditions, the core feeding area will be the most reliable habitat to support woodcock populations through time.

- Diurnal habitat areas surrounding or adjacent to the core alder swale or other forested wetland will be created by even-aged forest cuttings of ≥5 acres in size located on adjacent uplands. These cuts will stimulate sprouting of shade-intolerant species such as aspen to create ideal woodcock feeding habitat.

- Alder and other shrub diurnal habitat areas will grow out of usefulness when the canopy opens and allows grasses and forbs to thrive in the understory or the process of stem exclusion in the developing stand has evolved to less than 10,000 stems per acre.

Woodcock habitat mosaic implemented on the ground – Ethan Allen Firing Range, Jericho, VT.

Plan to regenerate 25% of the core feeding habitat every five years so that the entire area is rotated through a cutting cycle within 20 years. This way, woodcock will always have a choice of different aged feeding areas.

- In preferred forest types (defined in the feeding areas section), this important mosaic of feeding areas can be structured so that 25% of the unit is in one of four age classes: 0-10, 11-20, 21-30, and 31-40 years since cutting. One efficient method is to create new young forest habitats in 5-acre or larger blocks on a 40-year rotation on a 10-year entry period. In secondary forest types, lengthen rotation and or age classes distribution to achieve commercial forest products.

- When diurnal habitat areas have been identified or delineated, the remainder of the management unit should be dedicated to roosting field and singing ground habitats. Generally, these two components require open habitats. For each 500-1000 acre management unit, strive to create:

1. One roosting field per 100 acres. Roosting fields should be at least 5 acres in size. Refer to the roosting field section of the Specific Habitat Management Practices section for details on how to create and maintain roosting fields.

2. Eight singing grounds per 100 acres: Singing grounds should be at least ½ acre in size. Refer to the singing ground section of the Specific Habitat Management Practices section for details on how to create and maintain woodcock singing grounds.

Woodcock Habitat Goals

Tim Flanigan

Wildlife managers can judge how much they need to promote woodcock habitat management to their private landowner contacts by referring to the American Woodcock Conservation Plan.

How much is enough? Is one habitat mosaics per county enough? Or should wildlife managers strive to have every landowner connected be part of a habitat mosaic?

Wildlife managers can judge how much they need to promote woodcock habitat management to their private landowner contacts by referring to the American Woodcock Conservation Plan. Here, woodcock habitat goals are displayed by state and region, and field personnel can quickly discover the amount of acreage, if any, that needs to be dedicated to woodcock habitat in their area.

Tim Flanigan

Woodcock Conservation Plan

The American Woodcock Conservation Plan emerged from the efforts of the U. S. Fish and Wildlife Service, state wildlife management agencies and non-governmental organizations to galvanize action to reverse the decline of woodcock.

The Woodcock Task Force recognized that bird interest groups dedicated generally to conservation of waterfowl, shorebirds, neo-tropical migrant songbirds and waterbirds had developed strategic plans to set population objectives, rank the level of risk, define amounts or types of critical habitat, and outline funding deficiencies. Goals from those plans would drive agency funding and priorities. Woodcock, however, had not received similar attention. To allow woodcock needs to compete with other bird needs, a conservation plan was needed.

The American Woodcock Conservation Plan assessed current levels of woodcock habitat and woodcock populations, and calculated the amount of new habitat needed to return woodcock to 1970s population levels.

Goals for each region of woodcock range can be found by downloading the plan from www.timberdoodle.org.

Knowledge of woodcock habitat needs from research allowed woodcock specialists to quantify habitat deficiencies in the American Woodcock Conservation Plan. /Scot J. Williamson

The Woodcock Task Force recognized that bird interest groups dedicated generally to conservation of waterfowl, shorebirds, neo-tropical migrant songbirds and waterbirds had developed strategic plans to set population objectives, rank the level of risk, define amounts or types of critical habitat, and outline funding deficiencies.

Woodcock Habitat

Management Practices

Aspen is a preferred forest type for American Woodcock./Scot J. Williamson

Regenerating aspen forms dense stands preferred for feeding and nesting./Scot J. Williamson

Eric Dresser

Aspen/birch stands respond vigorously to cutting./Scot J. Williamson

Hawthorne and other shrub habitats are important for woodcock in the Appalachian Mountains./Tim Flanigan

Aspen Management

- Aspen responds to cutting by sending up thousands of seedlings that sprout from underground roots. This develops into dense sapling growth that makes aspen a preferred species to manage for woodcock.

