



Conserving Greene County Grassland Habitat: *A Landowner's Guide*



Prepared by the Greene Land Trust
in partnership with the
Greene County Habitat Advisory Committee,
as part of the Community Grassland Stewardship Project.
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www.greenelandtrust.org



“With private landowner stewardship,
through the ***Community Grassland Stewardship Project***,
we can expand and connect key grassland habitats and
restore these beautiful grassland birds to our Greene County
landscape for generations to come.”

*Bob Knighton
President
Greene Land Trust*



Acknowledgements

The Greene County Habitat Advisory Committee

The Greene County Habitat Advisory Committee is a diverse group of committed people working together to protect important habitats in Greene County for future generations. The following organizations and individuals are represented on the Greene County Habitat Advisory Committee and assisted in the development of this guidebook:

Greene Land Trust: Bob Knighton, Rene VanSchaack

Greene Business Alliance: Rene VanSchaack

Greene County Soil and Water Conservation District: Jeff Flack

New York State Department of Environmental Conservation (NYSDEC): Paul Novak, Nancy Heaslip

NYSDEC Hudson River Estuary Program: Karen Strong

Northern Catskills Audubon Society, Inc.: Larry Federman

Scenic Hudson: Mark Wildonger, Chris Kenyon

Hudsonia, Ltd.: Erik Kiviat, PhD.

Cornell Cooperative Extension of Greene County's Agroforestry Resource Center: Elizabeth LoGiudice

Sierra Club, Hudson-Mohawk Group: Roger Downs

Coxsackie Planning Board: Frank Gerrain

Peter Feinberg, environmental consultant

James Coe, artist, naturalist and field guide author

Rich Guthrie, local bird expert

This Landowner Guidebook is also available online at www.greenelandtrust.org.



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All grassland bird illustrations in this Landowner Guidebook were generously provided by nationally acclaimed Greene County artist, © James Coe. Find out more about this local artist, bird conservationist and Habitat Advisory Committee member at www.jamescoe.com.

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Grasslands and Landowners: A Call to Stewardship

Nestled at the northern end of the Catskill Mountains and bordered on the east by the scenic Hudson River, eastern Greene County is home to a diverse array of natural resources. This includes a mosaic of 6,000 acres of grasslands that are a key part of our cultural and natural heritage. Grasslands, including open fields, pasture, hayfields and farmland, are rapidly being lost in Greene County due to development pressures and other factors.

Disappearing along with these grasslands are more than a dozen species of grassland-dependent birds that rely on large expanses of grasslands for all their life-cycle needs. According to Audubon NY and the New York State Department of Environmental Conservation, grassland birds are the most at-risk birds in the United States. Many of these birds, such as the Short-eared Owl, Northern Harrier, Grasshopper Sparrow and Horned Lark, are considered endangered, threatened or of special concern in New York State. These birds need our protection and stewardship.



Savannah Sparrow
© James Coe

The Greene Land Trust has been working diligently to protect grasslands in Eastern Greene County by preserving over 300 acres of grasslands at the **Coxsackie Creek Grassland Preserve**. We need to build on this effort to ensure that this natural heritage is not lost. To do that, we need your help.

Most of the lands that define our rural communities – and that are the homes of grassland birds – are held in private ownership. The **Community Grassland Stewardship Project** is a voluntary program designed to engage and support landowners to conserve their open spaces as grassland habitat. The Greene Land Trust will work in partnership with Grassland Habitat Stewards who have signed the **Grassland Landowner Stewardship Pledge** (see Chapter 4) to develop a practical, site-specific Habitat Management Plan for your grasslands, provide you with attractive Grassland Habitat Steward property signs, a “Grassland Birds of Greene County” poster, and when funds allow, technical assistance in managing your grasslands. In addition to the above, there are many intangible benefits of managing your land for grassland bird habitat, including the protection and stewardship of open space, purposeful management of landscape and cultural aesthetics, and the participation in an important community-wide conservation effort.

I hope you’ll consider becoming a Grassland Habitat Steward with the Greene Land Trust. We look forward to discussing this opportunity with you and assisting you in your grassland conservation efforts. Thank you.

Sincerely,

Bob Knighton
President, Greene Land Trust

Introduction

The purpose of this Landowner Guidebook:

This Grassland Landowner Guidebook was developed to provide landowners with information, resources and support as they consider managing their land for the conservation of grassland birds in our area. The Greene Land Trust and its partners hope that this guidebook will be useful to landowners in the following ways:

1. Helping landowners to understand the history of grasslands, grassland ecosystems, and the concern for at-risk grassland birds in Greene County and the Northeast.
2. Assisting landowners in assessing whether or not their land, and the way they use their land, would be compatible with grassland bird conservation management practices.
3. And finally, to introduce landowners to the Greene Land Trust's Community Grassland Stewardship Project and invite landowners to participate in this voluntary land stewardship program by becoming a voluntary Grassland Habitat Steward.



Short-eared Owl
© James Coe

To accomplish the above, this guide offers resources for the landowner including descriptions and contacts for related state and federal grassland conservation programs, summaries of land protection options that go beyond voluntary stewardship, fact sheets on at-risk grassland birds, helpful websites, grassland bird monitoring information and a Landowner Stewardship Pledge. The Greene Land Trust hopes that this Landowner Guidebook will encourage landowners to become Grassland Habitat Stewards through the Community Grassland Stewardship Project.

A partnership with the Greene Land Trust:

In order to assist you with considering the commitment to manage your land for grassland bird conservation, the Greene Land Trust has designed the Community Grassland Stewardship Project, of which this Landowner Guidebook is a part. If you have decided to explore the commitment of managing your land for grassland bird conservation, we invite you to read this guidebook and then discuss your preliminary goals and concerns with Greene Land Trust staff.

You may consider the many benefits of becoming a Grassland Habitat Steward – a private landowner who voluntarily commits to manage their land for the conservation of grassland birds - through this project. If you decide to pursue becoming a Steward, we encourage you to sign the “Grassland Landowner Stewardship Pledge” found at the end of this guidebook and work with us to develop a Habitat Management Plan that suits your goals and needs. Where funds allow, the Greene Land Trust can provide technical assistance to help you implement the management practices outlined in your Habitat Management Plan. Our goal is to help conservation-minded grassland landowners with the resources, tools, and support they need to be successful in bringing grassland birds back to eastern Greene County and sustaining the management techniques that will keep these beautiful, important and at-risk birds in our landscape.

Chapter 1

The State of Grasslands in New York State and Greene County

History of Grasslands in New York State

Historically, most of the Northeast was forested. Before the 1800's, grassland birds used scattered grassy clearings in New York State created by natural disturbances such as fires, floods, infertile or shallow soils, storm damage, or beaver activities. By the turn of the century, however, grasslands became widespread in New York as people cleared forest to create a landscape dotted with small family farms, hayfields and pastures. This land use change resulted in increased habitat for grassland birds and these species began to thrive in our area. The large, open expanses of grassland area became home to Boblinks, Eastern Meadowlarks, and the Northern Harrier, as well as provided winter habitat for species such as the Short-eared Owl.



Greene County maintains large expanses of key grasslands, but is at risk of losing them to development, fragmentation, and re-forestation.

In the early 20th century, however, our landscaped changed once again. An increase in human population in the Northeast, changes in agricultural technology, and the abandonment of family farms in the east brought about a decline in the quality and quantity of grassland habitats for wildlife. As a result of this continuing trend, populations of grassland birds that had adapted to the agricultural landscape are now at risk as farmland is left idle, reverts to forest or is developed. In general, the grasslands that remain in New York State today tend to be smaller, more isolated, and cropped more intensively, which is leaving grassland species without suitable habitat.



NYS Endangered Short-eared Owl winters in Greene County grasslands. Photo: NYS DEC

Hope for Eastern Greene County Grasslands:

Although many of Greene County's small farms, pastures and hayfields are beginning to disappear, our local agricultural legacy has created and sustained a viable landscape mosaic of active and abandoned farms, old fields, and shallow wet meadows that remain today. Eastern Greene County has nearly 15,000 acres of these open habitats and is one of the few places in the Hudson Valley where large areas of grasslands persist. Though several other regions of the Hudson Valley still have an open landscape due to agriculture, only the Shawangunk

Grasslands National Wildlife Refuge provides habitat for as many rare and declining grassland bird species as our local grasslands. The grasslands of eastern Greene County – in the area including Cossackie, New Baltimore and Athens known locally as the “Cossackie Flats” – currently supports healthy over-wintering populations of two New York State Threatened and Endangered grassland bird species, the Northern Harrier and the Short-eared Owl. In fact, our local grasslands provide one of only four key wintering areas for the Short-eared Owl in the Hudson Valley. These key grasslands, found in our local fields, pastures and farms, also provide critical summer nesting areas for many species of migratory songbirds, such as the Bobolink, Eastern Meadowlark and Grasshopper Sparrows.

Current Threats to Grasslands and Grassland Birds

Greene County, after years of being “undiscovered” is experiencing a considerable increase in development. Key grasslands, in the form of abandoned farmlands and open meadows, in the corridor between the Town of New Baltimore and south through Athens have become prime targets for large-scale industrial, commercial and residential development. Currently, due to increasing threats such as development pressure, loss of farmland, changes in farming technology, habitat fragmentation, and succession to forest, grasslands are one of the most imperiled habitats in the county.

Due to this extensive habitat loss in the past 40-50 years, the decline of various grassland bird species ranges from 70-90%, according to NYS Breeding Bird Atlas data. As discussed in greater detail in Chapter 2, grassland birds have specific habitat requirements that must be met or populations will continue to decline and ultimately become lost from our area. The most important and challenging habitat requirement of grassland birds may be the need for contiguous, large areas of open grasslands in a grassland landscape. Some species, such as the Northern Harrier and Short-eared Owl, need upwards of 250 acres of contiguous, or connected, grassland for breeding and hunting. Major threats to grassland habitat include the following:



Farms, pastures and hayfields that serve as grassland habitat are at risk of being lost due to development and other factors.

1. **Land use changes** from farmland and open space to commercial and residential developments. The abandoned farmlands and open meadows in the corridor between the Town of New Baltimore and the Village of Catskill have become prime targets for large-scale development. Diverse factors at the root of this land use change in the area include the availability of undeveloped land in the area, development interests increasing from downstate developers as their land availability decreases, the presence of municipal water and sewer infrastructure, the NYS property tax burden shouldered by large landowners that makes selling land attractive and sometimes necessary, and the decreased viability of farming as a profitable profession in the area.

2. **Habitat fragmentation**, or the division of grasslands into progressively smaller patches resulting in less suitable habitat size and the creation of barriers to wildlife movement between grasslands;
3. **Invasive species** that, once established, create a monoculture, disrupting habitat for native wildlife and plants by competing for essential resources and changing the plant structure of a habitat (examples include: in upland areas, buckthorn, autumn olive, multiflora rose, mugwort, swallowwort and honeysuckle; in wet areas, purple loosestrife, reed canary grass and phragmites)
4. **Natural vegetative succession** from grassland into forest. If former agricultural land and open space is left unmanaged, grasslands will naturally grow into forest over time and grassland habitat will be lost.
5. **Changes in farming technologies** have altered traditional nesting areas. For example, hayfields that were traditionally mowed late in the season and were ideal for grassland bird nesting are now being mowed earlier and more frequently due to production pressures, thereby placing nests at risk and further reducing grassland bird populations.
6. **Municipal planning** currently lacks an emphasis on protection of wildlife habitat. Planners are becoming accustomed to accommodating stormwater and wetland protection needs, but tend to be less equipped to evaluate potential developments from a perspective of habitat conservation.



