

# MANAGEMENT RECOMMENDATIONS FOR LANDOWNERS

*Sustaining healthy, vibrant lands for people and wildlife*





AN INTERNATIONAL COLLABORATION, THE STAYING CONNECTED INITIATIVE (SCI) seeks to conserve, restore and enhance landscape connectivity across the Northern Appalachian/Acadian region of the United States and Canada for the benefit of nature and people. Sustaining connectivity safeguards native wildlife and plants from the impacts of habitat fragmentation and climate change, and supports human activities and values that are tied to the forested landscape. SCI, a program of Two Countries One Forest, unites its U.S. and Canadian partners to focus the tools of conservation science, land protection, community outreach, land use planning, transportation and policy to meet its mission.

This report was prepared by Alissa Rafferty for SCI partners The Nature Conservancy's Adirondack Chapter and Tug Hill Tomorrow Land Trust.

Cover photographs, clockwise from top left: © Mark Conlin/Courtesy Tallahassee Museum, © The Nature Conservancy (Erika Bailey), © John DiGiacomo, © Carl Heilman II

## TABLE *of* CONTENTS

### *Introduction*

HOW TO USE THIS GUIDE p.1

BLACK RIVER VALLEY p.2

THE IMPORTANCE OF HEALTHY, CONNECTED FORESTS p.3

BASIC WILDLIFE NEEDS p.4

### *Habitat Management Options* p.5

**FORESTRY** p.5

*Maintaining/Planting Vegetation* p.5

*Harvesting Vegetation* p.6

*Shrub Habitat* p.6

*Young Forest Habitat* p.6

*Leaving Vegetation* p.7

*Creating Openings* p.7

**WATER SOURCES** p.8

*Spring Seeps* p.8

*Temporary Pools* p.9

*Wetlands* p.9

*Artificial Ponds* p.9

*Riparian Buffers* p.9

**HEDGEROWS** p.10

**BRUSH PILES** p.10

**INVASIVE SPECIES** p.10

**AGRICULTURE-SPECIFIC RECOMMENDATIONS** p.11

*Stream Bank Fencing and Stabilized Crossings* p.11

*Open Space Habitat* p.11

*Integrated Pest Management* p.11

*Food Plots* p.11

*Rotational Grazing* p.11

### *Human Activity* p.12

**FENCING** p.12

**PETS** p.12

**INTERIOR ROADS AND TRAILS** p.12

**STRUCTURES** p.13

*Resources to Take Action* p.13

*Works Cited* p.15

## Introduction

### HOW TO USE THIS GUIDE

A RESOURCE FOR LANDOWNERS, this guide provides an overview of habitat management strategies that may enhance the survival and movement of wildlife.

The recommendations in this guide are not strict rules. The Staying Connected Initiative (SCI) recommends consulting a professional forester or ecologist to provide a site-specific analysis of your property and determine suitable modifications. Not all recommendations may be appropriate based on your property's size and surrounding context. Additionally, some management options may be incompatible with your objectives; you may need to choose among management strategies based on the characteristics of your property and what you hope to achieve or which species you focus on. For instance, some species, such as American marten, require large tracts of similar habitats, whereas others, such as black bear or moose, use a variety of habitats at different stages in their life cycles and require multiple habitat types in close proximity to one another.

Most importantly, we encourage landowners to look at their land in a broader landscape context by considering how it connects to adjoining properties and the surrounding area. Ask yourself: "What resources for wildlife are missing in the area that my land could provide?" Maybe it's certain food sources or more cover. If your property is very large, you may be able to create a balance by managing different parts of your property for different species or purposes.



Before taking action, talk with your neighbors; they may be willing to work with you to develop a cooperative plan, maximizing its impact. For example, many species travel along stream corridors. Working with your neighbors to ensure that natural cover is maintained along the entire length of the stream will provide a secure travel corridor for many species extending well beyond your property.

Also keep in mind that certain species remain residents in habitat patches year-round, while others migrate—so if you begin managing your habitat for a certain species, do not be discouraged if you do not immediately note its presence on your property. Additionally, because changes to vegetation and wildlife usage patterns take time, be patient as you assess the success of your habitat management plan.

For assistance getting started in determining which of the management strategies outlined in this guide are right for you, refer to page 13 for a list of contacts and available resources.

