A Landowner's Guide to Managing Lands in the Piedmont Bird Conservation Region

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Author: Keith Watson, Southern Appalachian Bird Conservancy

The Piedmont Bird Conservation Region (BCR 29) is a large geographic region that extends southwestward from northern New Jersey to Montgomery, Alabama (*suggest adding figure from Piedmont BCR plan*). On its western boundary lies the Appalachian Mountains BCR and to the east lies both the Southeastern Coastal Plain (BCR 27) and the New England/Mid-Atlantic Coast (BCR 30) BCRs. This region encompasses approximately 47,321,579 acres (19,150,363 hectares) of primarily rolling landscape with occasional steep slopes and plateaus and is generally divided between northern and southern sub-regions at the Virginia-North Carolina boundary, but this is purely administrative. The Piedmont is relatively narrow with a longitudinal width in the north of only 50 miles but wider in the southern reaches with a width of 124 miles. Once mostly dominated by hardwood forests in the north and a mixture of pine-hardwood forests in the south, centuries of human influence have converted the Piedmont to a mix of forests, grasslands, wetlands, agriculture, abandoned farmland, and urban and suburban development. Often overlooked in its importance to birds, the Piedmont provides valuable nesting, migration, and wintering habitats to 69 avian species that have been identified as conservation priorities in the region by the US Fish and Wildlife Service's (USFWS) Atlantic Coast Joint Venture (ACJV), state partners, and non-governmental agencies (NGO) (*suggest adding table of bird priorities from Piedmont BCR plan*).

At least 136 species of birds breed in the Piedmont and an additional 100 or more use the Piedmont as a migration or wintering region. Data show that populations of many of these species have declined in recent decades. (*suggest showing a simple x-y graph of numbers vs. time for a declining species, Prairie Warbler http://www.mbr-pwrc.usgs.gov/bbs/graphs10/s06730S29.png, Grasshopper Sparrow, http://www.mbr-*

pwrc.usgs.gov/bbs/graphs10/s05460S29.png) Habitat loss, habitat fragmentation and habitat degradation are the most important factors causing these declines. Suburban and agricultural development has eliminated much of the region's hardwood forest and poor management and invasion by non-native plants of remaining forests have impaired much of what remains. Non-native grasses of little value to most birds dominate pastures and current haying practices reduce the productivity of many grassland species. Modern farming techniques and increased pesticide use have turned agricultural lands into often unproductive and sterile lands for birds, in part by eliminating many brushy fence lines, hedgerows, ditches, and road banks that formerly provided valuable edge habitat for nesting and foraging. **But you can help change this by improving our private lands!**

Why should we care enough about bird population declines and habitat loss to devote our valuable time and resources to managing for wildlife? Most importantly, birds are an integral and essential component of our ecosystems and thus help maintain the dynamic balance of nature. They are some of our best insect regulatory agents, helping to keep insect populations in check that might otherwise defoliate and damage timber, agricultural crops, and landscape trees and plantings. Hawks and owls may also help regulate rodent populations and some species, particularly vultures, help remove dead animals from our lands. Birds, especially hummingbirds, also help pollinate some of our plants. Birds serve as one of our most efficient seed dispersers, depositing them far from their place of origin and helping to maintain the vigor of our forests and grasslands. Birds are also culturally significant to Native American cultures. They also provide an indicator of the relative health of our environment. When properly monitored, some species can serve as indicators that other aspects of our environment need attention and often repair. In addition, birds are aesthetically pleasing, providing beauty of both sight and sound. "Birdwatching" and "Birding" has become a most popular hobby and pursuit, generating billions of dollars each year spread across local economies where opportunities are provided. All of these benefits are certainly true of birds in the Piedmont. (*suggest adding here some photos of the value of birds; bird eating insect, hummingbirds pollinating, Native American ritual, etc.)*

Paramount to the role birds play in our lives, they cannot successfully continue these functions unless they and their habitats receive increased protection. Today, more than 90% of the Piedmont is in private land ownership. Therefore, the care of birds and other wildlife is entrusted to those of us who are landowners and it becomes our responsibility to assure that future generations have these natural resources to nurture and enjoy. If you own land in the Piedmont, whether it is a large farm or estate or just a small backyard, then you too can help provide valuable habitat for Piedmont birds by either creating habitat or improving the habitat you have. Some simple changes, such as leaving a fence row to grow wild or allowing part of a yard to grow up in native grasses rather than mowing every two weeks, can provide great benefits to the birds that are struggling to survive under our ever-intensifying land use habits. Or making sure you plant only native non-invasive plants and removing exotic and invasive species will help improve your lands for bird conservation. Read on and find out about this and many more opportunities you have to help birds! This is by no means a complete guide, but it will give you some ideas of what can be done on your property to make it more suitable for birds. The best guidance is to seek advice from a professional! There is an almost limitless supply of information and assistance available to you or through the various local, state, and federal agencies in your area. And most of this available to you at no cost. And to make your efforts even more possible, there is a wealth of financial assistance programs available to qualified landowners! Whatever you do by making your property “bird-friendly”, you’ll be promoting the conservation of one of our most valuable resources, birds, and also improving habitat quality for other wildlife species.

Listed here are the major habitat types in the Piedmont where your help is needed for creating or improving bird habitats. If your property has any of these habitats, you can help improve conditions for birds in the Piedmont!

Upland Deciduous and Mixed Pine Forests

Upland deciduous hardwood and mixed pine forests dominate and cover approximately 38% of the Piedmont landscape *(add photo*). Piedmont hardwood forests consist mainly of oak, maple, and hickory, with smaller numbers of tulip poplar, sweetgum, and red maple. Loblolly and Virginia pine are the primary species in pine forests, along with lesser amounts of shortleaf, white, pitch, and longleaf pines. European settlers cleared much of the original forest habitat in the Piedmont which peaked around 1860, followed by land abandonment, resulting in increased forested acreage. This again was reduced by agriculture in the early 1900's and continues to the present. Additionally, since the mid-1970's, the amount of forested land began declining again due to urbanization and development (*add photo*).

Bird populations in forests increase in density and diversity as the forest gets older, reaching a maximum in forests exceeding 100 years of age. Older forests also tend to support more dead trees or snags, which are important habitat components for many nesting birds. Woodpeckers excavate cavities for nesting and roosting in dead and decaying snags, which can eventually be used by secondary cavity nesters such as Wood Duck, Prothonotary Warbler, and Great Crested Flycatcher, none of which excavate their own nest holes (*add photos*).

The hardwood forests of the Piedmont are the heart of the breeding range for species including the Wood Thrush, Acadian Flycatcher, Scarlet Tanager, and Eastern Wood-Pewee. Other species found in Piedmont hardwood forests include the Kentucky Warbler, Worm-eating Warbler, Eastern Screech-Owl, Red-headed Woodpecker, Cooper's Hawk, and Red-shouldered Hawk. Pine forests can support Brown-headed Nuthatches, Whip-poor-will, Northern Bobwhite, Prairie Warbler, and possibly Bachman's Sparrow, but most of these forests need better management to improve conditions for birds and other wildlife and meet conservation goals.

Creating and Maintaining Forest Habitats

Size and Configuration

Many bird species require large forest tracts for successful breeding even though their individual territories may be relatively small. Unfortunately, most of the forested land in Piedmont consists of highly fragmented small- or medium-sized tracts when compared to presettlement conditions. This increases predation rates on bird eggs and young, lowering reproductive success closer to forest edges compared to forest interior and larger tracts. Ideally, forest management and restoration is best for tracts of 100 acres or larger, and circular or square tracts are better because they have less edge than do linear tracts of comparable size. Long, rectangular tracts will simply create an extensive edge that creates conditions for higher predation rates. Landowners with long, rectangular forest tracts should consider management of these forests as shrub-scrub land or restoring the forest to a larger more square or circular shape.

Increasing the size of an existing forest should always be considered as the most important forest management action, particularly if it increases the amount of forest interior (defined as occurring deeper than 330 feet from the forest edge). Other recommendations to improve forest conditions are to plant trees in forest openings, particularly to decrease the amount of edge, remove exotic vegetation, and locate new roads and utility lines around the forest and maintain a closed canopy over existing roads.

Consulting a certified biologist and forester will help you develop an appropriate forest management strategy for your property (see Resources below).

Restoration

Reforestation or forest restoration projects are important for bird conservation in the Piedmont. However, you first need to determine what type of forest your land historically supported and/or what type of forest best fits into the current and surrounding landscape. Attempting to establish a forest type that cannot be supported with the soil and climate in your area can be a tremendous waste of valuable resources.

Vegetative richness, diversity, and structure are the key to attracting and maintain a balance with other wildlife and vegetation. Deer can decimate newly planted seedlings, so protect new hardwood and shrub plantings with tree shelters. Providing deer with a browsing alternative, such as a clover understory, will also increase seedling survival. If your restoration project requires replanting, use only native species. Again, consultation with a certified biologist and forester will help you develop an appropriate forest management strategy for your property (see Resources below).

Management

Forests with more structural complexity support a greater variety of bird species by providing more opportunities for forage, cover and nesting. This complexity can be achieved by a variety of management techniques aligned with your land management objectives. Consulting foresters can help you determine which techniques will provide your forested land with the structure needed to enhance bird populations on your property. Generally, each state has Best Management Practices (BMP), either mandatory or voluntary, which when followed will protect your land and other valuable resources on your property. Some additional and important considerations are to:

- keep livestock fenced out of forest stands,
- monitor regenerating forests for invasive species that can take over in as little as a year if not eliminated or controlled,
- ensure a mixture of ground cover and understory plants to produce the best habitat for birds (planting may accelerate establishment of these plants),
- create coarse, woody debris piles in a forest provides habitat for some birds as well as small mammals, amphibians, and reptiles,
- leave dead trees, limbs, and litter on the forest floor to provide cover and a source of invertebrate foods,
- leave a good supply of standing dead trees, also called snags, to provide foraging sites for woodpeckers, and natural cavities for nesting. Snags are one of the best benefits of an old forest; aim for at least four standing dead trees per acre.

Removing weak, poor quality or suppressed trees in young stands every three to ten years (thinning) will allow more growing space for the remaining healthy trees and permit sunlight to penetrate and benefit mid- and understory plants. Periodic thinning helps to reduce the risk of insect infestations, disease, and catastrophic fires. Thinning that preserves mast-producing trees and shrubs (those that produce a diversity of seeds) can help sustain songbirds, deer, black bear, wild turkey, and small mammals through the winter months. If you girdle some large but malformed or damaged trees, this will kill them but create snags for foraging, nesting and perching. Try to select trees that already have some decay to accelerate cavity formation. Over 25 species of birds in the Piedmont nest in tree cavities.

Pine Plantation and Open Pine Forests

Pine plantations and open pine forests cover approximately 13% of the Piedmont, consisting of primarily loblolly and shortleaf pines (*add photo*). Loblolly and shortleaf pine stands are usually planted at an initial density of 400-450 trees per acre (TPA) for timber production. To improve pine stands for wildlife value, particularly birds, consider planting at 300-350 TPA. To enhance wildlife values further, consider shortleaf pine instead of loblolly. Add a few outer rows or clumps of shrubs to enhance the array of birds using the area. Young, natural pine stands are often heavily overstocked, sometimes exceeding 2,000 TPA. These stands will benefit by a pre-commercial thinning to 10 ft. x 10 ft. spacing. To prevent young pine stands from being outcompeted by hardwood species, use prescribed burns or selective herbicide treatments targeted specifically at hardwoods and take care not to eliminate ground cover and understory plants. As a loblolly or shortleaf pine forest canopy closes, tree crowns intercept an increasing amount of sunlight, resulting in less light on the forest floor. This causes a decline in ground level and understory plants, leading to a decline in the number of bird species. Thinning at 15 to 20 years overcomes this problem and creates ground cover and understory necessary for the successful reproduction of some species. The Ovenbird, a ground nester, will benefit, as well as Wood Thrush, which nests in the shrub level or understory. Thinning is also economically beneficial,

resulting in increased growth in diameter and volume of timber. To significantly increase bird richness, 15 to 20-year-old stands should be thinned to 175 TPA. This allows at least 50% of the ground to have sunlight during mid-day. A second thinning should be considered as the pine canopy again closes, typically at about ten years after initial thinning. Thinning to 85-100 TPA for a stand of large pines will attract wildlife and promote financially profitability of your trees.

After thinning, at least one third of the acreage should be burned every year to control hardwoods while providing the highest quality wildlife habitat. The first burn should cover the entire thinned stand roughly a year following the first thinning. Prescribed burning removes logging debris, stimulates herbaceous growth, which provides excellent habitat for turkey poults and quail chicks, and prevents reinvasion of woody seedlings. Herbaceous growth responds best to burning in early spring. If this is not possible, burn in August after birds have nested. Burning involves more than simply lighting your forest on fire. It requires skill, planning, and experience. Safety and compliance with state and local burn laws and ordinances is critical. Local authorities and your state forestry agency should be consulted before any burn is considered (see Resources below).

Open Pine Forests (Savannas)

Vast acreages of pre-settlement Piedmont were once covered by a savanna habitat, a fire maintained, sparsely-stocked forest with a grassy herbaceous ground cover and lacking a woody understory layer (*add photo*). These primarily pine savannas were maintained by frequent surface fires, originating both from lightning and from intentional burning by Native Americans. A host of species such as the Brown-headed Nuthatch, Bachman's Sparrow, and Red-cockaded Woodpecker have a strong association with pine savannas. Some forest birds, such as Red-headed Woodpecker, and early succession birds, such as Prairie Warbler, also do particularly well in savannas. Although most historical and extensive savannas were the longleaf pine forests of southeastern coastal plain, early historical diaries describe extensive savannas along

the west Piedmont into the Blue Ridge foothills (most likely shortleaf pine savanna) and along the major Piedmont river corridors. In all likelihood, pine and oak species, due to their known adaptation to fire would have been among the dominant savanna tree species.