Purple loosestrife © B. Rice

Importance and Benefits of Grasslands to People:

While there is merit to conserving grasslands for grassland birds and other wildlife habitat alone, people and communities can also realize the many benefits of open space and grassland conservation in Greene County.

Preservation of rural character, farmland and open space: In recently conducted community surveys in New Baltimore, Coxsackie and Athens, residents said that the preservation of rural character, open space and farmland were important to them. In the town of Coxsackie, for example, 90% of the respondents indicated that the Town and Village should work to preserve the rural character of the community. The survey also indicated a very strong preference of the community to protect farmland, open space, historic resources and wetlands. It is clear that the open, rural character of these three



In a recent community survey, 90% of Coxsackie residents felt the preservation of rural character, open space, and farmland were important.

neighboring communities is unique and worthy of preservation as a community amenity.

Environmental services provided by grasslands: In addition to conserving important open spaces and natural vistas, the community receives what are increasingly known as “environmental services” from open space in the form of grasslands. These services include the protection of water quality and the increase of stormwater infiltration by grasses, thereby reducing the threat of downstream flooding.

Benefits to farmers: On agricultural lands, such as pasture, hayfields and cropland, conserving grasslands and associated grassland birds can result in a reduction of potentially harmful insects, such as certain caterpillars, weevils, cutworms, beetles and flies, as these “pests” are a main source of food for many grassland birds. Additionally, grassland conservation can aid in the protection of farm-friendly insects such as pollinators like bees and butterflies. Finally, farmers who engage in conservation management have the opportunity to win favor with the public as environmental stewards and can even use “bird-friendly” in their marketing techniques to consumers of grass-fed meats and dairy products.

Economic benefits: There are also local economic benefits of conserving and managing local grasslands. A Cost of Services Analysis for Coxsackie completed in 2007 revealed that open space required \$0.20 in service for every \$1.00 paid in taxes on these properties. In contrast, residential land use costs \$1.23 in the Town and \$1.28 in the Village of Coxsackie for every \$1.00 of tax collected from these properties. Further local economic benefits of grasslands are realized as outdoor recreation expenditures, including those associated with hiking and bird watching, continue to be an important part of what brings visitors to Eastern Greene County.



Hiking and bird watching continue bring people to Greene County.

Multiple uses of grasslands: Finally, the conservation of grasslands is compatible with many human uses, both passive and active, as well as productive uses. Grasslands, even while being managed for grassland bird habitat, can have multiple uses including recreation as well as pasturing, haying and even the active farming of some crops, sometimes referred to as “productive conservation”, which makes grassland conservation a realistic goal for a wide variety of land uses and landowners.

Chapter 2

Grasslands and Grassland Birds at Risk in Greene County

Grasslands: A Valuable Resource at Risk

A grassland is simply an area dominated by grassy vegetation. Grasslands, by definition therefore, can encompass a variety of land uses from old fields and pastures, to hayfields and cropland. A healthy grassland in our area provides habitat for a variety of grassland-dependent birds as well as a host of other grassland wildlife, including important insects and larger fauna, such as deer and fox.



Because a grassland in the Northeast would naturally become a forest over time if left alone (this is called natural succession), grasslands require periodic disturbance or management such as mowing or grazing to regularly discourage the natural growth of woody plants and weeds. Grassland birds, which are at risk in the Northeast due to loss of habitat, need grasslands to remain in this “early successional” state in order to successfully complete their breeding cycles, rear young and carry out most of their life cycle functions.

Driving through Greene County, you will see a variety of open areas that might seem like a grassland, but many are not attractive to grassland birds. An old field, for example, might look “grassy” to the eye, but may contain too high a proportion of shrubs, weeds, wildflowers and small trees to be useable by many grassland birds. At the same time, there are many good examples of healthy grasslands currently used as pasture, hayfields, or other recently farmed land that has not succeeded to shrubs or forest. To see a grassland that exemplifies good habitat for grassland birds, visit the Cossackie Creek Grassland Preserve areas (see Appendix 3), owned and managed by the Greene Land Trust.



Bobolink photo: Rich Guthrie

Wildlife that use Grasslands:

- Grassland birds including the endangered Short-eared Owl, threatened Northern Harrier, and a suite of grassland migratory songbirds
- Butterflies (Aphrodite fritillary, dusted skipper, Leonard’s skipper), dragonflies, damselflies, bees and other pollinator insects
- Turtles, frogs
- Foraging Ribbon snake
- Ring-necked pheasant, Wild Turkey, Red-tail Hawk
- Alpine birds (Snowy Owl, Rough-legged Hawk, Snow Bunting)
- Foxes, Woodchucks, Deer

Grassland Birds at Risk:

Throughout the northeastern US, birds that depend on grassland habitats have been in rapid decline over the last several decades, with some species declining by 70-90%. The birds most at risk in our area, and thus the focus of our conservation efforts, are the state-endangered Short-eared Owl and the state-threatened Northern

Harrier. Greene County grasslands are home to several other migratory songbird species that are also in decline (see table below). This “suite” of grassland-dependent birds contributes significantly to the biological diversity of our county and state. One of the goals of the Greene Land Trust is to support landowners in managing their grasslands to stop the decline of all of these important birds and ultimately, sustain their populations in Greene County through managements and voluntary landowner stewardship. The table below identifies these grassland birds by species and shows population declines as well as their listing status in the state of New York. See Appendix 5 for fact sheets created by Audubon NY to learn more about many of the grassland birds listed below.

Grassland Birds found in Greene County						
Common Name	Scientific Name	Trend in NY 1966 – 2005*	State Conservation Priority**	Present in Focus Area***	NYS listing status****	Season present
Northern Harrier	<i>Circus cyaneus</i>	-74.1%	Highest	Yes	Threatened	All year
Upland Sandpiper	<i>Bartramia longicauda</i>	-93.8%	Highest	Historic	Threatened	Summer migratory
Short-eared Owl	<i>Asio flammeus</i>	-80.3%	Highest	Yes	Endangered	Winter
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	-77.1%	Highest	Yes	Special Concern	Summer migratory
Bobolink	<i>Dolichonyx oryzivorus</i>	-17.8%	Highest	Yes	SGCN	Summer migratory
Horned Lark	<i>Eremophila alpestris</i>	-84.7%	High	Yes	Special Concern	All year
Eastern Meadowlark	<i>Sturnella magna</i>	-85.9%	High	Yes	SGCN	Summer migratory
Savannah Sparrow	<i>Passerculus sandwichensis</i>	-64.2%	Moderate	Yes	None	Summer migratory
American Kestrel	<i>Falco sparverius</i>	Insufficient data	Regional Concern	Yes	None	All year, but rare in winter
Snow bunting	<i>Plectrophenax nivalis</i>	-64%	Audubon Common Bird in Decline #11	Yes	None	Winter
Lapland longspur	<i>Calcarius lapponicus</i>	Insufficient data	Low	Yes	None	Winter
American Pipit	<i>Anthus spinoletto</i>	Insufficient data	Low	Yes	None	Spring and fall only
Eastern Bluebird	<i>Sialia sialis</i>	In recovery, +54%	Low	Yes	None	All year
Rough-legged Hawk	<i>Buteo lagopus</i>	Insufficient data	Low	Yes	None	Winter

* Analysis of Breeding Bird Survey Routes, Morgan and Burger 2008; and Audubon’s “North American bird species undergoing the greatest decline from 1966 to 2003”. <http://stateofthebirds.audubon.org/popdeclines.html>

** from “A Plan for Conserving Grassland Birds in New York DRAFT”, Morgan and Burger 2008.

*** Based on Breeding Bird Atlases, NY Natural Heritage Program database and local observations

**** SGCN= Species of Greatest Conservation Need; All species listed as Threatened, endangered or of special concern are also species of greatest conservation need. For more information, visit www.dec.ny.gov.

Unique Habitat Requirements of Grassland Birds

What is habitat? Habitat includes all of the life cycle needs for a living thing to survive, including food, water, shelter or refuge, adequate habitat size, and in the case of grassland birds, areas appropriate and safe for courtship, nesting, breeding, rearing young, and roosting.



*Diverse grasses at the managed
Coxsackie Creek Grassland Preserve*

Grassland birds are considered habitat “specialists” and have adapted over time to live only in environments dominated by grasses for most or all of their life cycle. Grassland birds eat a variety of foods found in grasslands ranging from grass seeds to crickets, grasshoppers and worms; and in the case of grassland raptors, such as the Northern Harrier and Short-eared Owl, small mammals such as meadow voles, small birds, and even small reptiles and amphibians.

Grassland birds typically nest on the ground rather than in trees, using the structure provided by grasses both for the construction of the nest and as cover from predators. Ground nesting behavior leaves grassland birds vulnerable to disturbances such as

mowing or haying during the breeding season. Nest predation and destruction, coupled with loss of habitat, are causing grassland bird populations to drop without a good chance of recovery. After leaving the nest, and later in the life cycle, grasses provide them with cover and protection from prey as they often do not fly from a predator, but run through the grasses to escape danger.



Eastern Meadowlark nest, G.K. Peck

The importance of wetlands, marshes and wet meadows in and near grasslands:

Wet or seasonally flooded areas within, and adjacent to, grasslands are important habitat components for landowners to recognize, conserve and maintain. Wetlands, marshes and wet meadows (grasslands that are underwater during rainstorms or are wet in the spring months) provide sources of food, breeding habitat and water for many grassland birds and other wildlife. Large flocks of waterfowl and shorebirds will stop to feed in these “emergent” wetlands during migration. The threatened Northern Harrier is often observed nesting and hunting for prey in marshes and wet meadows, even building its nests in wet areas, and is formerly known as the “Marsh Hawk”. Wetlands, marshes and wet meadows also provide a number of important functions for people, including recreational opportunities, aesthetics, improving water quality and preventing downstream flooding. See Chapter 5 for more information on managing wetlands within grassland habitats.

There are four major habitat requirements most important to sustaining grassland bird populations:

- 1. large expanses of connected grasslands creating a grassland landscape;**
- 2. suitable grassland vegetation;**
- 3. safe nesting areas in the summer; and,**
- 4. suitable winter habitat for wintering grassland birds.**

Habitat Requirement #1.
Large expanses of connected grasslands creating a grassland landscape.

There are thousands of acres of grassland in eastern Greene County, which support the diversity of grassland birds that use the region. While some grassland birds, such as the Bobolink and Eastern Meadowlark can use grassland habitats as small as 10 acres, other species, including the Northern Harrier and the Short eared Owl require large, connected grassland areas, from 75 – 250 acres or more. Core grassland habitat is protected in areas like the Cocksackie Creek Grassland Preserve, which spans over 300 acres of connected grassland habitat. More contiguous grassland habitat, however, is needed to support grassland bird populations in our area. Research shows that “area- sensitive” birds are not attracted to individual fields that are unconnected to other grassland habitats, but rather these birds are attracted to the entire grassland landscape that they can see. Therefore, to conserve these birds, we need to maintain larger expanses of connected grasslands throughout the landscape.