- Even if aspen is scarce in a forest stand, it can regain dominance if managed correctly. As little as 30 square feet of basal area per acre of aspen makes a stand suitable for management as an aspen stand.

- In old or decadent stands, a greater percentage of the area may need to be cut in the first two cutting cycles to prevent the death of aspen clones from the lack of viable root sprouting.

- In stands with aspen, position 5-acre patch cuts to include existing aspen trees. Roots from the cut trees will sprout and re-vegetate in the opening around the stump.

- The point where four patch cuts of four different size classes touch is an ideal location for courtship clearings.

- To maximize sprout growth, time the cutting to occur after leaf-fall. Whenever possible, operate on frozen ground.

- Cutting aspen on a forty year rotation should result in commercial timber revenue. Landowners can make money while improving woodcock habitat.

Alder Management

- Alder is an important forest type for woodcock. When young, alder stands exhibit high stem density with little understory so that woodcock can feed freely without the threat of predation. Like aspen, alder sprouts vigorously when cut, although most alder sprouting is directly from the stump, not from roots. Alder will also grow naturally from seed.

- When alder stands become old, stem density decreases substantially and understories are overtaken by grasses and other ground covers. Woodcock cannot feed freely in old alder stands.

- A good clue to whether a stand of alder is too old can be had by viewing the growth form of alder stems. When old, alder frequently grows horizontally instead of vertically. Alder stands with horizontal growth are good candidates for regeneration.

- There generally is no commercial use for alder.

- A widely practiced way to manage alder is to cut strips that are 50-100 feet wide through the alder stand. Strips are positioned so that every 5 years, an adjacent strip can be cut. By doing so, all alder strips will be revisited once every 20 years.

- Depending on site conditions, alder management can be accomplished using a brush hog, hydroaxe, or an excavator equipped with a mowing head (brontosaurus). Stems can also be sheared off in winter after the ground has frozen with a skidder or bulldozer blade.

- As with aspen, the percentage of the area cut can be accelerated in decadent stands with substantial horizontal growth.

- Not all alder is suitable for woodcock – stands with standing water, saturated soils or heavy sedge growth are likely too wet to support earthworms.

- Alder can be successfully planted using 2 year or older planting stock. If necessary, top and root prune before planting. Bottomland cornfields in West Virginia have been successfully converted to alder stands using this method.

Alder provides important feeding cover, especially during droughts./Scot J. Williamson

When mature alder begins to grow horizontal, the stand has outlived its maximum benefit to woodcock./Scot J. Williamson

Alder management on Canaan Valley National Wildlife Refuge./Walter Lesser.

Strip cutting in alder is the preferred method of regeneration to regain the stem density preferred by woodcock./Scot J. Williamson

Alder sprouts from cut stumps. /Scot J. Williamson

Five years after strip cutting, alder stem density is again high enough to provide excellent feeding cover./Scot J. Williamson

Alder strips may be regenerated by manual cutting./Scot J. Williamson

Over-mature alder stands frequently are invaded by grasses, lowering their use by woodcock./Scot J. Williamson

In some situations, mechanical cutting of alder can be an efficient and economical practice. A brontosaurus has a specially adapted cutting head./Scot J. Williamson

Alder quickly reestablishes itself following cutting./Scot J. Williamson

Strip cutting of WV alder stands. /Walter Lesser

Other Shrub Management

- In addition to aspen, shrub stands of dogwoods (e.g. silky dogwood) and arrowwood (viburnum sp.) can provide good woodcock habitat.

- Woodcock habitat can also be created with species such as multiflora rose, black locust, and shrub honeysuckle. The shrub honeysuckle makes excellent borders to old fields and forest openings.

- Shrub stands can be managed by strip cutting techniques used with alders.

- Stands must be protected from being converted to forest cover by natural succession. Moderate deer populations can be an asset in maintaining these stands in a shrub condition.

- Hawthorn stands can also be managed in a similar manner to maintain diurnal feeding cover.

- Support, protect, and maintain shrub communities (i.e., hawthorn, crabapple) in pastures/grazing allotments on public lands wherever feasible to do so. Grazing is desirable and can result in quality woodcock habitat.