Open Pine Forest (Savanna) Establishment/Restoration

Undertaking pine savanna establishment or restoration involves a commitment to the regular use of prescribed burning, typically every two or three years. The goal is a scattered stand of trees with a grassy/herbaceous groundcover (*add photo*). This habitat structure provides trees for nesting and perching, an open and diverse herbaceous layer for foraging and nesting, and continuous light fuels which support frequent fire capable of controlling woody invasion. While savanna creation or restoration can begin with planting trees in field settings, it is more quickly and easily accomplished by thinning in established forest stands. The above section on pine thinning will produce a savanna stand with an open canopy. However, reducing the TPA even further will produce better ground cover. A third thinning will most likely be required to maintain more than 50% sunlight on the forest floor. Creating and maintaining herbaceous groundcover requires regular burning. The initial, post-thin burn is usually the most difficult, as you have to contend with logging slash. About half of the subsequent burns can be carried out during the dormant season (January-March). In order to promote a diversity of herbaceous plants and better control unwanted hardwood species, it is recommended that every other prescribed burn be carried out in the growing season (April-August). Growing season burns are much more effective at controlling woody plants. However, burning during the growing season can be more challenging than during the dormant season. Consult a professional to assess the need for and logistics of a growing season burn before undertaking it! It may require additional precautions, skills and permits (see Resources below).

Herbaceous ground cover is critical to a fully functioning savanna. The ground layer may be slow to establish, but prescribed burning will usually yield a surprising array of

native plants that have been either lying dormant under the deep shade of a well-stocked forest, or which rapidly colonize an area which has been thinned and burned. Sometimes a diverse groundcover does not materialize, in which case it may be necessary to augment the developing savanna with appropriate native plants. Consider grasses such as wild rye, indiangrass, little bluestem, broomsedge, and bottlebrush grass, as well as wildflowers such as partridge pea, wild senna, goats rue, beggar lice, black-eyed Susan, narrow-leaf mountain mint, and grass-leaf blazing star. Your local US Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) agent can advise you on the best grasses for your land. Landowners may want to consider forest types other than loblolly pine as likely settings for savanna restoration. Shortleaf pine and oak/hickory dominated hardwood savannas are likely to have been dominant community types within large areas of the Piedmont and, if restored, would yield high wildlife habitat values and benefits for landowners.

Grasslands (Natural and Managed)

Historically, grasslands occurred irregularly in the Piedmont and were primarily created and maintained by the use of fire by Native Americans, but their extent is unknown. These areas likely increased with forest clearing after European settlement, but now have declined once again. Today's Piedmont grasslands exist in tame grass pastures, hayfields, utility Rights-of-Way (ROW), sod farms, airports, and abandoned agricultural areas and cover approximately 17% of the landscape (*add photo*). Bird population analyses show that grassland birds have declined in the Piedmont with some breeding species, including Henslow's Sparrow and Upland Sandpiper, being nearly extirpated while others such as the Loggerhead Shrike is restricted to small scattered breeding pairs in the northern Piedmont. However, small fields of less than 100 acres still support breeding habitat for Bobolinks, Eastern Meadowlarks, Northern Bobwhite, and Savannah Sparrows, while tracts larger than 100 acres support Grasshopper Sparrows and create the potential for re-occupation by Upland Sandpipers and Henslow's Sparrows. During the winter, raptors such as Northern Harriers and Short-eared Owls occupy and hunt over Piedmont grasslands.

Creating and Maintaining Grassland Habitat

Size and Configuration

Piedmont grasslands are now divided among many owners with different management objectives and practices. This often results in patches of land that are smaller than what is required by many grassland bird species for successful reproduction and population growth of high priority grassland bird species. The minimum size for a productive grassland is 20 acres, with 100 acres or larger being optimal. Tracts smaller than 20 acres would be best for birds if managed as shrub-scrub habitat (see Shrub-scrub section). Circular or square tracts are better than rectangular or elongated tracts because they minimize the edge to area ratio, which reduces predation and increases reproductive success. Placing roads and infrastructure near the edges of fields can minimize fragmentation and increase bird productivity in the grassland.

Optimum Species Composition

Many existing pastures are far from optimal for birds because they contain non-native grasses that require continuous maintenance. To maximize pastures for birds of conservation concern, avoid dense monocultures of exotic sod-forming grass and typical lawn grasses such as cold-season Kentucky bluegrass, orchardgrass, or tall fescue. These grasses are not beneficial to birds and they require intensive ongoing care, such as fertilizer and herbicide applications that are costly and harmful to wildlife. Plant native warm-season bunch grasses, which grow in clumps, allow open space at ground level for wildlife to move through, and do not require fertilizer or herbicides if burned every other year. These grasses provide dependable forage production during the summer, when exotic cool-season species have slowed growth. A mixture of short and tall native, warm-season species, including big bluestem, Indiangrass, switchgrass, little bluestem, and broomsedge, provides the greatest benefits to birds. Add some native forbs, such as black-eyed Susan, to increase the plant diversity and attract insects that are a vital source of protein for young birds during the breeding season.

Management

Without management, grasslands will naturally convert to shrub-scrub land and eventually forest through the process known as succession. Grassland maintenance can be accomplished through grazing, light disking, or burning. It is essential to avoid year-round, uncontrolled grazing by livestock. Rotational grazing, in which some fields are lightly grazed while others are left idle, is the best practice if grazing is your management choice. Heavy bush-hogging and repeated cutting throughout the growing season should be avoided, as they may result in considerable nest and habitat loss and bird mortality. Timing of cutting is crucial for wildlife management. The best time to cut is early spring (March or early April), followed by late summer or early fall (August–September). Avoid cutting from mid-April through the end of July when most birds are using grasslands for nesting and brood rearing. Note that maximum hay production and bird conservation are incompatible, especially with cool season grasses such as fescue and timothy. Although tricky to do, mowing from the inside out to push the birds out of the field rather than trapping them in the middle as the mower approaches will harm far fewer young birds.

Hayfields of warm-season grasses need to be cut only once per year, so they are easier and cheaper to maintain. They are also cut much later in the summer than cool season grasses, allowing the birds to finish breeding before cutting occurs. Burning benefits the grassland and the birds the most. It increases herbaceous plant diversity, promotes vigorous grass growth, releases nutrients back into the soil, and suppresses competition with invasive species. Unlike other management practices, burning also removes the vegetative litter from the ground's surface, which is necessary to allow ground-nesting birds easy passage through the fields to forage for food and escape from predators. Burn in the early spring (March or early April), before green-up, or if this is not possible, burn in fall (October and November). Fall burns benefit management of the grassland but result in removal of good habitat for wintering sparrows and raptors. Most fields should not require burning more than once every two or three years. When carrying out a burn, safety is critical and local authorities should be consulted before any burn action

is considered. Once again, it is extremely important to contact a specialist to help to develop and appropriate management program and burn program if appropriate (see Resources below).

Wetlands (Forested and Riparian)

Wetlands in the Piedmont include the forested and grassed riparian areas along stream banks, farm ponds and their grassy margins, agricultural waterways, and other wet areas that support water-loving vegetation (*add photo*). Though small in relative coverage (less than 3% of the Piedmont) forested wetlands, and wetlands embedded in pastures, or hayfields can significantly add to the number of bird species that an area can support. Active beaver sites are particularly attractive to many birds. In addition to providing specialized habitat, wetlands also perform valuable ecological functions, including slowing flood waters, reducing erosion, and filtering sediments. However, the ecological importance of wetland habitats is misunderstood and they are often viewed as wasted or useless land. Accordingly, wetlands are often converted to other land uses, which make them one of the habitats most vulnerable to loss. Between the 1950s and 1970s, nearly 6,177,634 acres of forested wetland were lost in the Piedmont. Many non-game migratory bird species that are threatened or declining are those that depend on inland freshwater habitat for at least part of their life cycle. Species such as Prothonotary and Swainson's Warblers have a large portion of their breeding population in the Piedmont. Other bird species associated with wetlands in the Piedmont include the Louisiana Waterthrush, Prothonotary Warbler, Kentucky Warbler, Cerulean Warbler, Yellow-throated Vireo, Black Duck, and Wood Duck. Migrating shorebirds, wintering and breeding waterfowl, and some breeding rails and wading birds all benefit from well-managed wetlands. Because wetlands are endangered, they are protected by state and federal laws, all of which should be considered when managing wetlands. When considering altering a wetland, you must contact your state environmental regulation agency and the U.S. Army Corps of Engineers for permitting information.

Management of Riparian Vegetation

Avoid removing riparian vegetation that shades streams because this causes water temperatures to rise, which has a negative effect on fish and other aquatic life that are the critical to wetland ecology. Leaves and small twigs falling from surrounding vegetation into streams and rivers are critical to the maintenance of aquatic food webs. Erosion stimulated by removal of vegetative cover deposits fine sediments that cause a lack of water clarity producing a negative effect on aquatic life. This sedimentation process is the most widely occurring pollutant in streams, but one of the easiest to remedy. An intact riparian zone slows the runoff from fields, which allows sediment to be deposited before it enters waterways. You should strive to maintain riparian forest buffers of at least 100 feet on each side of the water body. These provide the best habitat for birds and the best maintenance of the aquatic food web. Fence riparian buffers to keep out domestic animals that otherwise can cause stream bank erosion and degrade water quality.

Management of Farm Ponds

Allow the edges of farm ponds to grow native wetland vegetation rather than allowing grazing or planting them with lawn grass. When digging ponds, create a shallow gradient that provides both vegetated borders and open mudflats. This will benefit waterfowl, rails, herons, and shorebirds. Farm pond buffers of 50 to 60 feet, including vegetation of differing heights from upland areas to the pond itself, will provide the broadest benefits to birds. Allow a minimum buffer of 20 feet around all farm ponds.

Management of Agricultural Waterways

Allow agricultural waterways to grow grassy strips, as this will limit transport of sediment and agricultural runoff, mainly fertilizers and pesticides, to surrounding lakes and streams. Wider is better, but strips can be as narrow as 35 feet. Strips at least 150 feet wide can also provide habitat for some birds. Maintain grassy strips by occasional mowing or disking, but do not graze them, as this will eliminate their ability to slow water flow. Grassy strips should not be disturbed during the nesting season from mid-April to

mid-August. Avoid using herbicides and insecticides as they are often toxic to aquatic life. In addition to maintaining buffer strips, avoid applying pesticides within 20 feet of the water's edge.

Shrub-scrub (Early Successional Habitat)

Shrubland and old-field communities consist of scattered woody plants less than fifteen feet tall interspersed with open patches of diverse grasses and forbs (*add photo*). Other early-successional habitats occupied by similar birds include power line ROW, restored strip mines, hedgerows, regenerating clearcuts, and old fields. Old fields consist of cropland or pasture that has been abandoned and allowed to grow up into vegetation. In the Piedmont, shrub-scrub habitats occupy approximately 2.5% of the landscape. Early successional birds are among the higher conservation priorities for the Piedmont, and include species such as the Prairie Warbler, Northern Bobwhite, American Woodcock, Loggerhead Shrike, and Field Sparrow. In addition, Prairie Warblers occur in higher relative abundance in Piedmont shrublands than in any other part of their range. Other species that occupy these habitats include the Whip-poor-will, Yellow-breasted Chat, and Eastern Towhee. Species that particularly benefit from wide hedgerows include the Brown Thrasher, Gray Catbird, and a variety of wintering sparrows. Shrub-scrub habitat is the perfect option for fields smaller than 20 acres that are not adjacent to existing grassland or forest. Because these habitats appear messy to landowners, they are often either converted back to grasslands or allowed to grow into forest, most often through neglect. This loss has resulted in the decline and disappearance of wildlife that is dependent on these early-successional habitats for nesting, brood rearing, feeding, and escaping predation.

Creating and Maintaining Shrubland Habitats

Size and configuration

Early successional bird species can thrive in shrub-scrub habitat regardless of size or configuration, so maintenance as a shrubland is optimum for old fields less than 20 acres. Maintaining land parcels larger than 20 acres as shrubland is difficult. Old fields between 20 and 100 acres would best be managed for birds as grassland, while those larger than 100 acres should be managed to grow into forest. Both of these habitats are at a premium on the Piedmont, so these are both optimum uses for land this size. Patches less than 20 acres in size that are adjacent to existing forests should be reverted to forest and those adjacent to grasslands managed as grassland, thereby increasing the size of the adjacent habitat type. Patches that are 20 acres or smaller that are not adjacent to existing forest or grassland, or patches that are linear that do not offer much potential for successful reproduction by forest or grassland breeding birds should be considered for permanent maintenance as shrub-scrub habitats. Hedgerows should be as wide as possible. Benefits will greatly increase at widths of 35 feet and more.

Management

Shrub-scrub requires management to keep them from changing to a forest through succession. Creating shrub-scrub habitat requires aggressive management, including stump removal, mowing, and herbicide applications for a few years to allow the appropriate vegetation to become established. A diverse mix of native, fruit-bearing shrubs and small trees is optimum habitat for a unique assemblage of bird adapted to shrub-scrub. Maintenance of existing shrub-scrub requires periodic disturbances about every 4-5 years through such means as burning, mowing, grazing, selective removal of trees, and where necessary, herbicide use. No disturbance should occur from mid-April through mid-August when birds are nesting and raising young. To control trees, burning or cutting should be accomplished as soon as possible after mid-August because these types of control work best if accomplished before the trees become dormant for winter.