The requirement of larger open spaces for these birds emphasizes the need for protecting, restoring and managing large grasslands and also ensuring that smaller grasslands are connected in the landscape to create visually larger expanses of grasslands as suitable habitat for these birds. For example, multiple adjacent small fields can provide the “look” of a larger grassland, especially if hedgerows are removed and planted in grasses.

The general rule of thumb for a suitable grassland habitat patch size for most grassland birds, is the larger the better. Although grassland birds may use very small grasslands (under 40 acres, sometimes even under 10 acres) for foraging or other habitat needs, managing areas of at least 40 acres will provide most habitat needs for a diversity of grassland birds. It should be noted that while larger patches are a management goal, grassland patches of less than 40 acres can still provide important habitat benefits, particularly if they are located directly adjacent to other grassland areas. Furthermore, the more closely connected any of these size patches are, the more suitable the entire collective area will be for overall grassland bird habitat.



Habitat Requirement # 2.

Suitable grassland vegetation.

A second key habitat factor for grassland birds is the presence of a large area dominated by grassy vegetation, with very few shrubs or trees (5% or less of total land cover is recommended), limited wildflowers or forbs (non-grass plants with broad leaves), and minimal presence of invasive plants (swallowwort, honeysuckle, buckthorn, multiflora rose, etc.). The ideal grassland habitat for most



Orchardgrass ©
Florida Center
for Instructional
Technology

grassland birds will have a dominance of a variety of grasses with scattered forbs and an occasional tree or shrub. It is important to keep in mind that while the above describes an “ideal grassland”, many grassland birds will be attracted to a proximity to the ideal. In fact, many grassland birds can find useful habitat in a variety of grassland types, even actively farmed land, including hayfields, pasture and crop fields. In Chapter 5, we will describe management practices that will help landowners with a variety of grassland types and land uses work toward this ideal with realistic steps and expectations.

There has been some debate in the grasslands management community about whether to encourage warm season or cool season grasses in the Northeast. Warm season grasses are considered native to this area; and most cool season grasses are non-native, or introduced. Most conservation efforts in the state focus on restoring native species. However, in the case of conserving and restoring grasslands for grassland birds, cool season species are recommended for the best outcome in NY, due to several factors.

Cool-season grasses
are recommended for New
York grassland conservation
(see Appendix 6):

Native cool season grass
species:

Canada wildrye
Riverbank wildrye
Bottlebrush
Virginia wildrye
Fringed Brome grass
Fowl bluegrass

Non-native cool season grasses

Bluegrass
Bromegrass
Red fescue
Quackgrass
Timothy
Orchardgrass
Bentgrass



Canada wildrye, Missouri DNR

First, warm-season grasses, according to land managers in NY, are very difficult to establish. Cool season grasses begin their growth in the spring and will compete with and shade over and prevent the establishment of warm season grass that will not initiate growth until the summer. In addition, the growth of warm season grasses tends to create very tall, dense stands of grass, which receive limited use by grassland birds. Finally, the establishment of warm season grasses generally requires controlled or prescribed burning as a management tool, which can be difficult to conduct and is not currently being recommended in NYS.

There are a limited number of native cool-season grass species available and they may be the solution to the native vs. non-native grass species debate. These grasses are currently being evaluated for their value as grassland bird habitat.

No matter the species of grass established, grasslands should have a diversity of grasses to support a variety of grass heights (from 10"-20"). Once established, a grassland suitable for grassland bird habitat will need to be mowed regularly (about every 2-3 years), or regularly grazed, and possibly periodically reseeded. For a variety of native and non-native, warm and cool season grass seed mixtures recommended in New York State, as well as native forbs (wildflowers – to be used sparingly) for reseeded, see Appendix 6.

Habitat Requirement # 3.
Safe nesting areas in the summer.

In school we learn that birds build their nests high up in trees to protect them from predators and people. Grassland birds, however, build their nests in the grasses, which makes them far more vulnerable. For example, the Eastern Meadowlark, after building several “starter” nests, will build her final creation on the ground or in a shallow depression, well

hidden in dense, grassy vegetation. Her nest will look like a cup with a dome-shaped roof interwoven with adjoining grasses and with a side entrance. For the Northern Harrier, nests are most successful in wet areas, such as in a wet meadow area or near a marsh within a grassland. The harrier will build her nest with a mix of thick-stalked wetland plants and grasses in patches of tall, dense vegetation in undisturbed areas with plenty of open space. Because they are on the ground, grassland birds’ nests, eggs and young are highly vulnerable to predators, destruction by mowers before the young fledge the nest, and lack of suitable nesting sites.



Grasshopper Sparrow egg
© Larry Federman

Grassland Bird Breeding Timetable			
May	June	July	August
Begin identifying territories for nesting	Building nests and laying eggs. Eggs hatching.	“Fledging” of young birds – learning to fly and feed.	Most grassland birds have successfully fledged.
NOT safe to mow.	NOT safe to mow.	NOT safe to mow.	Mowing is safe*.

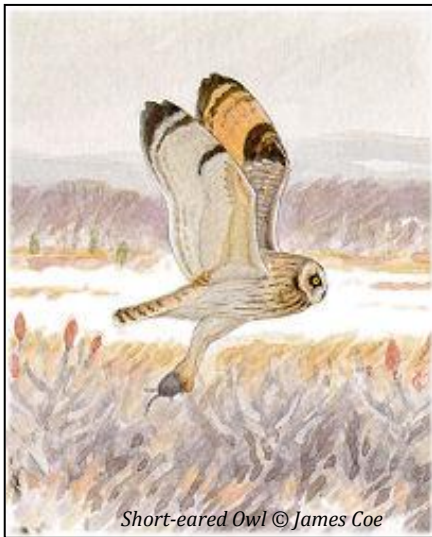
**If mowing can be delayed until fall, this may be beneficial to certain grassland insects that are still completing their development (as larvae or pupae clinging to grasses) and may be harmed during summer mowing.*

It is important to remember that nests hold the future of grassland birds and they need to be protected. In New York, in general, grassland bird breeding season is from early May through late July. Birds will begin identifying territories from late April through May. Nest building and egg laying occur through early June. Young birds tend to hatch by mid- to late-June. The ability to fly (fledge) for cover and feeding develops by early July. Some birds will have two broods, the second of which will fledge sometime in late July. During the most sensitive nesting season (from early May through late July), the nests need to be protected from human disturbance in order for populations to survive and reproduce successfully.

Habitat Requirement # 4.
*Suitable winter habitat for
wintering grassland birds.*

The two grassland bird species that are the primary targets of the Greene Land Trust's grassland birds conservation efforts, the Northern Harrier and the Short-eared Owl, are both winter residents in the grasslands of Greene County (the harrier lives here year-round; the owl only lives here during the winter months). Their primary habitat needs over the winter are large expanses of grasslands (blocks of

grasslands greater than 250 acres are essential for the owl), that are home to their main winter prey, the meadow vole.



Short-eared Owl © James Coe

It is important that these large, open habitat areas contain vegetative cover during the winter to provide habitat for these prey species. Fields left without a cover crop, like legumes, rye or cornstalks, will not support the meadow vole in sufficient numbers to support harriers or owls through the winter. These grassland wintering raptors hunt predominantly by flying low over open areas and occasionally perching. Sparsely located posts or trees around the perimeter of a grassland area can be important as resting places or observation posts from which to hunt. When there is heavy snow cover on fields, these birds may seek certain kinds of perches such as conifer trees, or evergreens, whose thick needles will help to block cold winds. Additionally, some songbirds, such as the Snow

Bunting, that breed further north, but come to Greene County grasslands for the winter months, feed in large flocks on larger grassland areas.

Finally, it is important to note that for birds, surviving the winter is hard work and so energy conservation is key. Every time a bird must spend energy by flying to catch prey, it depletes the energy it needs to stay warm. People who use grasslands in the winter can cause disturbance to wintering birds. Activities such as ATV or snowmobile use across fields, should be kept to a minimum in grassland bird habitat areas, even during the winter.



Horned Lark © Rich Guthrie

Chapter 3

Considering Grassland Stewardship on Your Property

When considering managing your property for grassland bird habitat, and potentially becoming a Grassland Habitat Steward, it is helpful to first consider a few key questions.



Do I have areas appropriate for grassland stewardship on my property?

If your property includes non-forested open space, chances are good that your property includes some type of grasslands or land that is potentially restorable to grasslands. Grasslands, and restorable grasslands, can have a variety of looks and uses. Land uses potentially suitable for grassland bird habitat could include old fields, parks, the peripheries of large sports fields, corporate parks, utility right-of-ways or public land; vacant and abandoned industrial yards; and large areas in residential ownership. Even active agricultural lands,

such as pasture, hayfields and cropland, can be managed to increase conservation efforts for grassland birds. This is sometimes referred to as “productive conservation” and can be quite successful given the appropriate balance between conservation and necessary production. Furthermore, old fields that have begun reverting to forest can often be effectively cleared of small trees and shrubs to restore the land back to grasslands. All of these lands, with the appropriate management practices and a commitment to landowner stewardship, can become viable and important habitat for declining grassland bird species.

Grasslands can come in various sizes as well. Although larger properties that contain 10 to 40 or more acres of contiguous open grasslands are ideal for habitat conservation, even smaller properties, when managed effectively, can attract grassland birds such as Bobolinks and Eastern Meadowlarks. The key to effective grassland bird habitat is conserving and managing large or smaller expanses of connected grasslands that make up a grassland landscape overall. If many smaller adjacent landowners all agree to manage their grasslands for these birds, the combined acreage could provide suitable habitat to even the area-sensitive grassland birds, such as the Short-eared Owl and the Upland Sandpiper, who need from 150-250 acres of contiguous grasslands.



Upland Sandpiper © James Coe



Would grassland stewardship affect the way I use my land?

Although lands that are not in active use (e.g., fallow farmland, old fields, unused corporate open space, etc.) will provide the best habitat for grassland birds due to the birds' more vulnerable ground-nesting behaviors, many active land uses are compatible with grassland bird habitat, including grazing, haying, passive recreation and hiking trails, bird watching and hunting. During the most sensitive time of year for grassland bird nesting, from early May through late July, special

attention needs to be given to minimizing disturbance. However, even actively used land can often accommodate planned use during this season.

When considering your land for grassland bird conservation, you may want to make a list of the many ways that your land is currently used. Then, taking a look at the recommended Grassland Management Practices listed below, consider whether or not these uses might need to be altered to promote bird conservation and what impact that may have for you, your family, and others that use your land. For example, if you currently enjoy the use of ATVs across old fields on your property, this activity may need to be limited, more closely managed, or stopped altogether during certain months. If your property is used for livestock grazing, it may be best to consider a periodic field rotation system to prevent overgrazing. If your land is currently managed as turf lawn, would it be acceptable to convert a portion or all of this open space to the less manicured aesthetic of grassland bird habitat? A realistic consideration of these types of potential land use changes is wise. In addition to considering the land use of your own property, surrounding land uses can also add or detract from ideal habitat. Surrounding open land uses such as hayfields, meadows and pastures will enhance the suitability of your land for grassland birds.