Roosting Area Management

- In forested areas, woodcock may have difficulty finding open areas in which to roost. In some cases, when open areas are not in the proximity, woodcock may remain in diurnal habitats through the night. Scientists speculate that mammalian predation may be higher at night in these habitats. In other cases, when open areas are not abundant, woodcock may fly long distances to roosting fields. Research from Connecticut suggests that not having all habitat components in close proximity increases mortality.

- In heavily forested areas with active forest management, newly created cuttings serve as roosting fields for at least several years after the time of cutting. Because cuttings can serve as roosting fields, in areas with active forest management using even-aged management techniques, roosting field habitats do not need to be created.

- In heavily forested areas without active annual management, or where management is not even-aged, roosting fields must be created and managed. Generally accepted guidelines for creating roosting fields are:

1. Cut and maintain openings of 5-acre or larger in size with sparse ground cover.

2. Do not plant or revegetate, especially with sod forming grasses. The desire is to allow the site to revegetate with patchy, naturally occurring weeds and forbs. Do not fertilize.

3. Sites should be maintained in this condition through mowing, controlled burning, herbicides, or grazing.

4. Allow a 100-foot border of the opening to regenerate into dense sapling sized deciduous shrubs and trees for woodcock nesting habitat.

5. Manage for one roosting field per 100 acres of diurnal habitat.

- In areas with pastures/hayfields or old field (shrub) habitats in close proximity (within ½ mile of feeding areas)

1. Pastures with light to moderate grazing pressure are maintained in cover suitable for use by roosting woodcock. These areas serve

Woodcock select areas with sparse vegetation to use as roosting fields. Recent clearcuts are frequently used./Scot J. Williamson

If large enough, log landings can serve as roosting fields. /Scot J. Williamson

Moderately grazed pastures are used as roosting fields by woodcock from mid-July until migration./Scot J. Williamson

As retired gravel pits revegetate, they can be used as roosting fields./Scot J. Williamson

Newly established forest plantations can serve as woodcock roosting fields in heavily forested landscapes./Scot J. Williamson

Hayfields need to be managed by strip cutting to encourage use by woodcock as roosting fields./Scot J. Williamson

Woodcock can roost in blueberry barrens./Scot J. Williamson

Lightly vegetated Maryland opening with potential to manage as a roosting field./Tim Flanigan

the needs for woodcock roosting and therefore eliminate the need for the landowner to manage other areas as roosting fields.

2. Other landscape components that serve as roosting fields include: barrens, airstrips, military training grounds, top-soil mined areas, regenerating gravel pits and newly established forest plantations.

3. Because dense grass and weed growth prevent the use of roosting fields by woodcock, hayfields and blueberry openings must be managed to allow use by woodcock. (Note: Alfalfa fields in need of reseeding make excellent roosting fields)

4. Mowing strips in hayfields has proven to be an effective management tool for roosting woodcock. The mowed strip allows birds to roost in the open, while the unmown edges shelter the birds from avian predators. Strips from 4-6 feet wide should be mowed in hayfields in mid to late summer. Up to 25% of the field can be covered in strip mowing. Begin to cut strips in mid-July and continue through the time of first frost.

5. Another option is to schedule the timing of hay harvest. The entire first crop of hay can be cut and harvested conventionally. After the first crop, cut strips at 2-week intervals through second and third hay harvests.

Log Landing Management

Log landings can serve as both singing grounds and roosting fields and in a forested environment can serve as an efficient way to maintain some open habitats important for woodcock.

- Landings can be as large as possible – usually 1-3 acres in size is practical. The larger the area in landing, the more likely the landing will be used as a roosting field. Large landings are also more likely to support multiple singing grounds.

Log landings can serve as both singing grounds and roosting fields if properly sized and managed./Scot J. Williamson

Log landings should be smoothed and dense slash removed. /Scot J. Williamson

Appalachian Mountain log landing./Tim Flanigan

- Landings should be smoothed with dense slash removed or piled but little else in the way of site treatment is necessary.

- Landings should not be planted if woodcock use is desired.