Agricultural Lands

Approximately 11% of the Piedmont is used for agricultural production. Although this habitat is not nearly as important for birds as are forests or grasslands, management of agricultural land can have important implications for birds (*add photo*). Not only do some birds make direct use of this habitat, but many other species, both close by and distant, can be affected by agricultural practices. At least 50 Piedmont bird species have been documented to nest directly in crops. Other species use the open fields for hunting and foraging and nest in the weedy borders and shrubby edges of cropland. Raptors, including Red-tailed Hawk, American Kestrel, Northern Harrier, Barn Owl, and Great Horned Owl, hunt in crop fields, removing small rodents and insects. In fall and winter, agricultural fields provide food for migrating and wintering sparrows, Northern Bobwhite, and Wild Turkeys. Waterfowl and shorebirds frequently feed in flooded portions of crop fields during migration. Depending on their quality, agricultural buffers can be used by a wide variety of shrubland breeding species, including the Northern Bobwhite, Common Yellowthroat, Yellow-breasted Chat and Indigo Bunting, as well as by wintering sparrows.

Maintaining Active Agricultural Production

Tillage

Conventional tillage practices, in which fields are disked or plowed, are detrimental to birds and the surrounding environment. These practices provide increased potential for soil erosion, which results in siltation of streams and wetlands that reduces their value for wildlife. Conventional tillage should be replaced with a no-till regime or conservation tillage in which at least 30% of the soil remains covered by plants or plant residue. Conservation tillage allows plants and residue to keep the soil in place, provides habitat for birds, and increases food availability. Conservation tillage and no-till leave much more waste grain available as food for birds. No-till agriculture provides the greatest benefit to birds; however, this practice is often accompanied by increased use of pesticides. Pesticides can poison birds directly, and reduce their breeding success through both sub-lethal effects and by killing the insects that make up a large portion of

their diet. Pesticides can impact the environment as far away as the Chesapeake Bay through runoff. If you employ no-till agriculture, practice integrated pest management that reduces the amount of pesticides that are needed.

Maintenance of Cover

Birds need cover to avoid predation, and maintaining residue or active growth on fields will offer protection for birds as well as reduce erosion and its associated problems. The optimal residue management is that which keeps cover on the ground at all times of the year. Rotate crops to maintain and improve soil productivity and fertility, reduce soil erosion, help control weeds, and manage plant pests by breaking the pest cycle. Planting a cover of native grasses, grains, or legumes in unused fields or as a part of crop rotation provides similar benefits and greatly promotes wildlife. In larger fields, planting alternating strips of grasses and close-growing crops with cultivated crops can provide valuable nesting and cover habitat for wildlife. Leaving field and waterway edges unmowed and ungrazed helps prevent runoff and erosion, and provides areas where birds can raise young.

Buffers

In the past, the unkempt hedgerows and weedy environments often found around farmsteads served birds well by providing both cover and abundant insect food. Herbicides, the clearing of hedgerows, and other “clean” farming practices have resulted in the loss of weedy habitats, all to the detriment of birds. Buffers between crop fields and forests or pastures are very beneficial, but buffers between individual crop fields can also provide useful habitat. Care should be taken not to create buffers adjacent to inhospitable habitat such as highways, as this creates a death trap for birds. Buffers up to 300 feet wide provide considerable benefits to birds, but smaller buffers of at least 35 feet in width have significant value. Buffers that are narrower than 35 feet provide essentially no benefit. Buffers should be planted with a diverse array of native plants and maintained to keep out invasive species. Maintenance is best accomplished

in March or August either before or after the nesting season. Leaving buffers relatively high (10 inches) is preferred.

Developed Areas

Although we tend to think of the Piedmont as a rural area, urban and suburban development are on the rise, and this trend will certainly continue. In fact today, approximately 13% of the landscape in urban/suburban and this is predicted to increase with as much as a 25% loss of natural habitats around major metropolitan areas (*add photo*). With their mowed lawns and monoculture habitats, urban and suburban areas tend to have very little value as avian habitat. However, with a few small changes, even a suburban yard can offer good bird habitat.

Managing Your Yard for Bird Habitat

If you have the luxury of planning the structures on your lot, place them to maximize the size of natural habitat blocks. Avoid creating a park-like yard that provides little habitat for birds and other wildlife. A typical yard consists of two extremes, lawn and tall trees, with no middle layer of vegetation to provide the cover that is crucial to wildlife. Intersperse and mix native shrubs, hedges, and thickets to create habitat islands and habitat corridors that will substantially improve the appeal of any yard to birds. Place water sources in the form of bird baths or small pools around your yard, but remember to empty and refill these every few days to eliminate mosquito breeding sites. If your yard includes a stream, allow the vegetation to grow up around the edges rather than mowing. Minimize the use of fertilizers and pesticides that can harm wetlands and streams, not only nearby, but as far away as the Chesapeake Bay. Using native plants that are best adapted to growing in local conditions will minimize the need for these chemicals. Include berry plants such as winterberry holly that provide an especially important food source to birds during the cold months. There are a multitude of berry and nectar producing shrubs that provide food in the spring and summer when birds are raising young. Leave dead trees and snags in your yard as long as they are not a

safety risk. The dead and decaying trees provide nesting cavities and attract insects that provide food. You can even create a brush pile that will provide cover for birds and attract insects.

Extra Things You Can Do For Birds

If you feed birds put out bird feeders filled with quality seeds (black-oil sunflower and white proso millet), especially in the winter (*add photos*). If you don't feed birds, consider doing so. Remember to clean feeders regularly to prevent disease. By all means, keep your **cat(s) indoors!** Scientists estimate that hundreds millions of birds are killed each year by free roaming and feral cats. It's far healthier for the cat and the birds to keep cats inside the home. For more information read about the national Cat Indoors Program. During the summer, suspended fruit will attract orioles, catbirds, and other fruit loving birds. Most yards have room for at least one or two nest boxes for wrens, chickadees, bluebirds, and woodpeckers so consider adding some to your yard. Hummingbirds are particularly attracted to feeders in suburban environments. In the spring, you can even put out the hair from your hairbrush and the birds will use it as nesting material.

Improving Your Neighborhood for Birds

Participate in park, stream, and other habitat restoration projects in your neighborhood and encourage the use of and planting native vegetation. Help schools to transform part of their land to bird habitat. It will require less maintenance than closely cropped grass, which saves money and helps reduce greenhouse gas emissions. Garden clubs and home owners' associations are excellent organizations that can initiate restoration projects to benefit birds.

Audubon's Bird-Friendly Communities

The National Audubon Society (NAS) has recently embarked on a five point strategic plan to improve the conservation of birds in North America. Their Bird Friendly Community program is one of their main strategic points and will focus efforts in cities and towns throughout the country. Without protected, welcoming stopover habitat, even the hardiest Atlantic Flyway migrants are hard pressed to complete their spring and fall journeys. Fortunately, Audubon provides the expertise and resource volunteers needed to assist you and your community to welcome birds to your backyards and parks.

The state of North Carolina is perhaps the leader in the eastern U.S. with Audubon's Bird-Friendly Community Program. They have recently announced their participation in the Bird-Friendly Communities partnership program, which focuses conservation efforts where most people live – in cities and towns. North Carolina's approach is to bring together people, including Audubon chapter leaders, state employees, and people working for other non-profit conservation organizations, who are already working to help birds. These parties will collaborate and use existing resources whenever possible, so that they can focus on gaps in bird-specific information and overcoming barriers to participation. By collaborating and sharing expertise in green growth, landscape architecture, native plant work, backyard habitat programs, academic research, communications, environmental education, and development, they can achieve goals as a partnership. Bird-Friendly Communities across North Carolina will give birds the opportunity to succeed by providing connected habitat dominated by native plants, minimizing threats posed by a constructed environment, and engaging people of all ages and backgrounds in stewardship of nature and birds.

Their program will focus its outreach on the following target audiences that can make a big difference for birds:

- **City/County Planners:** Local plant lists are being reviewed and removal of invasive plants and addition of more native plants is being advocated;
- **Landscape Architects:** A bird-friendly landscaping continuing education course is being developed;

- **Architects:** The bird-friendly building design course developed by American Bird Conservancy (ABC) is being brought to the attention of city mayors and managers;
- **Business Owners:** The ABC's Lights Out program is being implemented in three North Carolina cities during spring and fall migration seasons;
- **Places of Worship:** North Carolina partners are working with faith communities to develop bird-friendly stewardship actions benefiting all life; and
- **Everyone Who Likes Birds:** North Carolina partners are working toward a goal of installing 10,000 Brown-headed Nuthatch nest boxes by 2015.

For more on North Carolina's Bird Friendly Community Program, click here or contact Curtis Smalling (see North Carolina state contact section below).

The NAS has an extensive interest and focus on conservation of native species, especially birds. Their Audubon At Home Program can provide valuable information to landowners and homeowners. Aspects of these programs will give you advice on how to protect birds, enhance their habitats, and conserve the resources they need for successful survival on your property at any time of the year.

Resources for Urban/Suburban Bird Conservation and Habitat Enhancement

Listed below are some basic bird conservation guidance and techniques that can be used around the home. Although many of these are provided by the state of Virginia, they can be applied to almost any home setting in the Piedmont.

Bird Feeding Basics: http://www.dgif.virginia.gov/habitat/wild-in-the-woods/bird-feeding-basics.pdf
A Guide to Feeding Wild Birds: http://www.dgif.virginia.gov/habitat/habitat-at-home/feeding-wild-birds.pdf
Make a Birdhouse: http://www.dgif.virginia.gov/habitat/wild-in-the-woods/make-a-bird-house.pdf

Hummingbirds: http://www.dgif.virginia.gov/habitat/hummingbirds.asp
Bluebirds are Back: http://www.dgif.virginia.gov/habitat/bluebird-box.asp
Habitat at Home: http://www.dgif.virginia.gov/habitat/wild-in-the-woods/habitat-at-home.pdf
Ten Ways to Make a Difference for Migrating Birds: http://athome.audubon.org/ten-ways-make-difference-migrating-birds
An Invitation to a Healthy Neighborhood: http://web4.audubon.org/bird/at_home/neighborhood/
Landscaping for the Birds: http://www.dgif.virginia.gov/habitat/landscaping-for-the-birds.asp: This site provides information on plant selection and landscape structure to enhance bird habitat.
Invasive species: www.dcr.virginia.gov/natural_heritage/invsppdflist.shtml**:** Another useful list compiled by the Division of Natural Heritage of the Department of Conservation and Recreation.

Visit the NAS website for additional information or contact them at 225 Varick Street New York, NY 10014, 212-979-3000, audubon@emailcustomerservice.com.

Coping with Exotic and Invasive Species

Exotic species can brighten your day and be as harmless as a bed of tulips in March, or can be as destructive as the Johnson grass in your corn field that you have been fighting for many decades. While numerous bird species may love multiflora rose, the problems associated with its spread far outweigh any ecological benefits. Invasive exotic plants must be managed on a yearly basis because some of these species are very aggressive and can displace desirable species in two to three years if allowed to persist. There are over 100 plant species that could be considered as posing a major ecological problem in the Piedmont. It is much easier to control a few rogue plants than fight them after they have gained a foothold. Familiarize yourself with some of the more common invasive species, be vigilant with your lands, and quickly move to control invasive species when you find them. Spot-spray with an approved herbicide when the

first few plants appear or aggressively manage with mechanical means if possible. Selective herbicides are usually better choices than broad-spectrum varieties. Your county Extension Agent or NRCS Conservationist is the best source of current information on control and management of specific pests (*add photos*).

Exotics in Forests

Forests can play host to an array of invasive exotics. Invasive species often establish a strong presence in forests because forests are the climax community, and landowners often do not practice routine, annual evaluation of forest conditions. Ideally, you should check your forest annually for the presence of invasive exotics plants. Pay particular attention to the forest floor for invasive species such as Japanese stilt grass and garlic mustard. Vines such as kudzu and bittersweet can cause serious damage to forests and may spread quickly. Valuable understory plants can be displaced by invading shrubs such as autumn olive and some honeysuckles, and privet. These should be removed as completely and quickly as possible.

Exotics in Grasslands

The presence of invasive species in grasslands may be as easy to control as using a prescribed burn to eliminate invading red cedar, or as difficult as trying to control the spread of *Sericea lespedeza* (Chinese bushclover). Multiflora rose is a particular problem in Piedmont grasslands. Bermudagrass may offer some value for grazing, but it will be problematic in future management of any acres on which it is planted. Autumn olive, kudzu, exotic thistles, and knapweed are among the other invasives to look for in grasslands. Canada and nodding thistles can be particularly troublesome in newly established grasslands. Their seeds are dispersed by wind, so look for their presence not only in the field to be planted but also in adjoining fields before initiating new plantings. Consult with your local county Extension Agent of NRCS Conservationist for advice on treating these invasive species.

Exotics in Wetlands

Purple loosestrife may be a beautiful plant, but it can be extremely aggressive in aquatic environments. Few herbicides have proven effective in controlling it. Be careful to check boats and trailers if they have been used in waters with *Hydrilla*. Remove all traces of the plant, or you will have a real pest in your lake or pond. *Phragmites* is usually found in Tidewater wetlands, but it may occur in the east Piedmont. Be careful of any disturbance in wet areas as you may encourage expansion of Phragmites stands.