Can my property be restored to grassland?

Many different types of open space land use can be restored as grassland bird habitat by employing a few management techniques every year or every couple of years. Old fields that have been left fallow and are dominated by shrubs and saplings can be fairly easily restored to grassland with preliminary brush hogging and periodic mowing (typically, about once every 2-3 years). Land currently managed as turf lawn can also be converted to grassland habitat by removing lawn, or allowing lawn to naturalize, and seeding with more suitable grasses (see Appendix 6). Converting a manicured turf landscape or lawn



An old field undergoing succession into shrub and saplings may be restorable to grasslands.

into a grasslands can provide cost benefits to the landowner due to the reduction of intensive labor and maintenance costs of maintaining lawn.

It is important not to discount the benefits of restoring former grasslands to eastern Greene County. As this habitat continues to decline due to the loss of family farms and development pressures, the conversion of old fields to viable grassland bird habitat could make up a substantial portion of these birds' habitat needs. If your field is currently undergoing succession to shrub and early forestation, please consider the many benefits listed above of stewarding your land for grassland bird conservation, as your land could be a very important piece of the conservation puzzle.

Do I have the desire and resources to commit to, plan for, and sustain my land as grassland bird habitat for the long term?

When considering managing your land to create habitat for grassland birds, it is important to be realistic about what that means for the long term. The rewards of seeing these birds return to your land are great, but it may take several years for the birds to find and fully use the site for feeding and nesting activity. It will take patience, commitment, resources and labor on the part of the landowner to reach this goal. As you consider your decision to manage your land for grassland birds, your time and resources should not be underestimated.

In order to keep grasslands from succeeding to shrubs and then forest in the northeast, management will require in most cases, mowing equipment, periodic labor in late summer and possible re-seeding of grasses every few years. Further labor may be required or desired for the success of your conservation efforts as you consider habitat enhancements such as installing nesting boxes, planning a mowing rotation system, or creating a wet meadow habitat for grassland birds and other species.

All of these management practices, of course, are completely voluntary, and come from a willingness and desire to be a steward to the land and to grassland birds in our area. If realistic planning is done in the initial stages of your stewardship, the many benefits you gain will be all the more enjoyable and sustainable in the years to come. Please continue reading to find out the many resources offered to committed conservation-minded landowners through the Greene Land Trust's *Community Grassland Stewardship Project*.



Eastern Bluebird
© James Coe

Chapter 4

The Community Grassland Stewardship Project

As discussed in Chapter 3 above, the Greene Land Trust recognizes and appreciates the commitment a landowner makes when deciding to manage their land for grassland bird habitat. With this in mind, the Greene Land Trust has developed the ***Community Grassland Stewardship Project***, which offers assistance to grassland landowners who commit to grassland stewardship by signing a ***Grassland Habitat Stewardship Pledge***.

Project goals

The goals of the Greene Land Trust's ***Community Grassland Stewardship Project*** are to:

1. increase the acres of suitable grassland bird habitat within the eastern Greene County Grassland Conservation Focus Area; and to
2. provide incentives, support and assistance to landowners, enabling them to initiate and maintain their commitment to grassland habitat stewardship for years to come.

Research has shown that grassland birds need large, contiguous areas of grassland habitat for breeding and feeding. All grassland landowners are important to the success of this project and are encouraged to consider becoming a Grassland Habitat Steward, no matter how many acres of land you own. However, the first priority for this project will be to protect grasslands that are 40 acres or more, and land that is near the existing protected grasslands of the Cocksackie Creek Grassland Preserve.

There are many ways that any grassland landowner can invite grassland birds onto their property, large or small. Furthermore, it is the expansion of the overall grassland landscape that is key to grassland bird conservation. The more landowners, large or small, that manage their land for grassland birds, the larger the overall contiguous grassland acreage will become. There is no doubt that it will take a collective management and stewardship effort among a variety of landowners to conserve our grassland landscape and grassland birds in our area.



Eastern Meadowlark
© James Coe

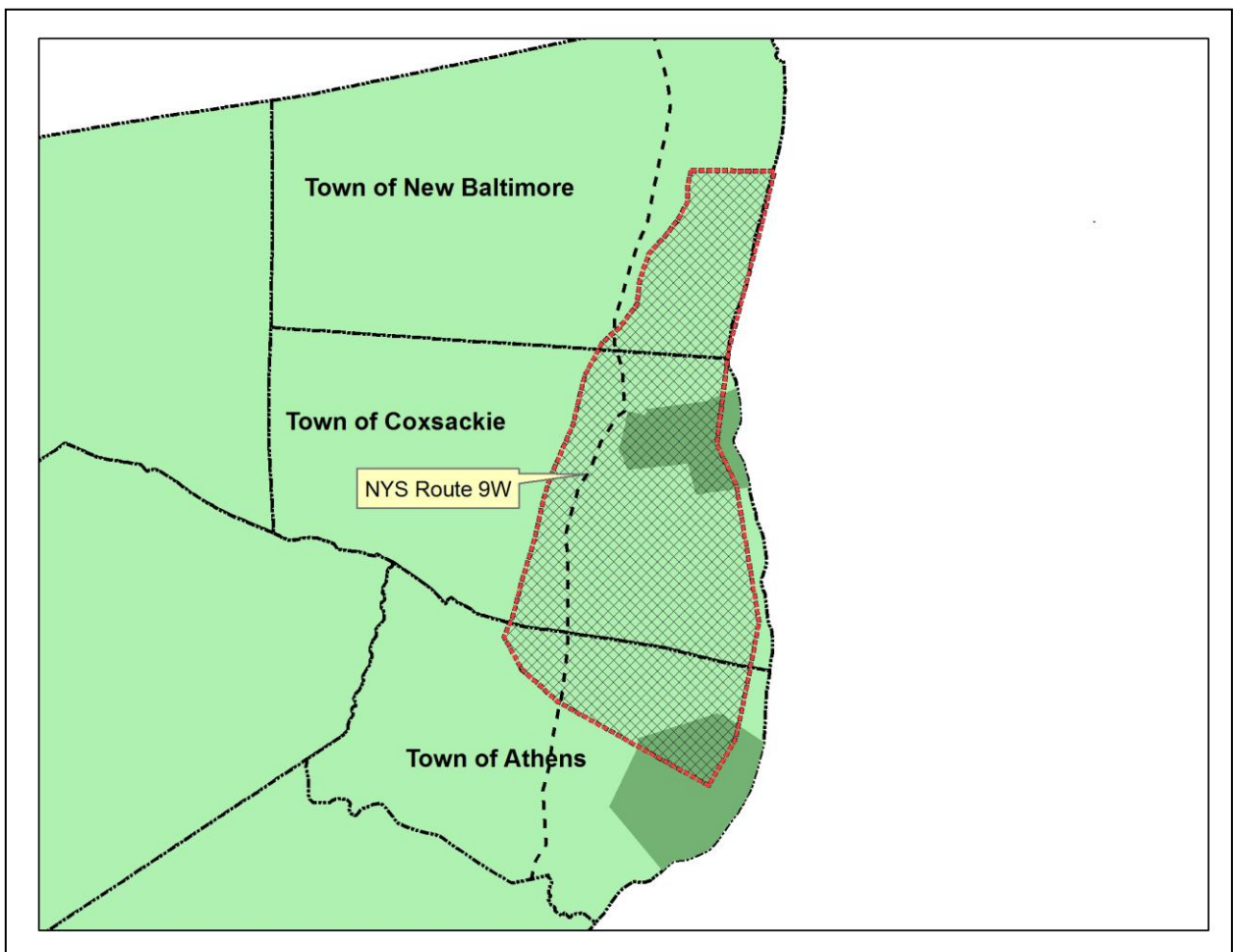
Who is eligible to become a “Grassland Steward”?

Any landowner that has all of the following attributes is encouraged to become a *Grassland Habitat Steward* through the *Community Grassland Stewardship Project*:

1. has 10 or more acres* of grasslands, or land that is restorable to grasslands; and,
2. has land located in the Greene County Grasslands Conservation Focus Area (see map); and,
3. signs the voluntary “Grassland Habitat Stewardship Pledge” (see below).

*Landowners with less than 10 acres of grassland or restorable grassland are encouraged to contact the Greene Land Trust for stewardship recommendations and resources. These landowners are also encouraged to join efforts with their neighbors to increase the total acreage in grassland stewardship.

Greene County Grasslands Conservation Focus Area Map



Grassland Habitat Stewardship Pledge:

As a Greene Land Trust “Grassland Habitat Steward”, I pledge to:

1. Conserve and manage grasslands on my property to provide suitable habitat for grassland birds and other wildlife;
2. Keep disturbance of grasslands on my property to a minimum, when practical, especially during grassland bird nesting season (early May through late July);
3. Work in partnership with the Greene Land Trust to develop a Habitat Management Plan (HMP) for grasslands on my property and follow this HMP to the best of my ability;
4. Seek conservation assistance if needed;
5. Consider renewing my Stewardship Pledge with the Greene Land Trust once every five (5) years.

Landowner: _____ Date: _____

Greene Land Trust: _____ Date: _____
Rene Van Schaack, Executive Director

*Thank you for your voluntary commitment to grassland habitat stewardship
and the conservation of grassland birds in Greene County!*



270 Mansion Street, Coxsackie, NY 12051
518-731-5544

www.greenelandtrust.org

This agreement is strictly voluntary and non-binding.

The benefits of becoming a “Grassland Habitat Steward”

Becoming a Grassland Habitat Steward will have many benefits for the landowner, both tangible and intangible. To encourage landowners to consider becoming Grassland Habitat Stewards, the Greene Land Trust is offering a collection of both services and incentives to landowners to show appreciation and offer support for their conservation efforts.

- First, Greene Land Trust will work with the Steward to develop a site-specific **Habitat Management Plan (HMP)** for their property that balances grassland bird conservation with the owner’s land use goals and needs (see Chapter 6 for details).
- Grassland Habitat Stewards will also be given attractive **Grassland Habitat Steward Property Signage** (see at right) that beautifully shows that the land is being managed for the conservation of grassland birds. These signs will communicate the landowner’s commitment to stewardship in the community as well as educate passers by about this important local effort.
- Grassland Habitat Stewards will receive a copy of this landowner guide, “**Conserving Grasslands Habitat: A Landowner’s Guide**” and will receive periodic updates for the guide to help direct future stewardship efforts.
- In addition, Grassland Habitat Stewards will receive an attractive and useful poster, “**Grassland Birds of Greene County**”, that will help stewards to identify grassland birds that use their grassland habitat as conservation efforts gain results. Art for this poster is generously provided by nationally acclaimed local artist, James Coe (www.jamescoe.com).
- Stewards will also be recognized in Greene Land Trust’s publications, newsletters and website, with periodic “**Grassland Steward Stories**” featuring Stewards’ experiences with grassland bird conservation management.
- **Technical assistance** to Grassland Stewards will be provided when possible and when funds allow. Based on recommendations in their HMP and the management goals of the Steward, assistance could include mowing, brush-hogging, tree removal, grass seeding, habitat enhancement, and wet meadow creation.
- More importantly, by becoming a Grassland Habitat Steward you are contributing to a community conservation effort that succeeds by the collective contributions of many committed landowners. You will also be rewarded by the **songs and sight of the beautiful and majestic grassland birds** for which you are managing your land.