Assistance from a professional wildlife biologist is the first step in managing land for woodcock./Scot J. Williamson

Commercial Forest Management

Commercial forestry can be an excellent way to improve woodcock habitat at no cost to the landowner. Where possible, encourage the use of federal, state, and county cost sharing programs to reduce landowner costs for non-commercial woodcock management activities. There are various forestry guides available, but forest managers should refer to the habitat composition goals listed in DeGraaf et al. (2006) as an excellent approach to integrating early successional habitat needs into forest management.

Commercial forestry is an economical way to create woodcock habitat./Scot J. Williamson

Other Species

that benefit from early successional habitat

Tim Flanigan

Over 80 species have been identified by states included in the Appalachian Mountains Woodcock Initiative (MD, OH, PA, VA, and WV) that require young forest and shrubland habitats of both deciduous and coniferous forest types for survival.

In 2002, the Congress enacted the State Wildlife Grant Program to provide funding for management of Species of Greatest Conservation Need (SGCN). Congress also mandated that before money could be allocated a state must develop a Comprehensive Wildlife Conservation Strategy also known as State Wildlife Action Plans applying a standard methodology to identify Species of Greatest Conservation Need. Over 80 species have been identified by states included in the Appalachian Mountains Woodcock Initiative (MD, OH, PA, VA, and WV) that require young forest and shrubland habitats of both deciduous and coniferous forest types for survival. All State Wildlife Action Plans can be accessed at www.wildlifeactionplans.org .

Tim Flanigan

Other Species

When should they take precedence?

Cutting trees to create young forest and shrubland habitats is necessary for the recovery of woodcock. But woodcock habitat management is not suitable in some situations and in some forests. It is critical to know where and where not, to help woodcock by creating young forest. Here are some descriptions of other resource values that may supersede woodcock habitat creation.

- Endangered or threatened species habitats must be protected so that the listed species or its habitat is not harmed. The best source for understanding if there are threatened and endangered species in the area is the state wildlife agency or the U. S. Fish and Wildlife Service.

- Historic and cultural heritage sites are the physical remains and objects that link us to our nation's past. Each state has a State Historic Preservation Office that can determine where cultural resources are located and if activities will affect them.

- Natural Heritage Programs collect, analyze, and distribute detailed scientific information about the biological diversity. Natural heritage programs are the leading source of information on the precise locations and conditions of rare and threatened species and ecological communities.

- Protection of water quality is always a paramount concern. As an example, in some locales, management of forests on steep slopes may create erosion. Avoid negatively impacting wildlife that breed or live in vernal pools and ephemeral wetlands by removing tree canopies directly over the wetland because this may increase water temperature.

Eric Dresser

- Large blocks of unfragmented forest in landscapes with an abundance of agricultural and or developed lands should be carefully considered when evaluating their potential for early successional forest.

- Important natural areas or ecological reserves are set aside to protect important ecological values. Although creation of young forest may not impact the protected resource, expert assistance should be sought when working on or near protected natural areas.

- High elevation forests are one example of forest types where management for woodcock is likely to be unproductive. Other examples include those forests that are on very well drained, xeric soils unlikely to support woodcock or earthworms.

- Too much of anything is usually bad. When the occurrence of young forest is very prevalent on the landscape, consider the species that need older forests before creating additional acres of early successional habitat. State fish and wildlife agency can provide consultation on these other resource values.

Summary

Tim Flanigan

Woodcock can recover to historic population levels if the right steps are taken to create more habitat. And that relies in large part to the NRCS, because working farm and forestlands provide the best opportunity to recreate the habitat mosaics of the past.

American woodcock respond favorably to habitat improvement, usually within one year or so. In fact, many private landowners witness the aerial acrobatics of displaying males the first spring after the creation of singing grounds. So the discussion of BMPs for woodcock habitat provides quick rewards to both the landowner and the technical assistance provider.

Woodcock populations were highest when working farms and forestlands dotted the landscape. Brushy field edges, stream banks, orchards, fallow fields, pastures, reverting agricultural fields, and managed woodlots provided the mosaic of habitats that woodcock depended upon. Many of those habitats are gone today, replaced by either mature forestlands or development. But all is not lost. Woodcock can recover to historic population levels if the right steps are taken to create more habitat. And that relies in large part to the NRCS, because working farm and forestlands provide the best opportunity to recreate the habitat mosaics of the past.

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and for more information

Information on the Woodcock Conservation Plan and Woodcock Habitat Initiatives can be found at www.timberdoodle.org

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