Exotics in Shrub-scrub Lands

By their very nature as successional habitats, shrub-scrub lands are prone to problems with invasive species. The regular disturbances required to maintain shrublands will sometimes encourage the spread of invasive species. Hedgerow maintenance is particularly important because natural regeneration may quickly result in a dominance of invasive species such as tree-of-heaven (*Ailanthus*), multiflora rose, and autumn olive, which can creep into shrub-scrub lands almost undetected.

Exotics in Agricultural Fields

Johnson grass is an aggressive species, especially in agricultural settings. Don't relax in keeping it contained because once it has become established, it will very difficult to remove. Each crop field will have its own unique "seed bank" that has accumulated over the years. Minimizing tillage brings fewer seeds to the surface. As you begin planting permanent cover in and around crop fields, you will need to be vigilant that dormant invasive species are kept under control. Tillage may have kept seeds of a mature *Ailanthus* tree from sprouting in the adjacent crop field, but once tillage ceases, these seeds may sprout and eventually result in a major problem. Killing the *Ailanthus* at the field edge before initiating a permanent planting will make future maintenance

much easier. Look for invasives in adjacent forested borders, fence lines, and pastures before starting a new, permanent planting.

Biofuels and Wildlife

Biofuels include an array of fuels derived from renewable resources such as crops, grasses, and trees. At present, virtually all biofuels in the United States are derived from feedstocks of corn and soybeans (*add photo*). There has been an increasing interest in producing biofuels from feedstocks in the Piedmont and only New Jersey, Delaware, Maryland do not have biofuel producers in the Piedmont. The remaining states have approximately 14.6% of the total of U.S. producers, Pennsylvania having the largest numbers of producers (6) as of February 2013. However, there is little knowledge of the potential impacts of such production on wildlife, unless it obviously results in loss of valuable forest, grassland, or wetlands for production. Certainly the push to add more corn and soybean acres for biofuels has been detrimental to wildlife, as these acres have come from either idle or less intensive land uses that supported a lot of wildlife. From a wildlife standpoint, then, what should you keep in mind if you decide to produce biofuels feedstocks on your farm?

Native grasses such as big and little bluestem, indiangrass, and switchgrass in particular offer a lot of biofuel possibilities and require only one harvest per year. These grasses are typically harvested for biofuels in winter, so ensure that a minimum of 35 feet next to woody cover is left standing in order to benefit wintering birds. That portion can be harvested the following year as you rotate the “leave-standing” portion to another part of the field. If you wait until late February or March, you can harvest the entire field with minimal impact on wildlife. Remember that true grassland bird species typically use stands that are 20 acres and larger. If you do not require full income from a native grass biofuel stand, consider harvesting in strips, cutting 100 feet, skipping 100 feet and repeating across the stand. Another approach is to cut half the field and leave the remainder unharvested, harvesting these portions the following year. Numerous bird species that utilize relatively undisturbed, tall grasses will benefit and it appears that

there will not be a significant loss of income. Set harvesting equipment as high as possible. A leaf node at eight or nine inches will give the plant a much quicker start in spring and leave some residual nesting cover for early-nesting birds. Woody feedstocks may be slash from logging operations, poor quality trees or high-graded stands from past logging activities, or purposefully planted, quick growing trees. This may offer opportunities to improve your woodland and benefit wildlife at the same time. With careful planning and a selective harvest, you may be able to restore a degraded hardwood stand and gain a biofuel harvest at the same time. Whole tree chipping harvests offer an array of opportunities to establish improved timber stands or to begin a shrub-scrub habitat. Always include wildlife-friendly species in a replanting of hardwood stands, including oaks, hickories, persimmon, hackberry, and perhaps a few fruit trees, if you can offer them initial protection from deer foraging. It is wise to consult with your state biologists, NRCS conservationist, and county extension agents before converting your potentially valuable wildlife habitats to feedstock production.

Resources

Offered below is a variety of resources that you can explore to help you plan, finance, and implement projects on your property to maximize its value for bird conservation while meeting your personal goals. Federal assistance programs will be described first since most state programs use these in their private landowner programs. Federal agency contacts are provided in the Appendix. Under each state section, the primary agency responsible for managing for bird conservation is listed, followed by additional state or private organizations that can assist you with managing your property for the benefit of birds. Where appropriate, state contact information will be present in each state's section. Whatever direction you decide to go, it's important to know that many state and federal government agencies have employed people to specifically assist private landowners such as you to preserve and improve important species and habitats throughout the Piedmont. Foresters, biologists, and staff from these agencies can provide information and guidance on forestry and wildlife habitat work, including prescribed burning, pre-commercial thinning, reseeding, tree planting, writing

stewardship plans, wetland restoration, and similar activities. These persons can also provide technical field support and guidance on how to obtain state and federal financial assistance with your project.

Federal Assistance Programs

By far the majority of federal assistance programs are administered by four federal agencies, the USDA Natural Resources Conservation Service (NRCS), the USDA Farm Service Agency (FSA), the USDA Forest Service (USFS) and U.S. Department of Interior Fish and Wildlife Service (USFWS). Through these agencies combined, hundreds of millions of dollars are awarded annually to eligible landowners for implementing conservation programs on private lands. Each agency has several landowner incentives programs designed to assist private landowners with planning, financing, and implementing projects that are high priority for the agency while meeting landowner objectives. Keep in mind that funding levels vary from year to year. State offices for each of these agencies are located in the Appendix.

The Natural Resources Conservation Service (NRCS)

The NRCS offers financial and technical assistance to help landowners create, restore, and improve habitats for wildlife. Funded through the Farm Bill, these programs offer conservation incentives for landowners and public and private groups specifically interested in improving and protecting wildlife habitat. Summaries of each program are provided and additional information can be obtained by contacting your local NRCS conservationists (see Appendix).

Healthy Forests Reserve Program (HFRP)

Restoring and protecting forests contribute to the economy, provides biodiversity of plants and animal populations, and improves environmental quality. The purpose of the HFRP is to assist landowners, on a voluntary basis, in restoring, enhancing and

protecting forestland resources on private lands through easements, 30-year contracts and 10-year cost-share agreements. Landowner protections will be made available to landowners enrolled in HFRP who agree, for a specified period to restore or improve their land for threatened or endangered species habitat. In exchange they avoid certain regulatory restrictions under the Endangered Species Act (ESA) on the use of that land. The HFRP provides financial assistance in the form of easement payments and costs-share for specific conservation actions completed by the landowner. The objectives of HFRP are to promote the recovery of endangered and threatened species under the ESA, improve plant and animal biodiversity and enhance carbon sequestration. Not all states have active HFRP programs. Additional details can be found at here or contact your local NRCS office.

Grassland Reserve Program (GRP)

The GRP is a voluntary program that helps landowners and operators restore and protect grassland, including rangeland, and pastureland, while maintaining the areas as active grazing lands. A landowner can opt for a permanent conservation easement where they will receive fair market value for their land minus the grazing value, a 30-year easement where the landowner will receive 30% of fair market value minus the grazing value, or a 10- to 30-year rental agreement where a landowner will receive up to 75% of the grazing value. Participants voluntarily limit future use of the land while retaining the right to conduct common grazing practices; hay production, mowing, or harvesting for seed production (subject to certain restrictions during the nesting season of bird species that are in significant decline or protected under federal or state law); conduct prescribed fires; and construct firebreaks and fences. If restoration is needed NRCS will provide up to 90% of the cost to implement restoration practices. This program is also administered by the FSA. More information can be found here or contact your local NRCS office.

Wetlands Reserve Program (WRP)

The WRP is a voluntary program that provides technical and financial assistance to landowners to restore and protect wetlands that aid in providing wildlife habitat, improved water quality, and recreational opportunities. Eligible landowners can opt to sell a conservation easement to the USDA or enter into a ten-year contract to re-establish degraded or lost wetland habitat. In both cases the landowner still owns the land but use is restricted. With the easement option, the USDA pays 100% of the cost to restore wetlands, whereas the USDA pays up to 75% of the cost to restore wetlands with the ten-year contract option. Lands eligible for WRP include wetlands farmed under natural conditions, farmed wetlands, prior converted cropland, farmed wetland pasture, certain lands that have the potential to become a wetland as a result of flooding, rangeland, pasture, or forest production lands where the hydrology has been significantly degraded and can be restored, riparian areas that link protected wetlands, lands adjacent to protected wetlands that contribute significantly to wetland functions and values, and wetlands previously restored under a local, state, or federal program that need long-term protection. For more information click here, or contact your local NRCS office.

Farm and Ranchland Protection Program (FRPP)

The FRPP provides matching funds to help purchase development rights to keep productive farm and ranchland in agricultural uses. Working through existing programs, NRCS partners with state, tribal, or local governments and NGO's to acquire conservation easements or other interests in land from landowners. NRCS provides up to 50 percent of the fair market easement value of the conservation easement. To qualify, the farm land must be part of a pending offer from a state, tribe, or local farmland protection program, be privately owned, have a conservation plan for highly erodible land, large enough to sustain agricultural production, accessible to markets for what the land produces, adequate infrastructure and agricultural support services, and surrounding parcels of land that can support long-term agricultural production. For additional information click here or contact your local NRCS office.

Environmental Quality Incentive Program (EQIP)

The EQIP is a voluntary conservation program that seeks to reduce non-point source pollution, reduce emissions of organic compounds that contribute to decreased air quality, reduce soil erosion, and improve habitat for at-risk wildlife species on active farmland. Farmland producers can be paid up to 75% of the cost to implement recommended conservation practices such as adding grassed waterways, filter strips, manure management facilities, and other practices. State Technical Committees establish eligible practices, criteria for project selection, and cost-share levels. For more information click here or contact your local NRCS office.

Wildlife Habitat Incentive Program (WHIP)

The WHIP is a voluntary program that provides funding to landowners who enter into five-year, ten-year, or longer contracts to create and maintain high quality wildlife habitats that support wildlife populations of national, state, tribal, and local significance. State Technical Committees establish eligible practices, criteria for project selection, and cost-share levels. NRCS provides greater cost-share assistance to landowners who enter into 15-year and longer contracts. NRCS will provide both technical assistance and up to 75 percent cost-share assistance to establish and improve fish and wildlife habitat. WHIP cost-share agreements between NRCS and the participant generally last from one year after the last conservation practice is implemented but not more than 10 years from the date the agreement is signed. Additional information can be found here or contact your local NRCS office.

Conservation of Private Grazing Land Program (CPGL)

The CPGL initiative will ensure that technical, educational, and related assistance is provided to those who own private grazing lands. This technical assistance will offer opportunities for better grazing land management, protecting soil from erosive wind and water, using more energy-efficient ways to produce food and fiber, conserving water,

providing habitat for wildlife, sustaining forage and grazing plants, using plants to sequester greenhouse gases and increase soil organic matter and using grazing lands as a source of biomass energy and raw materials for industrial products. It is not a cost share program. The purpose is to provide a coordinated technical program to conserve and enhance grazing land resources and provide related benefits to all citizens of the United States. Additional information can be found here or contact your local NRCS office.

Conservation Stewardship Program (CSP)

The CSP represents a significant shift in how NRCS provides conservation program payments. CSP participants will receive an annual land use payment for operation-level environmental benefits they produce. Under CSP, participants are paid for conservation performance: the higher the operational performance, the higher their payment. CSP is a voluntary conservation program that encourages producers to address resource concerns in a comprehensive manner by undertaking additional conservation activities and improving, maintaining, and managing existing conservation activities. CSP is available on Tribal and private agricultural lands and non-industrial private forest (NIPF) land in all 50 States and the Caribbean and Pacific Islands Areas. CSP encourages land stewards to improve their conservation performance by installing and adopting additional activities, and improving, maintaining, and managing existing activities on agricultural land and NIPF private forest land. The State Conservationist, in consultation with the State Technical Committee and local work groups, will focus program impacts on natural resources that are of specific concern for a State, or the specific geographic areas within a State. The entire operation must be enrolled and must include all eligible land operated substantially separate that will be under the applicant's control for the term of the proposed contract. CSP offers participants either an annual payment for installing and adopting additional activities, and improving, maintaining, and managing existing activities or a supplemental payment for the adoption of resource-conserving crop rotations. Additional information can be found here or contact your local NRCS office.

Agricultural Management Assistance (AMA)

The AMA provides financial and technical assistance to agricultural producers to voluntarily address issues such as water management, water quality, and erosion control by incorporating conservation into their farming operations. Producers may construct or improve water management structures or irrigation structures, plant trees for windbreaks or to improve water quality and mitigate risk through production diversification or resource conservation practices, including soil erosion control, integrated pest management, or transition to organic farming. Eligible lands include non-industrial forest lands, grasslands, haylands, pastures, rangeland, and croplands. AMA is currently available in Piedmont in New Jersey, Delaware, Pennsylvania, and Maryland. Additional information can be found here or contact your local NRCS office.

NRCS Conservation Technical Assistance Program (CTA)

NRCS delivers conservation technical assistance through its voluntary Conservation Technical Assistance Program (CTA). CTA is available to any group or individual interested in conserving our natural resources and sustaining agricultural production in this country. The CTA program functions through a national network of locally-based, professional conservationists located in nearly every county of the United States.

Farm Services Agency (FSA)

The sister agency to NRCS, the FSA manages the Conservation Reserve Program (CRP) and Conservation Reserve Enhancement Program (CREP), which offer annual rental payments plus cost-sharing to plant vegetated buffers, restore wetlands, and protect declining habitats.