Six Steps to Becoming a Grassland Habitat Steward

Thank you for considering becoming a Grassland Habitat Steward. The following steps outline how the program works:

Step 1. Sign the Grassland Habitat Stewardship Pledge

Once you have read and considered the stewardship and management recommendations in this guidebook, staff at the Greene Land Trust will answer any questions you may have. Please call us at 518-731-5544 or send us an email at info@greenelandtrust.org. If you decide to voluntarily manage your land to the best of your ability for grassland conservation as defined in the **Grassland Habitat Stewardship Pledge**, you may sign the pledge in partnership with the Greene Land Trust. Congratulations! Signing this pledge initiates your important role in conserving grassland habitat in eastern Greene County – thank you!

Step 2. Development of your Habitat Management Plan

Once the Grassland Habitat Stewardship Pledge is signed, Greene Land Trust will work with you to develop a basic **Habitat Management Plan (HMP)** with management practices tailored to your property for your use. An aerial photograph and/or a map of your property will be included in the HMP to help illustrate the plan along with a suggested timeline for action items.

Step 3. Display your new Grassland Habitat Steward property signs and poster to show your conservation efforts.

Grassland Habitat Stewards will be given one or several (depending on the size of your property) attractive “**Grassland Habitat Steward**” signs to post on your property, if desired. You’ll also receive a useful “**Grassland Birds of Greene County**” poster to help you and your family watch for grassland birds that begin to use your grasslands as their home. In addition, you can use this landowner guide as a resource for stewardship as you continue to manage your property for grassland bird habitat. The Greene Land Trust will send you updates for your guidebook so that you can stay current on management techniques and other resources.

Step 4. Begin implementing your Habitat Management Plan.

Your Habitat Management Plan will clearly outline when and how to manage your land to maintain and increase its suitability for grassland birds. The HMP will also include a timeline for you to voluntarily follow along with suggestions for ways to continue enhancing your grassland habitat. When finances and resources allow, the Greene Land Trust may be able to offer you some technical assistance with grassland restoration and habitat enhancement projects as recommended in your HMP. This assistance may include activities such as mowing, brush hogging, restoring hydrology to a wet meadow condition, tree line removal, planting evergreens for roosting, grass seeding, etc.

Step 5. Watch and listen for grassland birds!

As a Grassland Habitat Steward in Greene County, you are an integral part of the conservation landscape and can contribute even further by monitoring your land for signs of grassland bird populations and trends over time. Please read both **Chapter 7 and Appendix 9** to explore the ways in which you can assist with monitoring birds right on your property. The Greene Land Trust encourages you to record your findings and to share them with us so that we can assess how grassland birds are responding to habitat stewardship across the landscape. You don't need to be a bird expert or a scientist to become an important citizen monitor – in fact, some of the most useful information collected on bird population dynamics comes from conservation-minded landowners like you. Your findings can help inform local, regional and state bird conservation efforts in a very important way.



Step 6. Share your stewardship experiences.

Please keep in touch with the Greene Land Trust and share any experiences or stories related to your bird conservation efforts. We will periodically publish a series of “**Grassland Habitat Steward Stories**” in our newsletter and on our website to help share landowner conservation experiences, successes and challenges. Visit the Grassland Landowner Stewardship pages at www.greenelandtrust.org to stay tuned to local and state grassland bird conservation efforts and keep in touch! The Greene Land Trust will reach out to all Stewards periodically after their initial pledge-signing to review the property's HMP, answer any questions or make adjustments to the HMP, and to re-sign the pledge (after 5 years), if desired by the landowner.

Chapter 5

Recommended Grassland Management Practices

(Will vary according to land use and needs/goals of landowner and should be consistent with the property's Habitat Management Plan.)



How could I manage my land better for grassland bird habitat and other grassland wildlife?

Although your land may already be providing good habitat for a variety of songbirds, a few simple management practices can go a long way to providing good habitat for declining grassland bird species and other important grassland wildlife. Assessing how your land can offer the best possible habitat to grassland birds is the first step to inviting these birds back into the landscape.

Depending on how the land is being used, there may be some management practices that are just not feasible. It is not necessary to adhere strictly to all of the practices outlined below, but rather to find a balance of techniques that are complementary to how your land is used in relation to what the birds may need. Grassland birds do have particular habitat preferences, but a close approximation to ideal habitat will encourage many species to use your land for at least some of their life-cycle needs such as foraging, hunting, nesting and breeding.

How do I know which management practices to use?

The recommended Grassland Management Practices listed below are to be used as a guide. When you sign the “Grassland Habitat Stewardship Pledge” and become a Grassland Habitat Steward, the Greene Land Trust will assist you in choosing management practices that are most important and most practical for your Habitat Management Plan.

1. Consider the practices listed in **Section 1** below, “Grassland Management Practices Critical for Grassland Bird Conservation”. It is important to incorporate as many practices found in this section as possible, as these will help to ensure suitable habitat and breeding success in your grasslands.
2. If your land is actively used for hay production, grazing or active crop farming, skip to **sections 4, 5, and 6** to find ideas on how to provide suitable bird habitat with practices that are coordinated with your land's production needs.
3. Consider practices in **section 2**, which suggests additional practices that are not crucial for grassland birds, but will provide useful habitat benefits.
4. If you have wetlands, wet meadows, streams or other water bodies within or adjacent to your grasslands, consider the practices outlined in **Section 3** that will help to protect the water and the birds and other wildlife that depend on it.

5. Once you have established which combination of management practices compliment both your needs and those of grassland birds, write them down in the form of a Grasslands Habitat Management Plan so the steps are easy to follow and can be referred to from year to year. See **Chapter 6** in this guidebook for an **Example Grasslands Habitat Management Plan**.

Recommended Grassland Management Practices for Habitat Conservation

1. Grassland Management Practices Critical for Grassland Bird Conservation:

- a. Mow grasslands after August 1st to protect nesting birds (breeding season is from early May to late July), and then at least every 2-3 years to prevent establishment of woody vegetation. Clear woody vegetation in grasslands, if necessary, by mowing, brush-hogging or cutting shrubs, brush, saplings and small trees. Widely scattered trees or shrubs (approximately 5% of total grassland), especially evergreens, are ok to leave for roosting.
- b. Practice rotational mowing to limit disturbance to ground nests.
- c. Mow from center of field in a circular motion out toward the edge; birds and other wildlife will be more likely to flush away from the mower toward the safer outer edges.
- d. Keep grassland area as undisturbed as possible throughout the year and especially during the nesting season (early May through late July). Quiet activities such as hiking or bird watching are ok, but loud, disruptive activities such as ATV use will be harmful to birds.
- e. Plant grass seeds, if necessary, to ideally establish and maintain a diversity of grass heights (from 5" to 20") and densities to be used for cover, nest-building materials, and provide insect forage. Warm season grasses can be difficult to establish and studies have shown they are not critical for grassland birds. Cool season grasses (native and/or introduced species) are easier to establish and seem to suit most grassland birds well; thus, cool-season grasses are recommended. Find seed mix recommendations and nurseries in Appendix 6, Tables 1 and 2.
- f. Keep wildflowers (forbs) to a minimum (approximately 10% forbs or less is recommended). Grasses should be dominant. Forbs include thistle, goldenrod, teasel,



daisies, asters, buttercup and other leafy non-grass plants. See Appendix 6, Table 3, for a list of native forbs, or wildflowers, suitable for grasslands.

- g. Allow conventional turf grass (lawn) to revert to grasslands. The removal of turf may be necessary in some cases. Seed area with mix of desired grasses as discussed above. If restored grassland will be in an area where an “ordered” aesthetic is desired (near homes or businesses), consider attractive, wildlife-friendly fencing around the grassland area and signage to communicate conservation purposes.
- h. Consider removing hedgerows between smaller fields to enlarge the visible habitat area for breeding birds. Treed hedgerows often are seen as “walls” by birds that cannot see beyond them to adjacent habitat and also provide corridors for nest predators.
- i. Designate conservation area as pesticide-free and herbicide-free; reduce or eliminate in-organic fertilizer (these chemicals reduce insects used for food and may harm birds as well as negatively alter desired plant species composition).
- j. Monitor for invasive species such as honeysuckle, autumn olive, buckthorn, and pale and black swallowwort. Early detection and rapid response are crucial in the effective control of invasive species. Consult with an environmental professional for control and treatment options. See Appendix 4 for more information.



2. Additional Management Practices Helpful for Grassland Bird and other Wildlife Habitat:

- a. Install nest boxes to improve nesting success for certain grassland birds that do not nest on the ground (American Kestrels, Barn owls, Eastern Bluebirds, and Tree Swallows can be nest box users).
- b. Help to reduce nest predation risks. House cats should be kept indoors and/or wear bells. Do not feed cats/dogs outdoors or leave garbage out for prolonged periods as these will attract unwanted pests and nest predators (raccoons, etc).
- c. If possible, delay mowing until most plants are dormant in the fall to eliminate potential loss of insects, or invertebrates such as butterflies, bees, etc., that may be in larval or pupa stages affixed to grasses.



- d. Create wet meadow areas to enhance habitat. This could be done by plugging an old drainage ditch or removing drainage tiles to redirect water onto the land. Note: Most changes to a site's hydrology (drainage swales, ponds, wetlands, streams, etc.) are regulated by State and Federal law and require a permit. Consult with a natural resource professional that can help with required permitting if necessary.
- e. Install occasional perching posts at the perimeter of grasslands for singing and hunting; useful for some grassland bird species.
- f. Maintain or create occasional bare soil or gravel beds within the grassland area, as they are useful for some grassland birds for nesting and for other wildlife.
- g. Post conservation signage on grassland property to educate the public and increase awareness of grassland bird habitat stewardship.



3. Wet Meadow, Wetland and Stream Management Practices within Grasslands

- a. Maintain a vegetated buffer zone of 20-60 feet between agricultural uses and wetlands to protect water quality; a buffer of 300 feet is preferable to provide wildlife habitat benefits as well as control pollutants.
- b. Seed wetland vegetation in areas considered wet meadows or wetlands to increase habitat diversity. Plants to consider for wet areas include, but are not limited to sedges, asters, sensitive fern, blue flag, blue vervain and sweetflag (see Appendix 6, Table 3). Many of these wetland plants are flowering and will provide additional aesthetic value. Avoid the use of invasive plants listed in Appendix 4.
- c. Create or restore wet meadow area. Note: Most changes to a site's hydrology (drainage swales, ponds, wetlands, streams, etc.) are regulated by State and Federal law and require a permit. Consult with a resource professional that can help with required permitting if necessary.



- d. Watch for invasive species in wetlands and wet meadows such as purple loosestrife, reed canary grass and phragmites. Consult with an environmental professional for control and treatment options. See Appendix 4 for more information.
- e. Restore stream sinuosity, or the naturally occurring back and forth meanders of a stream that may have been straightened for agricultural drainage, to create habitat for aquatic life. Consult with a resource professional that can help with required permitting if necessary.
- f. Stabilize streambanks by planting vegetation along banks. Consult with a resource professional that can help with required permitting if necessary.
- g. Keep livestock out of streams with wildlife-friendly livestock fencing (that allows safe passage of wildlife).