Conservation Reserve Program (CRP)

The CRP is a voluntary program that encourages cropland owners to remove highly erodible farm fields out of production by providing annual rental payments based on the agriculture rental value of the land. Producers enrolled in CRP plant long-term, resource-conserving covers to improve the quality of water, control soil erosion, and develop wildlife habitat. The program also provides up to 50% cost-share assistance to establish approved conservation practices such as warm-season grass and tree plantings on retired fields. Participants enroll in CRP contracts for 10 to 15 years. Additional information can be found here or contact your local FSA office.

State Acres for Wildlife Enhancement (SAFE)

FSA has created a cost share assistance program under CRP titled State Acres for Wildlife Enhancement (SAFE) to benefit high-priority state wildlife conservation objectives through the restoration of needed habitat. Through the local USDA office, landowners can enroll land for 10-15 year contracts provided the land meets certain requirements. Practices used and habitats created must be managed by the landowner during the life of the contract. USDA may provide an up-front, one-time payment of $100 per acre which is made after the contract is approved. In addition to the acreage payment, USDA will pay up to 50% of the eligible cost of establishing a permanent ground cover for wildlife habitat. A practice incentive payment (PIP) equal to 40%of the eligible habitat installation costs. The remaining 10% of associated costs may be contributed through volunteer services, which means the costs associated with creating wildlife habitat through the SAFE program may be covered 100%. More information can be found here or contact your local FSA office.

Conservation Reserve Enhancement Program (CREP)

The CREP is a voluntary land retirement program that helps agricultural producers protect environmentally sensitive land, decrease erosion, restore wildlife habitat, and safeguard ground and surface water. The program is a partnership among producers, tribal, state, and federal governments, and in some cases, private groups. CREP is an

offshoot of the country's largest private-lands environmental improvement program, CRP (see above). By combining CRP resources with state, tribal, and private programs, CREP provides farmers and ranchers with a sound financial package for conserving and enhancing the natural resources of farms. CREP addresses high-priority conservation issues of both local and national significance, such as impacts to water supplies, loss of critical habitat for threatened and endangered wildlife species, soil erosion, and reduced habitat for fish populations such as salmon. CREP is a community-based, results-oriented effort centered around local participation and leadership. CREP contracts require a 10- to 15-year commitment to keep lands out of agricultural production. A federal annual rental rate, including an FSA state committee-determined maintenance incentive payment, is offered, plus cost-share of up to 50 percent of the eligible costs to install the practice. Further, the program generally offers a sign-up incentive for participants to install specific practices. Additional information is available here or contact your local FSA office.

Emergency Conservation Program (ECP)

The ECP provides emergency funding and technical assistance for farmers and ranchers to rehabilitate farmland damaged by natural disasters and for carrying out emergency water conservation measures in periods of severe drought. For additional information, click here or contact your local FSA office.

Emergency Forest Restoration Program (EFRP)

The EFRP will make payments available to NIPF landowners who are approved for program participation in order to carry out emergency measures to restore land damaged by a natural disaster. For additional information click here or contact your local FSA office.

Farmable Wetlands Program (FWP)

The FWP provides assistance to landowners who desire to reduce downstream flood damage, improve surface and groundwater quality, and recharge groundwater supplies by wetland restoration. For more information click here or contact your local FSA office.

Grassland Reserve Program (GRP)

The FSA GRP is identical to the NRCS GRP, each agency capable of administering the program through the Farm Bill. It is a voluntary conservation program that emphasizes support for working grazing operations, enhancement of plant and animal biodiversity, and protection of grassland under threat of conversion to other uses. Participants voluntarily limit future development and cropping uses of the land while retaining the right to conduct common grazing practices and operations related to the production of forage and seeding, subject to certain restrictions during nesting seasons of bird species that are in significant decline or are protected under Federal or State law. A grazing management plan is required for participants. For more information, click here, or contact your local FSA or NRCS office for additional information.

Public Access Program

This program offers State and Tribal governments grants to encourage owners and operators of privately-held farm, ranch, and forest land to voluntarily make that land available for access by the public for wildlife-dependent recreation, including hunting or fishing under programs administered by State or Tribal governments. This program could potentially identify private lands as places where conservation implementation can be demonstrated to the public or those that may be used as a recreational area, such as for birding or birdwatching. For additional information contact your local FSA office.

USDA Forest Service (USFS)

The mission of the USFS is "To sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations."

As a lead federal agency in natural resource conservation, the USFS provides leadership in the protection, management, and use of the nation's forest, rangeland, and aquatic ecosystems. The agency's ecosystem approach to management integrates ecological, economic, and social factors to maintain and enhance the quality of the environment to meet current and future needs. Through implementation of land and resource management plans, the agency ensures sustainable ecosystems by restoring and maintaining species diversity and ecological productivity that helps provide recreation, water, timber, minerals, fish, wildlife, wilderness, and aesthetic values for current and future generations of people. The State and Private Forestry (S&PF) organization of the USFS reaches across the boundaries of National Forests to States, Tribes, communities and NIPF landowners. S&PF is the federal leader in providing technical and financial assistance to landowners and resource managers to help sustain the nation's forests and protect communities and the environment from wildland fires. S&PF programs bring forest management assistance and expertise to a diversity of landowners, including small woodlot, tribal, state, and federal, through cost-effective, non-regulatory partnerships. The USFS has several private landowner incentive programs that can be used to improve forest lands for birds. Implementation of the programs is administered through the state or county foresters in each state? A list of lead state foresters is provided here and in the Appendix. **Additionally, a comprehensive listing of forest incentives programs regardless of funding source has been compiled and presented by the USFS on their Forest Incentives web site.**

Forest Stewardship Program (FSP)

The FSP provides technical assistance through State forestry agency partners to NIPF landowners to encourage and enable active long-term forest management. A primary focus of FSP is the development of comprehensive, multi-resource management plans that provide landowners with the information they need to manage their forests for a variety of products and services. Stewardship plans lay out strategies for achieving unique landowner objectives and sustaining forest health and vigor. Actively managed

forests provide timber, wildlife habitat, watershed protection, recreational opportunities and many other benefits for landowners and society. Forest Stewardship plans motivate landowners to become more active in planning and managing their forests, greatly increasing the likelihood that their forests will remain intact, productive and healthy, and that the social, economic and environmental benefits of these lands will be sustained for future generations. For additional information, click here or contact your local or state forester.

Forest Legacy Program (FLP)

The FLP is a federal program in partnership with states, supports state efforts to protect environmentally sensitive forest lands. Designed to encourage the protection of privately owned forest lands, FLP is an entirely voluntary program. To maximize the public benefits it achieves, the program focuses on the acquisition of partial interests in privately owned forest lands. FLP helps the states develop and carry out their forest conservation plans. It encourages and supports acquisition of conservation easements, legally binding agreements transferring a negotiated set of property rights from one party to another, without removing the property from private ownership. Most FLP conservation easements restrict development, require sustainable forestry practices, and protect other values. To qualify, landowners are required to prepare a multiple resource management plan as part of the conservation easement acquisition. The USFS may fund up to 75% of project costs, with at least 25% coming from private, state or local sources. In addition to gains associated with the sale or donation of property rights, many landowners also benefit from reduced taxes associated with limits placed on land use. For more information, click here or contact your local or state forester.

The Forest Land Enhancement Program (FLEP)

The FLEP replaced the Stewardship Incentives Program (SIP) and the Forestry Incentives Program (FIP). FLEP encouraged the long-term sustainability of NIPF lands by providing financial, technical and educational assistance by state forestry agencies to

assist private landowners in actively managing their land. Unfortunately, FLEP has been discontinued at this time. However, be sure to ask your local or state forester about this program; it may be reinstated in the future.

US Fish and Wildlife Service (USFWS)

The USFWS have biologists dedicated to implementation of USFWS programs on private lands. See the Appendix for a list of biologists in the Piedmont who can assist you with your project.

Partners for Fish and Wildlife (PFW)

At the heart of the USFWS's mission are the conservation and management of the Federal Trust Species: migratory birds; threatened and endangered species; inter-jurisdictional fish; certain marine mammals; and species of international concern. It is estimated that 73% of our nation's land is privately owned and that the majority of our fish and wildlife resources occur on those lands. Consequently, the conservation lands held by federal and state agencies and other conservation groups cannot completely provide for fish and wildlife needs. Because the habitat needs of all Trust Species cannot be met solely on public lands, public funds are also expended on private lands to accomplish habitat improvements through cooperative conservation programs such as the Partners for Fish and Wildlife (PFW) Program.

The PFW Program provides technical and financial assistance to private landowners and Tribes who are willing to work with the USFWS and other partners on a voluntary basis to help meet the habitat needs of our Federal Trust Species. The PFW Program can assist with projects in all habitat types which conserve or restore native vegetation, hydrology, and soils associated with imperiled ecosystems such as longleaf pine, bottomland hardwoods, tropical forests, native prairies, marshes, rivers and streams, or otherwise provide an important habitat requisite for a rare, declining or protected species.

Locally based field biologists work one-on-one with private landowners and other partners to plan, implement, and monitor their projects. The PFW Program field staff assist landowners find other sources of funding and help them through the permitting process, as necessary. This level of personal attention and follow-through is a significant strength of the PFW Program that has led to national recognition and wide support. Each state has a PFW contact who not only has responsibility to implement dedicated PFW funded projects but they also often have the responsibility to coordinate and implement the NRCS, FSA, and USFS programs mentioned above. **Of all programs and staff listed in this document, the USFWS PFW is perhaps the key to implementation of private landowner conservation programs and incentives in the US.** Their extensive knowledge and experience will guide you to the most appropriate program(s) based on your land management objectives. **PFW STAFF SHOULD BE YOUR FIRST CONTACT** (see Appendix).

The Landowner Incentive Program (LIP)

LIP provides federal grant funds to states, the District of Columbia and insular areas to protect and restore habitats on private lands, to benefit federally listed, proposed or candidate species or other species determined to be at-risk. Grant funds must be used to establish or supplement State landowner incentive programs to benefit species identified in the State's Comprehensive Wildlife Conservation Strategy (State Wildlife Action Plan) or classified as Special Concern by the state, or federally listed, proposed, or candidate species or other species determined to be at-risk. These grant funds may also be used to provide technical and financial assistance to private landowners for habitat protection and restoration. The LIP Program includes two funding tiers, Tier One (non-competitive) and Tier Two (nationally competitive). Under Tier One each state may receive funding for eligible projects up to $200,000 annually and the District of Columbia and insular areas up to $75,000 annually. For more information click here or contact your state PFW biologist.

North American Wetlands Conservation Act (NAWCA): The NAWCA of 1989 provides matching grants to organizations and individuals who have developed partnerships to carry out wetlands conservation projects in the United States, Canada, and Mexico for the benefit of wetlands-associated migratory birds and other wildlife. There is a Standard and a Small Grants Program. Both are competitive grants programs and require that grant requests be matched by partner contributions at no less than a 1-to-1 ratio. Funds from US Federal sources may contribute towards a project, but are not eligible as match. The Standard Grants Program supports projects in Canada, the United States, and Mexico that involve long-term protection, restoration, and/or enhancement of wetlands and associated uplands habitats. The Small Grants Program operates only in the United States and supports the same type of projects and adheres to the same selection criteria and administrative guidelines as the Standard Grants Program. However, project activities are usually smaller in scope and involve fewer project dollars. Grant requests may not exceed $75,000, and funding priority is given to grantees or partners new to the Act's Grants Program. In the Piedmont, contact Craig Watson, US Fish and Wildlife Service, Atlantic Coast Joint Venture, South Atlantic Coordinator, 176 Croghan Spur Rd. Suite 200, Charleston, SC 29407, 843-727-4707 ext. 304, Craig_Watson@fws.gov.

Non-governmental Organizations (NGO's)

Several non-governmental organizations provide advice, printed information, on-site visits and evaluations, and financial assistance to landowners throughout the nation. The most prominent that could be contacted for habitat and species conservation in the Piedmont are:

American Bird Conservancy (ABC): The ABC is a not-for profit organization whose mission is to conserve native birds and their habitats throughout the Americas. ABC is the only US based group with a major focus on bird habitat conservation throughout the entire Americas. They engage partners to address the full spectrum of threats to birds to safeguard the rarest bird species, restore habitats, and reduce threats, unifying and

strengthening the bird conservation movement. Habitat loss and poor habitat management remain the greatest threats to birds in the US. ABC engages in broad-scale, partner-based work across the US, using the best available conservation science, data, and planning, to conserve or expand millions of acres of public and private lands in order to benefit dozens of threatened bird species and hundreds more declining species. ABC has an extensive domestic habitat conservation program spanning large geographic scales down to individual partners. Their website has a tremendous amount of information that can benefit the private landowner. For further information, contact ABC at P.O. Box 249, 4249 Loudoun Ave., The Plains, VA 20198-2237, 540-253-5780 or 888-247-3624.

Ducks Unlimited (DU): DU's mission is to conserve, restore, and manage wetlands and associated habitats for North America's waterfowl. These habitats also benefit other wildlife and people. The majority of the remaining wetlands in the US are on private land, where a large majority of all waterfowl occur. DU supports balanced agricultural policy that can help American farmers and ranchers to be more competitive and successful in fulfilling local, national, and global needs for food, fiber, and energy. In addition, DU supports agricultural policy that conserves soil, water, wetlands, grasslands, and forests upon which both people and wildlife depend. The Farm Bill is the most effective tool for conserving wildlife habitat on private land, and DU's objective is that both waterfowl and their habitats benefit from this policy. DU biologists, engineers, and other staff can be instrumental in carrying out USDA's CRP, WRP, and GRP programs (see above) as well as providing for fee-for-service contracting on private lands with landowners looking for a contractor to design or enhance a wetland on their property. For DU private landowner assistance information click here or contact your regional DU biologist see the Appendix.

National Wild Turkey Federation (NWTF): Since its foundation in 1973, the NWTF has achieved some amazing accomplishments. With the help of its dedicated volunteers and partners, the NWTF has been able to facilitate the investment of hundreds of millions of dollars in conservation and the preservation of our hunting

heritage. These investments have helped improve more than 17 million acres of wildlife habitat and expose 100,000 people to the outdoor each year. The NWTF Save the Habitat Save the Hunt Program plans to continue its success by conserving and enhancing 4 million acres of critical upland wildlife habitat. These habitat improvements will not only help support wild turkey populations but they will also benefit quail, deer and many other wildlife species that share the habitat, including migratory birds. Their efforts will be focused on forests, streamside corridors, fields and meadows, shrub-scrub, and grasslands. To locate a local NWTF office or biologist in your area, click here or contact the Eastern Area Manager, Bob Fountain at: 4255 S Hickory Level Rd., Carrolton, GA 30116, 770-834-5903, bfountain@nwtf.net.

Northern Bobwhite Conservation Initiative (NBCI) : The NBCI is a unified strategy of 25 state wildlife agencies, with numerous conservation groups and research institution partners, to achieve widespread restoration of native grassland habitats and harvestable populations of Northern Bobwhite. The landscape-scale, habitat-based strategic plan establishes a national vision and plan for habitat restoration and population recovery. The initiative is provides crucial national leadership, coordination and service capacity to help states and our partners accelerate implementation of the strategic plan.

The NBCI strategic plan includes an extensive, current online database that depicts the habitat restoration feasibility of 600 million acres of land across 25 states and 17 ecological Bird Conservation Regions (BCRs – including the Piedmont), localized habitat prescriptions for restoring recreationally viable populations of wild bobwhites across the landscape, including an array of constraints, opportunities and management actions necessary to increase populations in specific settings. The NBCI plan also has a suite of mapping applications and web-based tools to help biologists identify, plan and implement projects that offer the greatest return on investments. All of these tools can be used in the Piedmont to identify and implement habitat conservation measures for Northern Bobwhite that will also benefit other migratory bird species in the Piedmont. See the Appendix for contact information on this initiative.

Ruffed Grouse Society (RGS): The RGS has developed a conservation plan for North America Ruffed Grouse and approved in September 2006 by the Bird Conservation Committee of the Association of Fish and Wildlife Agencies. The plan is a result of over 3 years of work by over 50 natural resource professionals from throughout the range of the Ruffed Grouse in the US and Canada. Ruffed Grouse habitat must be responsibly and intelligently managed to maintain or improve populations, whether it be by private landowners or government agencies. Left unmanaged, even the best habitat will outgrow its ability to provide grouse with food, cover and protection from predators, and populations will decline. Contact Mark Banker, Appalachian Forest Consultants – Wildlife Services, P.O. Box 1171, Lemont, Pennsylvania, 814-440-7966, markebanker@gmail.com or the RGS at 451 McCormick Road, Coraopolis, PA 15108, 888-564-6747 or 412-262-4044, RGS@ruffedgrousesociety.org.

Wildlife Management Institute (WMI): The WMI has a variety of functions among diverse partners that engage in protecting wildlife and their habitats in the US. For use by private landowners, they produce and publish authoritative books, informational flyers, booklets and brochures on major wildlife species and related management topics and cooperate with other conservation interests on matters such as endangered species, conservation provisions of the Farm Bill, national wildlife refuge issues, water resources, public land grazing, forest management, and appropriations, etc. Additionally, WMI is the lead organization in the conservation of the American Woodcock, a high priority species in the Piedmont. Habitat management guidelines for the American Woodcock have been produced for both the southeastern US, and the northeastern US. These documents and other valuable information and assistance can be obtained by contacting Scot J. Williamson at WMI, 4426 VT Route 215N, Cabot, Vermont 05647, 802-563-2087, wmisw@together.net. WMI also contracts with several regional biologists for habitat management advice and recommendations. Be sure to ask about their list of available contractors.

State Audubon Chapters: Each state in the Piedmont has a state level Audubon that have staff which can help you find answers to your questions regarding bird

conservation on your property (see above under Developed Areas). They can also direct you to other agencies, staff, or informational sources that can assist you in your bird conservation needs. Listings for each state Audubon are given below in each state's contact section.

The Nature Conservancy (TNC): TNC is the leading conservation organization working around the world to protect ecologically important lands and waters for nature and people. Though the Conservancy typically works at large scales with local, state, and the federal government, NGO's, businesses, they do work in cooperation with private landowners and local stakeholders, such as ranchers, farmers and fishermen, to ensure good ecological management while continuing to support the local economy. Contact your state level TNC organization for more information (see State contacts below).

Nationally and State Certified Foresters and Biologists

A list of Certified Foresters (CF) can be found on the website for Society of American Foresters (SAF). To find a certified forester click on the Find a Certified Forester button on the left, fill in the state and the country name and press the Begin the Online Search button. This will provide you with a list of certified foresters in your state. SAF is the professional governing organization for foresters. Often each state forestry agency will also have a list which can be found in the State Contact listings below.

The Association of Consulting Foresters (ACF) of America, Inc. also provides a list of consulting foresters. ACF consulting foresters are required to have a bachelor's degree and five years of experience in practical forestry administration. They must adhere to strict ACF ethical practices and meet continuous education requirements. ACF consulting foresters are among the nation's premier forestry professionals. Working with an ACF consulting forester gives you the assurance that you are in compliance with ever-changing local, state and national regulations. The search tool can be found at here.

Contractor/consultant wildlife biologists are private biologists who offer a wide range of wildlife habitat and stewardship planning services, especially for non-game wildlife. A list of Certified Wildlife Biologists (CWB) and Associate Wildlife Biologists (AWB) can be found on The Wildlife Society (TWS) website, the professional governing organization for wildlife biologists. On the directory page, scroll to the bottom of the page and use the search tool to find a CWB or AWB in your state or contact TWS at 5410 Grosvenor Lane, Suite 200, Bethesda, MD, 20814, 301-897-9770 tws@wildlife.org.

State Contacts and Contractors/Consultants

New Jersey: Biologists with the New Jersey Department of Environmental Protection (DEP), Division of Fish and Wildlife, Bureau of Wildlife Management northern office in Hampton, NJ, 908-735-7040 and New Jersey DEP Endangered and Nongame Species Program northern office in Clinton, NJ, 908-638-4127, can be contacted for assistance with projects. The coordinator of New Jersey's Landowner Incentive Program Kim North can be contacted at 609-292-9400 or Kim.Korth@dep.state.nj.us.

A wide variety of technical and financial assistance programs can also be found at the New Jersey DEP Wildlife Habitat Management site.

For grasslands, shrublands, and young forest, New Jersey biologists recommend you follow guidelines published by the Northeast Upland Habitat Technical Committee and the Massachusetts Division of Fisheries and Wildlife. This publication also lists some federal programs which provides financial assistance to landowners.

Additional grassland management advice can be found in "Habitat Management for Grasslands".

Private forest land in New Jersey is overseen by the Department of Environmental Protection's Division of Parks and Forestry, Forest Service at 240 Main Street (Route 206 N) Andover, NJ 07821, 973-786-5035.

New Jersey Audubon has developed "A Guide to Conservation Landowner Incentive Programs for New Jersey Landowners and Farmers". This guide offers information on a wide range of landowner programs in New Jersey and is inclusive of most available programs discussed above. However, it would be wise to make contact with the agencies listed in the guide and below to make sure these programs and personnel are still available. Contact New Jersey Audubon at 9 Hardscrabble Road, Bernardsville, New Jersey 07924, 908-204-8998, hq@njaudubon.org.

The Nature Conservancy of New Jersey can also provide valuable information for landowners. Contact them at 200 Pottersville Road, Chester, NJ 07930, 908-879-7262, newjersey@tnc.org.

New Jersey forestry consultants can be found here or by contacting Department of Environmental Protection, Division of Parks and Forestry, New Jersey Forest Service, Commissioner, Mail Code: 501-04, P.O. Box 420, Trenton, NJ 08625, 609-292-2531. Certified biologists in New Jersey can be found here or contact Katherine Edwards, Coordinator, Professional Development, The Wildlife Society at 301-897-9770 ext. 303 or katie.edwards@wildlife.org.

Delaware: The Division of Fish and Wildlife of Delaware's Department of Natural Resources and Environmental Control has biologists dedicated to informing landowners about available programs, providing technical assistance in developing habitat projects and securing financial assistance as incentives for participation. Staff biologists are available to meet with landowners to discuss how you can improve wildlife habitat on your property. Biologists will also provide information on available conservation programs, develop conservation plans and help landowners enroll in applicable conservation programs. Contact Jason Davis at 302-735-3600, jason.davis@state.de.us, or Bill Jones at 302-284-4795, william.jones@state.de.us and review available Delaware programs here.

The Delaware Forest Service provides a wide range of services to help Delaware landowners manage and improve their forest resources. Most landowners will be interested in Delaware's forest conservation programs. The Delaware Forest Service can be reached at 2320 South DuPont Highway, Dover, Delaware 19901, 302-698-4500, or email Sam Topper at sam.topper@state.de.us.

Delaware Nature Society "Conservation Corner" to learn about this organization's conservation programs. Contact Joe Sebastiani at PO Box 700, Hockessin, DE 19707, 302-239-2334 ext. 115, joe@delawarenaturesociety.org, or other staff at dnsinfo@delawarenaturesociety.org.

Delaware Audubon can be contacted at 56 W. Main Street, Suite 212 B, Christiana, DE 19702, 302-292-3970, dasmail@delawareaudubon.org.

The Nature Conservancy of Delaware can be contacted at 100 West 10th Street Suite 1107, Wilmington, DE 19801, 302-654-4707, delaware@tnc.org.

Delaware forestry consultants can be obtained here or by contacting Sam Topper, Delaware Forest Service, sam.topper@state.de.us, or contacting the Delaware Forest Service, 2320 South DuPont Highway, Dover, Delaware 19901, 302-698-4500.

Certified biologists in Delaware can be found here or contacting Katherine Edwards, Coordinator, Professional Development, The Wildlife Society at 301-897-9770 ext. 303 or katie.edwards@wildlife.org.

Pennsylvania: The Pennsylvania Department of Conservation and Natural Resources (PDCNR) Bureau of Forestry has a list of service foresters that assist private forest landowners with forest management technical assistance, cost-share assistance, Forest Stewardship Plans, regional planning advice, etc. They can be contacted at 6th Floor, Rachel Carson State Office Building, P.O. Box 8552, Harrisburg, PA 17105-8552, 717-705-5194, www.dcnr.state.pa.us/forestry. Joseph Frassetta, located at the William

Penn District Office where most of the Pennsylvania Piedmont counties occur can be contacted at 845 Park Road, Elverson, PA 19520-9523, 610-582-9660, FD17@pa.gov.

The Natural Lands Trust of eastern Pennsylvania and southern New Jersey has a landowner program designed to provide advice, consultation, technical expertise and develop solutions to land management issues. Contact Peter Williamson at 1031 Palmers Mill Road, Media, PA 19063, 610-353-5587 ext. 215 or at info@natlands.org.

The Pennsylvania Forestry Association has a wealth of information and programs that assist private forest landowners in Pennsylvania with a wide range of issues. They can be reached at 56 East Main Street, Mechanicsburg, PA 17055, 717-766-5371, info@pfaforestry.org.

The Pennsylvania Game Commission (PGC) has staff that can assist you in your private lands management. Their Landowner Programs offer a wide range of assistance to Pennsylvania landowners. For the Piedmont region of southeast Pennsylvania, contact Dan Mummert at 448 Snyder Road, Reading, PA 19605m, 717-626-0031 or 610-926-3136, dmummert@pa.gov.

Penn State Cooperative Extension, Southeast Region, Tulpehocken Road, P.O. Box 7009, Reading, PA 19610-6009, 610-378-4362. Their natural resources web page offers information on assistance for landowners who own forest resources and desire to manage for wildlife.

Brian Byrnes of Pennsylvania Audubon can be contacted at 610-666-5593 ext. 106 or bbyrnes@audubon.org. Or you can contact staff at the John James Audubon Center at Mill Grove, 1201 Pawlings Road, Audubon, PA 19403, 610-666-5593.

Nels Johnson of The Nature Conservancy of Pennsylvania can be contacted at 15 East Ridge Pike, Suite 100, Conshohocken, PA 19428, 610-834-1323 or 800-75-NATURE, pa_chapter@tnc.org.

Forestry consultants in Pennsylvania can be found here or by contacting the PA Bureau of Forestry, Rachel Carson State Office Building, 6th Floor, P.O. Box 8552, Harrisburg, PA 17105-8552, 717-787-2703, PaForester@state.pa.us.

Certified wildlife biologists in Pennsylvania can be found here or by contacting Katherine Edwards, Coordinator, Professional Development, The Wildlife Society at 301-897-9770 ext. 303 or katie.edwards@wildlife.org.

Maryland: The Maryland Department of Natural Resources (MDDNR) has staff that can assist landowners manage their property and land for wildlife values. From managing for backyard birds to restoration of forest, grasslands, and other habitats, MDDNR can help. Contact Central Regional Ecologist, David Brinker, Wildlife and Heritage Service, 1200 Frederick Rd., Catonsville, MD 21228, 410-744-8939, DBRINKER@dnr.state.md.us.

MDDNR's Landowner Incentive Program can also assist private landowners with developing and financing projects. Contact Bradley Kennedy, 410-260-8557 or bkennedy@dnr.state.md.us.