4. Grassland Management Practices Coordinated with Hay Production

(Note: a site-by-site analysis would need to be done to assess necessary farm productivity and balance conservation goals)



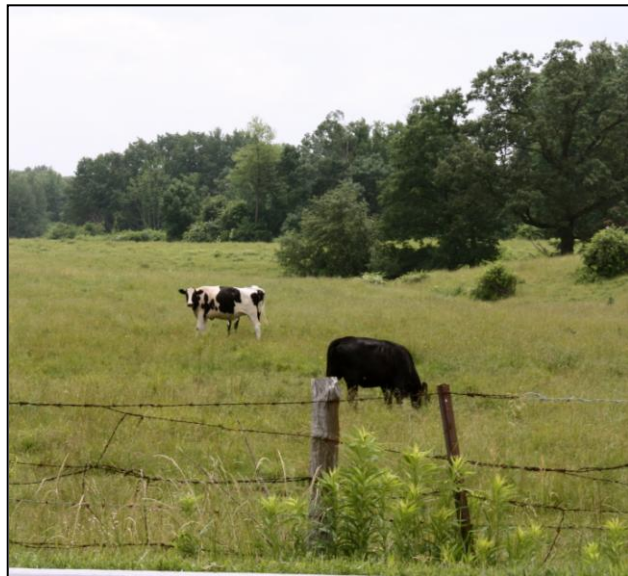
- a. Integrate as many of the General Grasslands Management Practices above as practical.
- b. If possible, delay hay cutting in some hayfields until after grassland birds have left the nest or fledged (mid-July).
- c. If mowing must occur earlier, leave some unmowed strips or patches if possible.
- d. Practice field edge conservation by leaving a perimeter Grass Buffer Zone of land out of production (approximately 36' around fields), planted in perennial cool-season grasses, to provide bird habitat until July 15th (after birds have fledged). These uncultivated grassy edges can provide habitat for breeding birds and other wildlife as well as provide soil protection, erosion control, and water quality protection and can be harvested, hayed or mowed after July 15th.
- e. Identify any excess fields that may not be critical for early hay mowing (can be mowed late for bedding straw, etc.), or are usually too wet for early hay mowing and cut these fields after mid-July.
- f. If mowing is necessary during peak breeding season (late June to mid-July) raise mower blades six inches or more, use flushing bars, and avoid night mowing when birds are nesting to help reduce bird mortality.

- g. Rotate hayfields that are mowed early in the season annually with those that are mowed late in the season.
- h. Consider planting late-maturing varieties of grasses when re-establishing hayfields to reduce loss of hay nutrition from late-season cutting.
- i. Allow hayfields to grow back in the autumn through late spring. Taller grass in spring is preferred by some breeding birds, such as Bobolinks and taller grasses during the winter typically provide better feeding habitat for wintering hawks, harriers and owls.
- j. Avoid cutting hay or mowing on wet soils.

5. Grassland Management Practices Coordinated with Grazing Use

(Note: a site-by-site analysis would need to be done to assess necessary farm productivity and balance conservation goals)

- a. Integrate as many of the General Grasslands Management Practices above as practical.
- b. Practice field edge conservation by leaving a perimeter Grass Buffer Zone of land out of production (approximately 36' around fields), planted in perennial cool-season grasses, to provide bird habitat until July 15th (after birds have fledged). These uncultivated grassy edges can provide habitat for breeding birds and other wildlife as well as provide soil protection, erosion control, and water quality protection and can be harvested, hayed or mowed after July 15th.



- c. Avoid overgrazing pastures; rotate livestock regularly to allow re-growth of grasses to maintain forage and cover quality for grassland birds.
- d. Maintain livestock stocking rate so pasture grasses are not over-grazed during the spring and peak breeding season (e.g., approximately 1 head of mature cattle per 1 acre of pasture).

- e. Maintain a high variety of perennial grasses comprised of a mix of at least three varieties of grass species (about 60-90% cool season grasses and about 30-10% legumes and other forbs).
- f. If mowing is necessary during peak breeding season (late June to mid-July) raise mower blades six inches or more, use flushing bars, and avoid night mowing when birds are nesting to help reduce bird mortality.

6. Grassland Management Practices Coordinated with Active Crop

Farming Use *(Note: a site-by-site analysis would need to be done to assess necessary farm productivity and balance conservation goals)*

- a. Integrate as many of the General Grasslands Management Practices above as practical.
- b. Plant a winter cover crop to improve conditions for small mammals prey species.
- c. Practice cover cropping in unused fields to provide habitat, decrease soil erosion and increase organic matter and soil fertility.



- d. Practice strip cropping by alternating strips of grass or close-growing crops with cultivated crops, leaving these areas unplowed during the nesting season.
- e. Practice conservation tillage maintaining at least 30 percent of the soil covered by plants or plant residue providing food and shelter for wildlife. Decreasing tillage reduces soil erosion, saves fuel and time, conserves soil moisture and improves wildlife habitat (note: if this practice causes a need for more frequent herbicide use, the benefits need to be weighed).
- f. If possible, leave some fields out of production each year to provide wildlife habitat.
- g. Practice field edge conservation by leaving a perimeter Grass Buffer Zone of land out of production (approximately 36' around fields), planted in perennial cool-season grasses, to provide bird habitat until July 15th (after birds have fledged). These uncultivated grassy edges can provide habitat for breeding birds and other wildlife as well as provide soil protection, erosion control, and water quality protection and can be harvested, hayed or mowed after July 15th.

- h. Reduce the number of passes that farm machinery makes through crop fields or increase the interval between passes to at least 3.5 weeks to allow time for a typical nesting cycle.
- i. Remove unnecessary hedgerows, or portions of hedgerows, that divide fields to create larger habitat areas.
- j. Consider alternative crops. For example, native warm-season grasses grown as biomass energy crops is being explored and can improve bird diversity compared to conventional row crops. In addition, the demand for hay and straw is increasing to meet the requirements of erosion control regulations and may provide a growing market opportunity.
- k. Consider participating in conservation incentive programs offered by the state to set aside or manage land for wildlife, such as the Wildlife Habitat Incentive Program (see Appendix 8 for more information).
- l. Maintain a vegetated buffer zone of 20-60 feet between agricultural uses and wetlands to protect water quality; a buffer of 300 feet is preferable to provide wildlife habitat benefits as well as control pollutants.

Chapter 6

Developing a Grassland Habitat Management Plan

Once you have committed to managing your grassland for grassland bird habitat and you have signed the ***Grassland Habitat Stewardship Pledge*** (found at the end of this guidebook), staff at the Greene Land Trust will work with you to develop a Habitat Management Plan for your property. A Habitat Management Plan (HMP) is a written plan developed in partnership with the Greene Land Trust and the landowner to establish grassland management practices that you can voluntarily follow to maintain and/or improve your property's suitability for grassland bird habitat.

The HMP is site-specific and will most often require a site visit by Greene Land Trust staff. While walking the property and talking with you, the Greene Land Trust will identify grassland bird habitat conservation goals and recommended management practices with a suggested management schedule. As part of the HMP, an aerial photo and/or a map of the property will be provided as well, to help illustrate current conditions and management recommendations.

Every HMP will be unique and appropriate to the specific land use, as well as the goals and needs of the landowner. For example, some HMPs for smaller fields that are not actively used will be brief and focus on recommendations for bi-annual mowing and the need for no disturbance during the nesting season. HMPs developed for pastureland or actively farmed properties might involve more details such as a breakdown of mowing schedules for several separate fields on the property and suggestions for alternative farming techniques such as conservation tillage or field edge conservation. HMPs for properties that include wet meadows or other wetland areas will also include wetland management practices for the landowner to consider.

Although there is potential for wide variety, the format for the HMPs will generally be the same. The following is an example HMP for a landowner with an old field. It illustrates just one of many various types of Grassland Habitat Stewards that we hope to involve in the ***Community Grassland Stewardship Project***.

Example Grassland Habitat Management Plan

Community Grassland Stewardship Project Greene Land Trust

Grassland Habitat Management Plan

HMP # 32

Owner/Grassland Habitat Stewards: John and Jane Smith

Address/Phone/email: 333 Grassland Lane, Athens, NY

Date enrolled as Grassland Habitat Steward: August 10, 2010

Grassland acres under stewardship: 47

Purpose: The purpose of this grassland Habitat Management Plan is to provide the landowners named above recommendations for maintaining habitat suitable for populations of grassland birds on their property. The sections below provide a description of the grasslands on the property, a list of grassland birds that may use the property, and a description of actions recommended to provide habitat characteristics suitable for sustaining breeding populations of grassland birds that can be followed voluntarily by the landowner over time.

Current site description: The 47 acres of grassland owned by John and Jane Smith is predominately former farmland (pasture) with two patches of fairly uniform vegetation, separated by a treed hedgerow. The grasslands are currently providing suitable habitat for breeding grassland birds and winter habitat, but does contain some early shrub and sapling growth. No invasive upland grassland species have been found. The property includes a 4 acre wet meadow area on the southwest portion of the site dominated by purple loosestrife, which is an invasive plant that degrades habitat.

Current and planned land use: The landowners plan to continue using the grasslands for passive recreation purposes and do not foresee conflicts with their desired land use and the conservation goals for grassland birds. The landowners would like to consider converting much of their 5-acre lawn into grassland bird habitat to increase the acres in conservation and decrease their landscaping costs. The landowners have two dogs and a house cat.

Grassland birds: Grassland bird species that may be breeding on the property include Bobolink, Eastern Meadowlark, Savannah Sparrow, and Eastern Bluebird. Additional species that may be breeding in the vicinity of the property, and may use the property for some habitat needs, include Northern Harrier, and Grasshopper Sparrow (standing water in the wet meadow area will be particularly attractive to the Northern Harrier).

Grassland Bird Habitat Conservation Goals: The overall management goals for this grassland property are:

- maintain the open, grassy conditions necessary for successful breeding by the grassland bird species mentioned above; and,
- leave the grassland area as undisturbed as possible during the breeding season (early May through late July) so as to encourage breeding success of grassland birds; and,
- enhance the grassland bird habitat where possible and practical.

Recommended habitat improvements: In order to maintain the grasslands in their current grassy state, remove small shrubs or saplings, and discourage the continued growth of woody shrubs and saplings, mowing the first year (after August 1st) and then again every 2-3 years will be necessary maintenance for grassland bird habitat. Attributes of the site that can be improved to further increase the suitability for grassland birds include the removal of the treed hedgerow between the two grassland areas and the control of invasive purple loosestrife in the wet meadow area. The landowners are also considering converting about 4 acres of turf lawn near their house into natural grasslands, which would further increase suitable habitat area. Additional habitat enhancements, such as keeping the family pets away from breeding areas, are suggested in the table below.