MDDNR's Forest Service also has a forest landowner stewardship and assistance program to aid Maryland's private forestland owners with stewardship plans and financial assistance. Contact MDDNR's Central Region Forest Service Office at 2 South Bond Street, Ste. 101, Bel Air, MD 21014, 410-836-4551, customerservice@dnr.state.md.us.

Dave Curson, Bird Conservation Coordinator of Maryland-DC Audubon can be contacted for additional information and assistance at 410-558-2473, dcurson@audubon.org or by writing Audubon Maryland-DC, 2901 E. Baltimore St., Baltimore, MD 21224.

Deborah Landau of The Nature Conservancy of Maryland/DC can be contacted for additional assistance at 301-897-8570, dlandau@TNC.ORG or by writing 5410 Grosvenor Lane Suite 100, Bethesda, MD 20814.

Click here for a list of Maryland's forestry consultants or contact Supervisor, Forest Stewardship, MD DNR - Forest Service, Tawes State Office Building E-1, 580 Taylor Avenue, Annapolis, MD 21401, Annapolis, MD 21401, 410-260-8531.

Maryland's certified wildlife biologists can be found here or by contacting Katherine Edwards, Coordinator, Professional Development, The Wildlife Society at 301-897-9770 ext. 303 or katie.edwards@wildlife.org.

Virginia: Virginia Department of Game and Inland Fisheries (VDGIF) main office in Richmond can be reached at 804-367-1000 and district offices are located in Fredericksburg, 540-899-4169, Forest Office (near Lynchburg) 434-525-7522, and Farmville, 434-392-9645. Their staff can assist private landowners with their habitat and bird conservation needs. Contact Sergio Harding, non-game bird conservation biologist at 4010 West Broad Street, Richmond, VA 23230, 804-367-0143 at sergio.harding@dgif.virginia.gov. Justin Laughlin of Virginia's Landowner Incentive Program can be reached at Virginia Department of Game and Inland Fisheries, 1796 Highway 16, Marion, VA 24354, 276-783-4860, Justin.Laughlin@dgif.virginia.gov.

Foresters with the Virginia Department of Forestry (DOF) offer a wide range of services to private landowners. They offer extensive landowner assistance, both technical and financial to private landowners. The DOF office nearest you can be found by contacting their Regional Office at Charlottesville, 434-977-5193, or Farmville 434-392-4159.

The Piedmont Environmental Council has well-qualified staff that can provide forestry, wildlife habitat, and geographic information systems (GIS) assistance for stewardship planning. Call the main office in Warrenton, 540-347-2334, to speak with the Conservation and Stewardship Coordinator. They have published "Sources of Funds

for Conservation: A Handbook for Virginia Landowners and Non-Profit Organizations", a guide which provides a good flow chart to help landowners understand which programs are suitable for their given project. The PEC has also published "Managing Land in the Piedmont of Virginia for the Benefit of Birds and Other Wildlife", a great resource for Virginia's private landowners. You may obtain free copies by calling the PEC main office in Warrenton at 540-347-2334 or writing PEC at PO Box 460, Warrenton, VA 20188.

Mary Elfner, Important Bird Area Coordinator, of Virginia Audubon Council can be contacted at 804-788-7660, melfner@audubon.org.

Andy Lacatell, conservation specialist with The Nature Conservancy of Virginia can be contacted at 804-644-5800 ext. 118, alacatell@tnc.org or write The Nature Conservancy, 530 East Main Street, Suite 800, Richmond, VA 23219.

You can search the listing for the consultant that meets your needs on the Virginia Division of Forestry website or contact VDOF at 900 Natural Resources Drive, Charlottesville, Virginia 22903, 434-977-6555.

Certified wildlife biologists in Virginia can be found here or by contacting Katherine Edwards, Coordinator, Professional Development, The Wildlife Society at 301-897-9770 ext. 303 or katie.edwards@wildlife.org.

North Carolina: The North Carolina Wildlife Resources Commission (NCWRC) has an extensive publication, "A Guide for Managing Wildlife on Private Lands In North Carolina". Copies can be obtained at the link above or by writing NCWRC Headquarters at 1751 Varsity Drive, Raleigh, NC 27606, or 1701 Mail Service Center, Raleigh, NC 27699-1701, or calling 919-707-0010. You can also contact Scott Anderson, North Carolina's bird conservation biologist for further assistance at 1722 Mail Service Center, Raleigh, NC 27699-1722, 919-604-5183, scott.anderson@ncwildlife.org.

The NCWRC also employs biologists devoted to private lands issues. These professionals can provide assistance on a variety of land-management issues, including habitat management for game and nongame species. Biologists are available to assist with workshops and to meet with groups of landowners with similar management goals. Contact NCWRC's Division of Wildlife Management at 919-707-0050 for the name and phone number of the appropriate biologist to assist with your project or contact Jeff Marcus, Piedmont Wildlife Diversity Supervisor, NCWRC, 111 Hillard Road, Pinehurst, NC 28374, 910-281-4388, jeff.marcus@ncwildlife.org.

The North Carolina Forest Service (NCFS) provides technical assistance on forest management and administers some state and federal cost-share programs related to forest management. Contact Kelly Douglass, Forest Stewardship Biologist, at PO Box 31063, Raleigh, NC 27622, 919-621-3317, or at kelly.douglass@ncwildlife.org for assistance with a wide range of assistance programs.

The North Carolina Forestry Association (NCFA) has developed a forest landowner guide to assist forest landowners in a variety of forest management programs. Copies can be obtained by calling the NCFA at 800-231-7723.

The North Carolina Cooperative Extension Service offers landowners and citizens access to the resources and expertise of N.C. State University and N.C. A&T State University. Cooperative Extension field faculty offer educational programs and publications and also provides landowners with research-based answers to management questions. They can be contacted at North Carolina Cooperative Extension Service, Campus Box 7602, NC State University, Raleigh NC 27695-7602, 919-515-2813, www.ces.ncsu.edu.

Curtis Smalling, Director of Land Bird Conservation for NC Audubon can be contacted at Audubon North Carolina, 667 George Moretz Lane, Boone, NC 28607, 828-265-0198, csmalling@audubon.org. Mr. Smalling is the key contact for Audubon's Bird-Community Progam in North Carolina.

Jessie Birckhead, Conservation Coordinator for the Nature Conservancy of North Carolina, can be contacted at The Nature Conservancy, 4705 University Drive, Suite 290, Durham, NC 27707, 919-794-4398 or 919-403-8558 ext. 1026, jbirckhead@tnc.org.

A list of consulting foresters in North Carolina can be found here or you may also request a hardcopy by calling or emailing Jennifer Rall at 919-857-4849 or jennifer.rall@ncagr.gov.

Certified wildlife biologists in North Carolina can be found here or by contacting Katherine Edwards, Coordinator, Professional Development, The Wildlife Society at 301-897-9770 ext. 303 or katie.edwards@wildlife.org.

South Carolina: The South Carolina Department of Natural Resources (SCDNR) DNR have staff that can assist you in learning about landowner management programs in South Carolina. SCDNR has several private lands programs, one which provides incentives to private landowners several of South Carolina's designated Scenic Rivers. In the South Carolina Piedmont, portions of the Broad, Catawba and Saluda River are designated Scenic Rivers and landowners along these rivers Contact Derrell Shipes at 803-734-3938 or ShipesD@dnr.sc.gov.

The South Carolina Forestry Association (SCFA) has produced a comprehensive guide that provides private landowners of South Carolina with the appropriate information and guidance to successfully manage their land for a variety of objectives, including wildlife. They can be contacted at PO Box 21303, Columbia, South Carolina 29221-1303, 803-798-4170, scfa@scforestry.org.

The South Carolina Forestry Commission (SCFC) also has staff that can assist private landowners with their forest land management. They have staff foresters that can assist you with a variety of stewardship and financial assistance programs. You can contact the Piedmont Regional Stewardship Forester, Jaime Jones, at 39 General Henderson

Rd., Newberry, SC 29108, 803-276-0205 or contact the Stewardship State Coordinator, Scott Phillips, at 5500 Broad River Road, Columbia, SC 29212, 803-896-8844, sphillips@forestry.state.sc.us.

In addition to state and federal government assistance in South Carolina, MeadWestvaco offers a private landowner assistance program as well. Their Cooperative Forest Management (CFM®) private landowner assistance program provides family forest landowners with sustainable forest management advice, including: a professional forest management plan, assistance in locating suitable contractors, information regarding timber sales, help with American Tree Farm System certification, timber marking and improved seedlings. In South Carolina, contact Charleston CFM, P.O. Box 118005, Charleston, SC 29423-8005, 843-745-3122.

Contact Norm Brunswig of South Carolina Audubon at Audubon Center & Sanctuary at Francis Beidler Forest, 336 Sanctuary Road, Harleyville, SC 29448, 843-462-2150, nbrunswig@audubon.org.

Contact Colette DeGarady, Senior Conservation Biologist with The Nature Conservancy of South Carolina at The Nature Conservancy, P.O. Box 5475, Columbia, SC 29250, 803-254-9049, cdegarady@tnc.org.

South Carolina consulting foresters can be found here or contact South Carolina Forestry Commission (see South Carolina above) for a printed list at South Carolina Forestry Commission, PO Box 21707, Columbia, SC, 803-896-8800, copyscfc@forestry.state.sc.us.

A list of South Carolina's wildlife biologists can be found here and here or contact Piedmont sub-office in Columbia at P.O. Box 167, Columbia, SC 29202, 803-734-3886, or contact Katherine Edwards, Coordinator, Professional Development, The Wildlife Society at 301-897-9770 ext. 303 or katie.edwards@wildlife.org.

Georgia: The Georgia Department of Natural Resources (GADNR) has staff that can assist you with wildlife habitat enhancement and land conservation programs. Todd Schneider of their Wildlife Resources Division can be contacted at Georgia DRN, Wildlife Resources Division, 116 Rum Creek Drive, Forsyth, GA 31029, 478-994-1438, Todd.Schneider@dnr.state.ga.us and assist you with these programs connecting you to the right Georgia resource agent that can help you. GADNR also has a variety of private landowner assistance programs which are located in their Landowner's Guide to Conservation Initiatives. For a copy of this contact Georgia Wildlife Resources Division 2070 U.S. Hwy. 278, SE, Social Circle, GA 30025, Social Circle, GA 30025, 770-761-3035. For additional information on GADNR's private landowner assistance programs, contact Georgia Landowner Incentive Program, Georgia Department of Natural Resources, Wildlife Resources Division, 2070 U.S. Hwy. 278, S.E., Social Circle GA, 30025, 478-994-1438.

The Georgia Forestry Commission (GFC) also has several landowner programs and coordinates with GADNR on their implementation. They also have a comprehensive listing other cost share programs that apply to forest lands. For lands in north Georgia call 770-761-1697 and in south Georgia call 229-420-1290. If wildlife is somewhat important for you, call your local GFC forester at 1-800-GA-TREES or by visiting www.gfc.state.ga.us.

MeadWestvaco offers a private landowner assistance program as well. Their Cooperative Forest Management (CFM®) private landowner assistance program provides family forest landowners with sustainable forest management advice, including: a professional forest management plan, assistance in locating suitable contractors, information regarding timber sales, help with American Tree Farm System certification, timber marking and improved seedlings. In Georgia, contact Coated Board CFM, P.O. Box 520, 1000 Broad Street, Phenix City, AL 36868, 334-448-6301.

Charlie Muise, Georgia Audubon Important Bird Area Coordinator, can be contacted 368 Eady Creek Road, Barnesville, GA 30204, 678-967-9924, cmmbirds@yahoo.com for additional information.

Malcolm Hodges, Director of Stewardship for The Nature Conservancy of Georgia can be contacted at 100 Peachtree NW, Suite 2250, Atlanta, GA 30303, 404-253-7211, mhodges@tnc.org for information on Georgia bird conservation and stewardship.

Consulting foresters in Georgia can be found here or by contacting the GFC at P. O. Box 819, Macon, Georgia 31202-0819, 478-751-3500.

Certified wildlife biologists in Georgia can be found here or by contacting Katherine Edwards, Coordinator, Professional Development, The Wildlife Society at 301-897-9770 ext. 303 or katie.edwards@wildlife.org.

Alabama: The Alabama Department of Conservation Natural Resources (ALDCNR) has staff to assist private landowners in managing their lands for wildlife, including birds. They have a brochure here or you can get a copy from Traci Wood, Alabama's Landowner Assistance Program Coordinator at Wildlife & Freshwater Fisheries 64 N. Union St., Suite 658, Montgomery, AL 36130, 334-353-0503 or Traci.Wood@dcnr.alabama.gov. You can also contact Carrie Threadgill, Alabama State Ornithologist at Alabama Wildlife and Freshwater Fisheries, 64 N. Union Street, Suite 584, Montgomery, AL 36130, 334-242-3864, Carrie.Threadgill@dcnr.alabama.gov.

The Alabama Forestry Commission (AFC) coordinates and implements a wide range of private landowner programs, including the Forest Legacy Program for managing Alabama forests and wildlife resources. Contact your state or county forester for additional information or contact the AFC at State Headquarters, PO Box 302550, Montgomery, AL 36104-3631, 334-240-9300.

MeadWestvaco offers a private landowner assistance program as well. Their Cooperative Forest Management (CFM®) private landowner assistance program

provides family forest landowners with sustainable forest management advice, including: a professional forest management plan, assistance in locating suitable contractors, information regarding timber sales, help with American Tree Farm System certification, timber marking and improved seedlings. In Alabama contact Coated Board CFM, P.O. Box 520, 1000 Broad Street, Phenix City, AL 36868, 334-448-6301.

Contact one of the Alabama Chapters of the National Audubon Society for additional information. Currently, there is no state Audubon Office.

Contact The Nature Conservancy of Alabama for more information on bird conservation in Alabama. They can be reached at The Nature Conservancy in Alabama, 2100 1st Avenue North, Suite 500, Birmingham, AL 35203, 205-251-1155.

Alabama's consulting foresters can be found here or by contacting the AFC at State Headquarters, PO Box 302550, Montgomery, AL 36104-3631, 334-240-9300.

Certified wildlife biologists in Alabama can be found here or by contacting Katherine Edwards, Coordinator, Professional Development, The Wildlife Society at 301-897-9770 ext. 303 or katie.edwards@wildlife.org.

Additional Resources and Literature:

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Appendix

Agency Contacts

US Fish and Wildlife Service Partners for Fish and Wildlife (PFW) Coordinators

Steve Hill
Northeast Coordinator
U.S. Fish & Wildlife Service
300 Westgate Center Drive
Hadley, MA 01035-9589
Phone: 413-253-8614
FAX: 413-253-8482
Email: Steve_Hill@fws.gov

New Jersey Eric Schrading U.S. Fish & Wildlife Service 927 North Main Street, Building D Pleasantville, NJ 08232 Phone: 609-646-9310 FAX: 609-646-1456 Email: Eric_Schrading@fws.gov New Jersey PFW Page and Fact Sheet	**Delaware** Rich Mason U.S. Fish & Wildlife Service 177 Admiral Cochrane Dr. Annapolis, MD 21401 Phone: 410-573-4584 FAX: 410-269-0832 Email: Rich_Mason@fws.gov Delaware PFW Page and Fact Sheet
Pennsylvania Mark Roberts U.S. Fish & Wildlife Service 315 South Allan Street Suite 322 State College, PA 16801 Phone: 814-234-4090 ext. 239 FAX: 814-234-0748 Email: Mark_Roberts@fws.gov PA PFW Page and Fact Sheet	**Maryland** Rich Mason U.S. Fish & Wildlife Service 177 Admiral Cochrane Dr. Annapolis, MD 21401 Phone: 410-573-4584 FAX: 410-269-0832 Email: Rich_Mason@fws.gov Maryland PFW Page and Fact Sheet

Virginia

Bridgett Costanzo
U.S. Fish & Wildlife Service
6669 Short Lane
Gloucester, VA 23061
Phone: 804-693-6694 (x 152)
FAX: 804-693-9032
Email: Bridgett_Costanzo@fws.gov

Virginia PFW Page and Fact Sheet

Southeast Region

Dr. Ronnie J. Haynes, Southeast Coordinator
U.S. Fish & Wildlife Service
1875 Century Blvd.
Atlanta, GA 30345
Phone: 404-679-7138
FAX: 404-679-7081
Email: Ronnie_Haynes@fws.gov

North Carolina

John Ann Shearer
U.S. Fish & Wildlife Service
551-F Pylon Drive
P.O. Box 33726
Raleigh, NC 27636-3726
Phone: 919-856-4520 ext. 17
FAX: 919-856-4556
Email: John_Ann_Shearer@fws.gov

Laura Fogo
U.S. Fish and Wildlife Service
Raleigh Field Office
Southern Pines Sub-office
P.O. Box 119
Southern Pines, NC 28388
Phone: 910-695-3323 ext. 4
Email: Laura_Fogo@fws.gov

North Carolina PFW Page and Fact Sheet

South Carolina

Joe Cockrell
U.S. Fish & Wildlife Service
176 Croghan Spur Road
Suite 200
Charleston, SC 29407
Phone: 843-727-4707 ext. 305
FAX: 843-727-4218
Email: Joe_Cockrell@fws.gov

South Carolina PFW Page and Fact Sheet

Alabama	**Georgia**
Eric Spadgenske, State Coordinator Alabama Ecological Services Field Office 1208 Main Street Daphne, AL 36526 Phone: 251-441-5872 Cell: 205-616-5010 Email: Eric_Spadgenske@fws.gov Alabama PFW Page and Fact Sheet	Robert Brooks U.S. Fish & Wildlife Service 4980 Wildlife Drive Townsend, GA 31331 Phone: 912-832-8739 ext. 4 Email: Robert_Brooks@fws.gov Georgia PFW Page and Fact Sheet

USDA Natural Resources Conservation Service (NRCS)

New Jersey	**Delaware**
Mercer, Middlesex and Monmouth Counties 4000 Kozloski Rd, PO Box 5033 Freehold, NJ 07728-5033 Phone: 732-462-0075 ext. 3 FAX: 732-462-5274 ***Hunterdon, Somerset, and Union Counties*** 687 Pittstown Rd, Suite 2 Frenchtown, NJ 08825 (formerly located in Flemington) Phone: 908-782-4614 ext. 3 FAX: 908-782-0501 ***Bergen, Hudson, Essex, Morris, Passaic, Sussex and Warren Counties*** Hackettstown Commerce Park, Building #1, 101 Bilby Rd. Hackettstown, NJ 07840 Phone: 908-852-2576 ext. 3 FAX: 908-852-4666 http://www.nj.nrcs.usda.gov/	***New Castle County*** New Castle Agricultural Center 2430 Old County Road Newark, Delaware 19702 Phone: 302-832-3100 FAX: 302-834-0783 http://www.de.nrcs.usda.gov/

Pennsylvania

Bucks/Montgomery County
Perkasie Service Center
Hilltown Executive Campus
1000 E. Walnut Street, Building 700
Perkasie, PA 18944
Phone: 215-822-5840

Chester/Delaware County
West Chester Service Center
601 Westtown Road
West Chester, PA 19380-0990
Phone: 610-696-0398

www.pa.nrcs.usda.gov/index.html

Maryland

Maryland State NRCS Office
John Hanson Business Center
339 Busch's Frontage Road, Suite 301
Annapolis, MD 21409-5543
Phone: 410-757-0861
FAX: 410-757-0687

http://www.md.nrcs.usda.gov/

Virginia

Virginia State NRCS Office
1606 Santa Rosa Road, Suite 209
Richmond, VA 23229-5014
Phone: 804-287-1691
FAX: 804-287-1737

http://www.va.nrcs.usda.gov/

North Carolina

North Carolina State NRCS
530 West Innes Street
Salisbury, NC 28144
Phone:704-637-2400
FAX: 704-637-8077

http://www.nc.nrcs.usda.gov/

South Carolina

Catawba Watershed Field Office
1771-A Highway 521 Bypass South
Lancaster, SC 29720
Phone: 803-286-4455
FAX: 803-286-5598

Saluda Watershed Field Office
County Agriculture Building
201 E. Church Street
Saluda, SC 29138
Phone: 864-445-8118
FAX: 864-445-7573

Georgia

Athens Field Office
355 East Hancock Ave
Stop Number 200
Athens, Georgia 30601
Phone: 706-546-2272
FAX: 706-546-2120

http://www.ga.nrcs.usda.gov/

Tyger Watershed Field Office 301 University Ridge, Suite 4800 Greenville, SC 29601 Phone: 864-467-2755 FAX: 864-467-3177 **Savannah Watershed Field Office** 1521 Pearman Dairy Road Anderson, SC 29625 Phone: 864-224-2126 FAX: 864-224-8914 http://www.sc.nrcs.usda.gov/	
Alabama **Alabama State NRCS Office** 3381 Skyway Drive Auburn, Alabama 36830-6443 Phone: 1-800-342-9893 FAX: 334-887-4551 http://www.al.nrcs.usda.gov/	

USDA Farm Services Agency (FSA)

New Jersey New Jersey State FSA Office 300 Clocktower Drive, Suite 202 Hamilton Square, NJ 08690 Phone: 609-587-0104 FAX: Administrative: 609-587-0904 http://www.fsa.usda.gov/FSA/stateOffices	**Delaware** Delaware State FSA Office 1221 College Park Drive, Suite 201 Dover, DE 19904 Phone: 302-678-4250 FAX: 302-678-9100 http://www.fsa.usda.gov/FSA/stateOffices

Pennsylvania Pennsylvania State FSA Office 1 Credit Union Place, Suite 320 Harrisburg, PA 17110 Phone: 717-237-2117 FAX: 717-237-2149 http://www.fsa.usda.gov/FSA/stateOffices	**Maryland** Maryland State FSA Office 339 Busch's Frontage Road, Suite 104 Annapolis, MD 21409-5561 Phone: 443-482-2760 FAX: 410-757-9265 http://www.fsa.usda.gov/FSA/stateOffices
Virginia Virginia State FSA Office 1606 Santa Rosa Road, Suite 138 Richmond, VA 23229-5014 Phone: 804-287-1501 FAX: 804-287-1723 http://www.fsa.usda.gov/FSA/stateOffices	**North Carolina** North Carolina State FSA Office 4407 Bland Road, Suite 175 Raleigh, NC 27609 Phone: 919-875-4800 http://www.fsa.usda.gov/FSA/stateOffices
South Carolina South Carolina State FSA Office 1927 Thurmond Mall, Suite 100 Columbia, SC 29201-2375 Phone: 803-806-3830 FAX: 803-806-3839 http://www.fsa.usda.gov/FSA/stateOffices	**Georgia** Georgia State FSA Office 355 East Hancock Avenue, STOP 100 Athens, Georgia 30601-2775 Phone: 706-546-2266 FAX: 706-546-2151 http://www.fsa.usda.gov/FSA/stateOffices
Alabama Alabama State FSA Office 4121 Carmichael RD, Suite 600 Montgomery, Alabama 36106 Phone: 334-279-3500 http://www.fsa.usda.gov/FSA/stateOffices	

USDA Forest Service (USFS) Cooperative State Foresters

New Jersey Lynn E. Fleming NJ State Forestry Service PO Box 420 Mail Code 501-04 Trenton, NJ 08625-0404 Phone: 609-292-2520 FAX: 609-984-0378 Email: Lynn.Fleming@dep.state.nj.us	**Delaware** Michael Valenti Delaware Forest Service 2320 S. DuPont Highway Dover, DE 19901 Phone: 302-698-4547 FAX: 302-697-6245 Email: michael.valenti@state.de.us
Pennsylvania Dan Devlin PA Bureau of Forestry PO Box 8552 Harrisburg, PA 17105-8552 Phone: 717-787-2703 FAX: 717-783-5109 Email: ddevlin@pa.gov	**Maryland** Steven W. Koehn MD DNR-Forest Service 580 Taylor Avenue, E-1 Annapolis, MD 21401 Phone: 410-260-8501 FAX: 410-260-8595 Email: skoehn@dnr.state.md.us
Virginia Carl E. Garrison, III VA Department of Forestry 900 Natural Resources Dr., Suite 800 Charlottesville, VA 22903 Phone: 434-977-6555 FAX: 434-977-7749 Email: carl.garrison@dof.virginia.gov	**North Carolina** Wib Owen NC Division of Forest Resources 1616 Mail Service Center Raleigh, NC 27699 Phone: 919-857-4844 FAX: 919-715-4350 Email: wib.owen@ncagr.gov

South Carolina Gene Kodama SC Forestry Commission 5500 Broad River Road Columbia, SC 29221-1707 Phone: 803-896-8800 FAX: 803-798-8097 Email: kodama@forestry.state.sc.us	**Georgia** Robert Farris GA Forestry Commission PO Box 819 Macon, GA 31202-0819 Phone: 478-751-3480 FAX: 478-751-3465 Email: bfarris@gfc.state.ga.us
Alabama Linda Casey AL Forestry Commission 513 Madison Avenue PO Box 302550 Montgomery, AL 36130-2550 Phone:334-240-9304 FAX: 334-240-9388 Email: Linda.Casey@forestry.alabama.gov	

Ducks Unlimited (DU)

Northern Piedmont Bernie Marczyk Mid-Atlantic Field Office 34 Defense Street Suite 200 Annapolis, MD 21401 Phone: 410-224-6620 ext. 20 Email: bmarczyk@ducks.org	**Southern Piedmont** Jamie Rader South Atlantic Field Office 3294 Ashley Phosphate Road, Ste. 2A North Charleston, South Carolina 29418 Phone: 843-745-9110 Email: Jrader@ducks.org

Northern Bobwhite, Ruffed Grouse, and American Woodcock Contacts

Northern Piedmont Mark Banker Appalachian Forest Consultants – Wildlife Services P.O. Box 1171 Lemont, Pennsylvania Phone: 814-440-7966 Email: markebanker@gmail.com Northern Bobwhite, American Woodcock, Ruffed Grouse	**Southern Piedmont** Steve Capel 1317 Tannery Circle Midlothian, Virginia 23113 Phone: 804-379-4519 Email: stevecapel41@gmail.com Northern Bobwhite, American Woodcock
Southern Piedmont Marc Puckett Virginia Department of Game and Inland Fisheries 107 Foxwood Drive Farmville, VA 23901 Phone: 434-392-8328 Email: marc.puckett@dgif.virginia.gov Northern Bobwhite	**Southern Piedmont** Reggie E. Thackston, Program Manager Private Lands Program Georgia DNR, Wildlife Resources Division, Game Management Section 116 Rum Creek Drive Forsyth, GA 31029 Phone: 478-994-7583 Email: reggie.thackston@dnr.state.ga.us Northern Bobwhite
Southern Piedmont Gary Norman Upland Game Bird Project Leader Virginia Department of Game and Inland Fisheries 517 Lee Highway P.O. Box 996, Verona, VA 24482 Phone: 540-248-9360 Email: Gary.Norman@dgif.virginia.gov Ruffed Grouse	