Commitment of the Grassland Habitat Steward landowner: As a Greene Land Trust “Grassland Habitat Steward”, the landowner pledges to voluntarily conserve and manage grasslands on his/her property to provide suitable habitat for grassland birds and other wildlife; keep disturbance of grasslands on his/her property to a minimum, when practical, especially during grassland bird nesting season (early May through late July); work in partnership with the GREENE LAND TRUST to develop a Habitat Management Plan (HMP) for grasslands on his/her property and follow the HMP to the best of his/her ability; and to seek conservation assistance if needed. The landowner will also consider renewing his/her Stewardship Pledge with GREENE LAND TRUST once every five years.

Commitment of the Greene Land Trust: The staff of the Greene Land Trust are committed to supporting and assisting the Grassland Habitat Steward by providing helpful resources and assistance through the *Community Grassland Stewardship Project* and the landowner’s site-specific Habitat Management Plan. When resources allow, the Greene Land Trust will also provide assistance to the landowner with certain grassland management practices as designated in the table below.

Example Recommended Management Practices and Schedule

Schedule	Recommended management practice	Necessary for grassland bird habitat	Helpful to enhance habitat	GLT assist?
Year 1, then every 2-3 years	After August 1 st (to avoid the breeding season from early May to late July), mow or brush-hog grasslands the first year and then every 2-3 subsequent years to prevent establishment of woody vegetation.	X		X
Year 1	Post Grassland Habitat Steward property signs on property.		X	
Year 1, then every 2-3 years	Mow from center of field in a circular motion out toward the edge; birds and other wildlife will be more likely to flush away from the mower toward the safer outer edges.		X	X
Year 1	Consider removing hedgerows between fields to enlarge the visible habitat area for breeding birds. Treed hedgerows often are seen as “walls” by birds that cannot see beyond them to adjacent habitat and also provide corridors for nest predators.		X	X
Year 1	Install 4 bluebird nesting boxes (in pairs) scattered within grasslands.		X	X
Each year	Monitor grasslands for grassland birds and breeding behaviors and submit information to GLT (www.greenelandtrust.org).		X	
Each year	Keep house cat indoors. Consider putting a bell on cat’s collar in case it does go outdoors.	X		
Each year	Keep grassland area as undisturbed as possible during the nesting season (early May through late July). Quiet activities such as hiking or bird watching are ok, but loud, disruptive activities such as ATV use will be harmful to nesting birds.	X		
Year 2	For the control of Purple loosestrife in			X

	wet meadow area, consult with GLT or other environmental professional for control and treatment options. Reseed with wetland plants once treated.			
Year 2	For the lawn area to be converted to grasslands, allow conventional turf grass (lawn) to revert to grasslands by introducing a recommended seed mixture (see Guidebook, Appendix 6). The removal of turf may be necessary in some cases to establish desired grass mix.		X	
Year 2	To create a more “ordered” aesthetic around grasslands near the home, consider attractive, wildlife-friendly fencing and signage to communicate conservation purposes.		X	
Year 2	Consider electric fencing for dogs in order to keep them out of conservation areas when unsupervised.	X		
When desired	Keep in touch with GLT on your progress and success! We’d love to hear your Grassland Habitat Steward Story and see photos of birds and grasslands.			

Chapter 7

Volunteer Grassland Bird Monitoring Opportunities

The best way to know if your land is being used for grassland bird habitat (nesting, hunting, roosting, etc.) is to conduct simple bird monitoring or observations on your land at various times during the year. You don't need to be an expert birder to gather useful information about birds on your land. If you commit to keeping track of seasonal and annual observations on a regular basis, you may begin to notice important trends. This information is not only useful in directing and adjusting your management practices on your own property, the information is also helpful to the Greene Land Trust, the NYS Department of Environmental Conservation and others who are interested in the conservation success of grassland birds in Greene County.

Conducting bird observations on your property can be very enjoyable as you begin to learn how to identify the different birds that use your land and notice how your management practices can positively influence their habitat. If you would like to conduct grassland bird observations on your property, see **Appendix 9** in this Guidebook for instructions and data sheets for our summer and winter observation program, as well as images of grassland birds with identification information about each bird. This information is also available on the Greene Land Trust website at ww.greenelandtrust.org. We very much appreciate your help in tracking how grassland birds are doing in our area and finding out how stewardship practices are affecting bird populations locally.

Some help with Identifying Grassland Birds in the Field

Summer and winter grassland bird residents:

Are grassland birds using your property? When answering this question, it is important to consider that there are different birds that use New York State grasslands during different seasons. Some birds, such as the Eastern Meadowlark and the Savannah Sparrow, use grasslands exclusively in the summer for feeding and breeding, then migrate to southern states for the winter. Some birds, such as the Northern Harrier, use grasslands in both the winter and summer. And some birds, such as the Short-eared Owl, use NY grasslands primarily in the winter months. Monitoring for these birds during both seasons is important and can provide useful information to scientists about suitable grassland habitat in Greene County.

Identifying raptors by sight:

The two grassland birds that are the focus of this conservation effort – the Northern Harrier and the Short-eared Owl – are both raptors, or birds of prey, and are usually identifiable in

the field by noting their distinct markings and flight characteristics (see the bird fact sheets in Appendix 5 as well as the Grassland Birds of Greene County fact sheet found at the end of Appendix 9). Although the Northern Harrier may be breeding in our area in the summer, the Short-eared Owl only visits us in the winter months and thus, the best time to see these raptors is the winter when they are out hunting for prey. If you look closely, you may spot Northern Harriers during the summer breeding months, especially around wetlands, as they make their home in Greene County grasslands all year round.

Identifying songbirds by sound:

Because migratory grassland songbirds, that visit Greene County in the summer months, are characterized by their reclusive nature, and because they tend to be small with less distinct markings, even an experienced birder may have difficulty identifying them by sight. However, listening for the distinctive songs of these birds, especially when walking quietly during the morning hours of spring and summer, will help you identify whether or not grassland birds are using your property. To hear examples of grassland bird songs, visit the Greene Land Trust website for links to Cornell Lab of Ornithology's "All About Birds" pages that include photographs, habitat requirements and other information as well as helpful recordings of bird songs. (www.greenelandtrust.org, www.allaboutbirds.org).

Volunteer/Citizen Bird Monitoring Opportunities:

Greene Land Trust: The Greene Land Trust is interested in receiving information from volunteer Grassland Habitat Stewards about grassland birds they observe on their property including sightings and general bird behaviors. Find out more about how to send us your observations in **Appendix 9**. Please give the Greene Land Trust a call so we can keep an eye out for your data sheets!

Audubon Christmas Bird Count: Each year, on one day between December 14th and January 5th, local bird counts are done across the nation by thousands of volunteer birders lead by local birding experts. There is a specific methodology to the Christmas Bird Count (CBC), but anyone can participate. The count takes place within "Count Circles", which focus on specific geographic areas. If your home is within the boundaries of a Count Circle, then you can report your bird count from home. For information on, and to participate in, this year's CBC in the Catskill-Coxsackie Count Circle, contact Rich Guthrie at gaeltic@capital.net and visit: <http://www.audubon.org/bird/cbc/getinvolved.HTML>

eBird: eBird is a real-time online checklist program operated by the Cornell Lab of Ornithology and National Audubon Society. eBird's goal is to maximize the utility and accessibility of the vast numbers of bird observations made each year by recreational and professional bird watchers. Through these recorded observations, eBird is amassing a large data resource about bird abundance and distribution to be used by

scientists, land managers, ornithologists and conservation biologists. A participating birder enters when, where and how they went birding, then fills out a checklist of all the birds seen and heard during the outing. Submissions are reviewed by regional bird experts. Visit eBird at: <http://ebird.org/content/ebird> or the New York eBird at: <http://ebird.org/content/ny/>

Follow and Comment on Rich Guthrie's Birding Blog: Rich Guthrie is a local birding expert with years of detailed knowledge about birds in our area. As he provides his observations and insights through this Times Union blog, you can learn and provide your own comments and observations.

<http://blog.timesunion.com/birding/>

NestWatch is a continent-wide citizen-science project and nest-monitoring database of the Cornell Lab of Ornithology, funded by the National Science Foundation and developed in collaboration with the Smithsonian Migratory Bird Center. If you find a nest that you would like to monitor, first read the "Nest Monitor's Code of Conduct", which will provide you with the proper monitoring protocol so that you cause no harm to the nest, the parent birds, or the nesting process. You will be asked to check the nest every 4-5 days and enter data electronically for their database.

<http://watch.birds.cornell.edu/nest/home/index>

Hudson-Mohawk Bird Club's Birdline of Eastern New York (call 518-439-8080 or email to birdline@hmbc.net): This phone message is sponsored by the Hudson-Mohawk Bird Club and is updated at least once per week. For unusual sightings, include the number of each species, location of the sighting, date, your name and how to contact you. Callers will hear a report of birds sighted in our area during the last week and have the opportunity to record their sightings. HMBC programs and field trip announcements are also included on the message.

<http://www.hmbc.net/>

The HMBC also hosts a Yahoo discussion group for reporting and discussing bird sightings in the eleven counties surrounding Albany NY (including Greene County).

<http://groups.yahoo.com/group/hmbirds/>

FeederWatch is a winter-long survey of birds that visit feeders at backyards, nature centers, community areas and other locales in North America. FeederWatchers count the birds they see at their feeders from November through early April and send their counts to Project FeederWatch where the data helps scientists track broadscale movements of winter bird populations and long-term trends in bird distribution and abundance. FeederWatch is operated by the Cornell Lab of Ornithology and Bird Studies, Canada.

<http://www.birds.cornell.edu/pfw/index.html>

Chapter 8

The Greene Land Trust and other Grassland Conservation Efforts



Who is the Greene Land Trust?

The mission of the Greene Land Trust is to preserve and protect significant natural and cultural resources in and around Greene County, New York. The Trust's goal is to provide substantial public benefit in identifying and protecting important resources while demonstrating a flexible and exemplary partnership with all stakeholders.

The Greene Land Trust has an origin deeply rooted in collaboration and partnerships. Since its establishment in 2004 as a 501(c)(3) not-for-profit organization, the Greene Land Trust has worked cooperatively with a wide range of partners to facilitate a balance between sound development and effective preservation through various projects such as the Coxsackie Creek Grassland Preserve in Coxsackie and New Baltimore (see Appendix 3), the acquisition of the historic Willows at Brandow's Point in Athens, and the Community Grassland Stewardship Project for which this landowner guide was created. The Greene County Habitat Advisory Committee, a diverse group of local environmental leaders and officials, remains an active participant in guiding certain projects of the Greene Land Trust, including the Community Grassland Stewardship Project.

Local and regional Grassland Conservation efforts:

Greene Land Trust's Coxsackie Creek Grassland Preserve: As described above, in eastern Greene County, the establishment of the 350 acre Coxsackie Creek Grassland Preserve (CCGP) in 2004 was a strong first step toward protecting grassland habitat in this important local area. The preserve is located primarily in Coxsackie but has the potential to extend into New Baltimore and Athens. It is owned and maintained by the Greene Land Trust with dedicated funding sources established through creative tax revenue sharing agreements. The CCGP includes over 12 acres of constructed wetlands established with habitat enhancement goals, wetland plantings and hydrology enhancements to increase habitat function, and a biological control program for purple loosestrife. The Preserve is currently being used by researchers to monitor local grassland bird populations and planning is underway for public



The Coxsackie Creek Grassland Preserve is owned and managed by the Greene Land Trust

recreation use in appropriate sections of the preserve. This Landowner Guide is part of an effort to support and assist private landowners whose lands are contiguous to, or near, the CCGP to manage their land for grassland bird conservation, thereby effectively expanding the habitat suitability of the CCGP as a larger habitat patch in combination with private grasslands (see Appendix 3 for more information).

The Greene County Habitat Management Plan

The primary goal of this plan, initiated in 2004 by the Greene County Soil and Water Conservation District with a number of partners, was to foster a better understanding of habitat types and the potential threats they face within eastern Greene County. With increasing development pressures in the area, a secondary goal was to engage a wide range of stakeholders to develop a proactive strategy to effectively manage habitat resources for the future. The plan includes a comprehensive inventory of existing habitat resources and management opportunities and a long-term strategy for addressing wetland and habitat protection. The plan also identifies research and education needs for habitat management in eastern Greene County. This plan was designed to be useful to a wide range of audiences, including municipal officials, resource agencies, regulators and developers, as well as local citizens.

Audubon NY Grassland Bird Conservation Program: In 2008, a comprehensive “Plan for Conserving Grassland Birds in New York” was written by Audubon NY (Morgan and Burger, 2008) with funding provided by the NYS Department of Environmental Conservation. A broad group of stakeholders formed a state wide partnership called the New York Grassland Group to coordinate this plan as well as any funding, research, monitoring and implementation of conservation strategies in the state. Members of this group include Audubon NY, the Cornell Lab of Ornithology, Ducks Unlimited, United States Department of Agriculture Natural Resource Conservation Service, US Fish and Wildlife Service, New York Natural Heritage Program, NYS Department of Environmental Conservation, The Nature Conservancy and other local land trusts, universities and state agencies. More information on this program, including helpful statistics and data about grassland birds in decline, can be found at: http://ny.audubon.org/BirdSci_Grassland.html

NYS Department of Environmental Conservation Grasslands Landowner Incentive Program (GLIP): Based on the 2nd NYS Breeding Bird Atlas data for grassland birds, and in partnership with the Audubon NY Grassland Bird Conservation Program described above, eight Grassland Focus Areas were established across the state of New York as key areas for grassland conservation. Private landowners in these eight focus areas (there is no focus area in Greene County at this time) can apply for technical and financial assistance from the state through this incentive program. Enrolled landowners are paid a percentage of money in exchange for conducting conservation management practices on their grasslands for about 5 years. Target species for protection under this program are the Northern Harrier, Upland Sandpiper, Short-eared Owl, and seven other migratory grassland birds considered at-risk. Although the grasslands of Eastern Greene County are currently not included in these key focus areas across the state, as more monitoring and research is conducted, there may be more support for the inclusion of Greene County in this grant program. More information on this program can be found at: <http://www.dec.ny.gov/pubs/32891.html>

Shawangunk Grasslands National Wildlife Refuge: The Shawangunk Grasslands National Wildlife Refuge is one of New York's top 10 areas for grassland dependent migratory birds. The land was formerly the Galeville Military Airport, transferred to the U.S. Fish and Wildlife Service in 1999. Keeping this grassland and controlling the invasion of weeds, woody shrubs and trees is the highest management priority for the refuge as it serves as key habitat for species of declining migratory birds such as the Bobolink, Savannah Sparrow, Grasshopper Sparrow, Upland Sandpiper, Northern Harrier and the Short-eared Owl. A Comprehensive Conservation Plan, developed in 2006, sets forth management techniques such as mowing, working cooperatively with farmers who wish to mow the refuge for hay, and re-seeding the land to maintain the grassland structure and habitat function for grassland birds. This Plan can be found at: <http://www.fws.gov/northeast/shawangunk/>.

NYS Department of Environmental Conservation Winter Raptor Monitoring Program:

From 2008 through 2011, with the assistance of many volunteers, the New York State Department of Environmental Conservation (DEC), is conducting a study of hawks and owls (raptors) at key wintering locations across the state, including the Cossackie area. Focus species for the study include the Short-eared Owl and Northern Harrier. Two key objectives of the study are to develop a standard protocol that can be used for long-term population monitoring at key winter raptor concentration areas, and to begin to implement monitoring efforts. Identifying the extent of habitat used by the owls, as well as the characteristics of habitat used for both feeding and roosting, are other objectives of the study. Study findings will be applied toward developing conservation plans for the short-eared owl and northern harrier.



A Short-eared Owl banded by the NYS DEC for monitoring.

Finger Lakes Resource Conservation and Development Council, Inc. and the South Central New York Agriculture Team: Through Cornell Cooperative Extension, the South Central New York Agriculture Team has created a very useful set of bulletins for landowners for the management and conservation of grassland birds. These are particularly useful for landowners who manage active hayfields and pastures. These bulletins were utilized in the development of this landowner guide and can be found at:

<http://scnyat.cce.cornell.edu/grassland/>. This research team has also completed a study called "Grassland Birds Regional Pasture Use Inventory". This research confirmed that grassland birds, including threatened species and species of concern, are utilizing livestock pastures as breeding areas.

Massachusetts Audubon Grassland Conservation Program at the Center for Biological Conservation: The Grassland Conservation Program at the Center for Biological Conservation, initiated in 1993, is a regional effort to preserve grassland habitats that provide breeding and feeding sites for a wide variety of birds, plants, and butterflies. Program staff

work with private landowners, universities and airports, and state and federal agencies to promote effective conservation practices for these grassland sites. Staff scientists also study grassland birds to document reproductive success and habitat selection as part of a national network of grassland ecologists. A regional inventory and evaluation of threatened grassland areas has been created in order to develop management plans for their preservation. The organization's website includes helpful information for a variety of grassland landowners on management recommendations for small, large and agricultural grasslands:

http://www.massaudubon.org/Birds_and_Birding/grassland/

Chapter 9

Voluntary Land Protection Options

Going beyond stewardship: In the course of managing land for conservation purposes, some landowners may be interested in exploring more permanent voluntary land protection options provided by the state or a land trust. Land protection options such as conservation easements or donations of land are some of the most valuable contributions to conservation and wildlife to a community and can leave an important legacy for generations to come.

Whereas participating in the Greene Land Trust's *Community Grassland Stewardship Project* can offer considerable benefits to the landowner and to the conservation of grassland birds and wildlife, more permanent protections of the land may be desirable to the landowner for one or more of the following reasons:

- Protect the land's rural character, its natural resources, and/or its agricultural value or productivity;
- Ensure that family lands remain intact for future generations;
- Reduce estate taxes and ease the potential financial burdens of passing property on to heirs;
- Receive income tax benefits;
- Help to balance open space and development in their communities.

Advantages of working with a land trust: Land trusts, such as the Greene Land Trust, have the advantage of being closely tied to the communities in which they operate. The nonprofit tax status of land trusts bring them a variety of tax benefits. Additionally, because they are private organizations, they can be more flexible and creative than public or government agencies, and can often act more quickly.

Voluntary Land Protection Options:

Organizations that provide comprehensive information about voluntary land protection options such as conservation easements, agricultural conservation easements, land donations, purchase of development rights and other protection measures include:

Greene Land Trust: www.greenelandtrust.org

Land Trust Alliance: www.landtrustalliance.org

Scenic Hudson: www.scenichudson.org

American Farmland Trust: www.farmland.org

New York State Farmland Protection Program:

<http://www.agmkt.state.ny.us/AP/agsservices/farmprotect.html>

New York Agricultural Land Trust: www.nyalt.org

The Greene Land Trust is committed to helping to protect the many places that make Greene County such a special place. Scenic vistas, agricultural lands, mountains and valleys, habitat and open spaces all deserve our care and our concern. To learn more about the various land

protection options and how the Greene Land Trust can assist you in your research and decision-making, contact the Greene Land Trust as we will be happy to work with you to find the right land protection tools for your land management goals.

Land Trust Tools and Incentives: The Greene Land Trust works with public and private landowners to protect natural and cultural resources for future generations using a variety of tools and incentives. The following is a brief description of some of these tools and incentives.

Conservation Easements:

The most traditional tool for conserving private land is through a legal agreement called a “conservation easement”. A conservation easement is an agreement between a landowner and a land trust or government agency. A landowner sometimes sells a conservation easement, but usually easements are donated to a land trust. The easement permanently restricts the uses of the land in order to protect its conservation values.



Easements can be written to protect many aspects of the land including wildlife habitat, soil conservation, water quality protection, or even agricultural productivity, and can offer great flexibility for the landowner. For example, an easement on a property containing rare wildlife habitat might prohibit any future development, while an easement on an active farm might allow continued farming and the addition of agricultural structures in the future. An easement may apply to all or a portion of the property, and need not require public access. With a conservation easement, you continue to own and use your land.

You can sell it or pass it on to heirs. However, the restrictions that you agreed to in the conservation easement are binding on future owners.

If the conservation easement is held by the land trust, the land trust is responsible for making sure that the terms of the easement are followed and is managed through stewardship by the land trust. The Greene Land Trust takes this responsibility very seriously and will not accept an easement if it is not confident that it will have the resources to provide the stewardship it needs. Under certain circumstances, donating an easement may result in a federal income tax deduction. In New York State, it might also qualify for a state income tax credit. In some jurisdictions, placing an easement on your property may also result in property tax savings. An easement may lower the property’s market value and thus, the potential real estate tax. This can make an important difference in an heir’s ability to keep inherited land.

Donation of land for conservation:

If you choose to donate your land, the Greene Land Trust will work with you to identify the best arrangement. The Greene Land Trust might retain ownership of the property as a permanent preserve (if it is certain that the Greene Land Trust has the financial resources to provide stewardship of the property) or the Greene Land Trust may transfer the property to a suitable owner, such as a government agency. The full market value of land donated to a nonprofit land trust is tax deductible as a charitable gift.

Bargain sale of land:

In a bargain sale, the landowner sells land to a land trust for less than its fair market value. This not only makes the land more affordable for the land trust, but also provides cash to the landowner, avoids some capital gains taxes, and entitles the landowner to a charitable income tax deduction based on the difference between the land's fair market value and its sale price.

Resale of land:

If you need to sell your land, but don't want to see it altered by development, you can work with the Land Trust to place a conservation easement on the land before it goes on the market.

New York State's Farmland Protection Program:

Under Article 25-AAA of the Agriculture and Markets Law, the State of New York administers a Purchase of Development Rights (PDR) Grant program to assist local governments in implementing their farmland protection plans. This program focuses on preserving the local land base by purchasing the development rights on farms using conservation easements. PDR can help where the benefits and protections available through agricultural districting and other planning tools may not be sufficient to overcome local development pressure and other issues affecting farmland. Under this program, state assistance payments are available to counties or municipalities to cover up to 75% of the total costs for implementation activities to protect viable farmland. The agricultural conservation easements resulting from purchase of development rights must be held, monitored and enforced, in perpetuity, by a public agency or a land trust. Initiated in 1996, this continues to be a highly competitive program. In 2004, a total of 43 municipalities requested more than \$86 million. A total of \$12.5 million was awarded to 15 municipalities to purchase the development rights on 20 farms.