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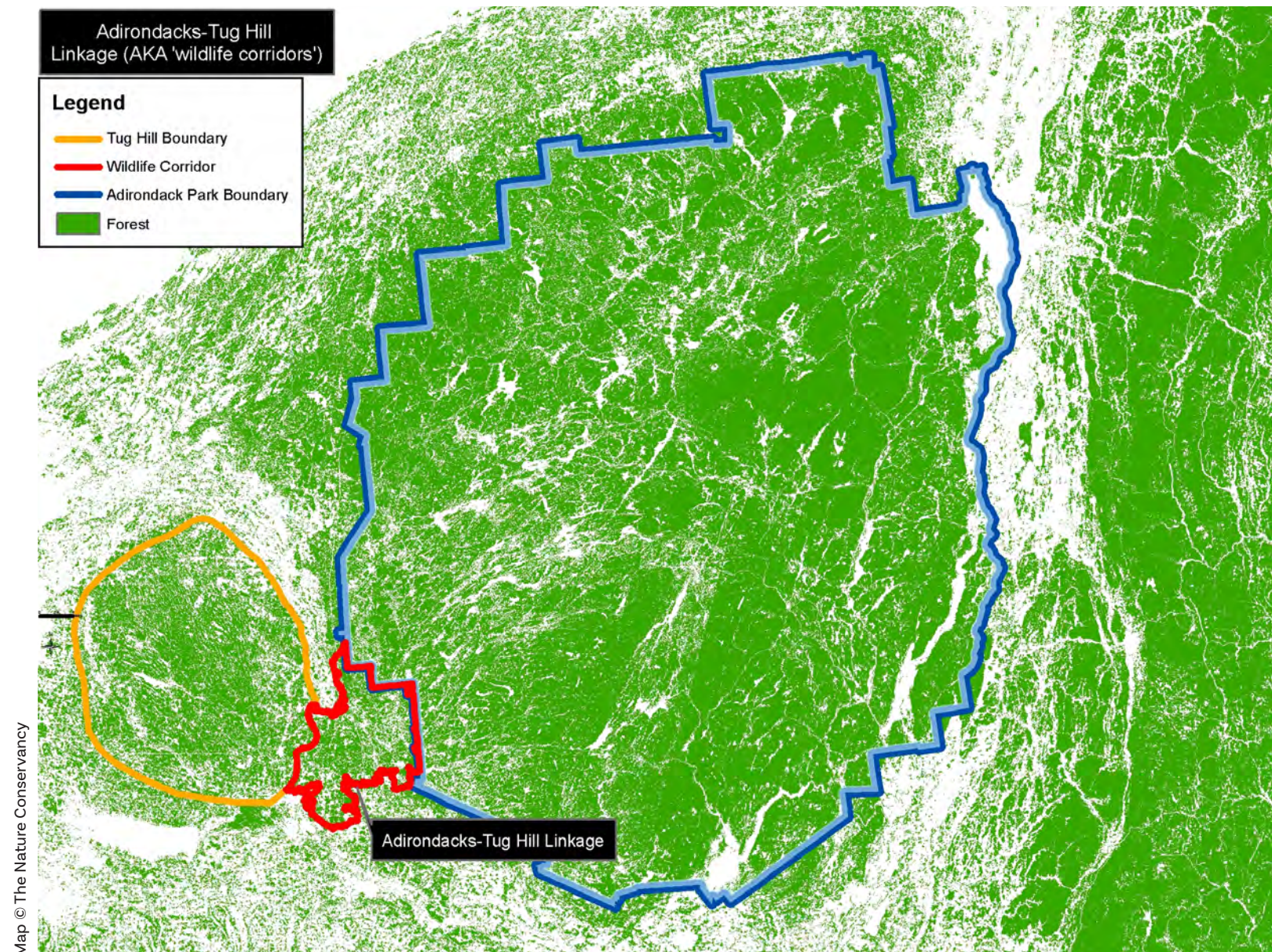
### BLACK RIVER VALLEY

THE BLACK RIVER VALLEY is nestled between two of the largest forested areas in New York: the 6-million-acre Adirondack Park and the 1.2-million-acre Tug Hill region. The Staying Connected Initiative is focused on 163,000 acres in the southern portion of this valley. Viewed from satellite images, this section of the valley stands out as a natural pathway for wildlife—a largely forested stretch between the Adirondacks and Tug Hill surrounded by agricultural and residential lands.

The Black River Valley consists of a patchwork of communities, farms and forests. In the face of new devel-

opment and expanding roads, we must work together to ensure this evolving mix continues to support the people who live and work here as well as the wildlife that traverses the region.

Not only do animals need access to the core forests on either side of the valley, but they also rely on small connections throughout for their day-to-day needs. Connections at the community level are often made up of small woodland plots, wetlands, river corridors and even hedgerows that separate large, open fields.



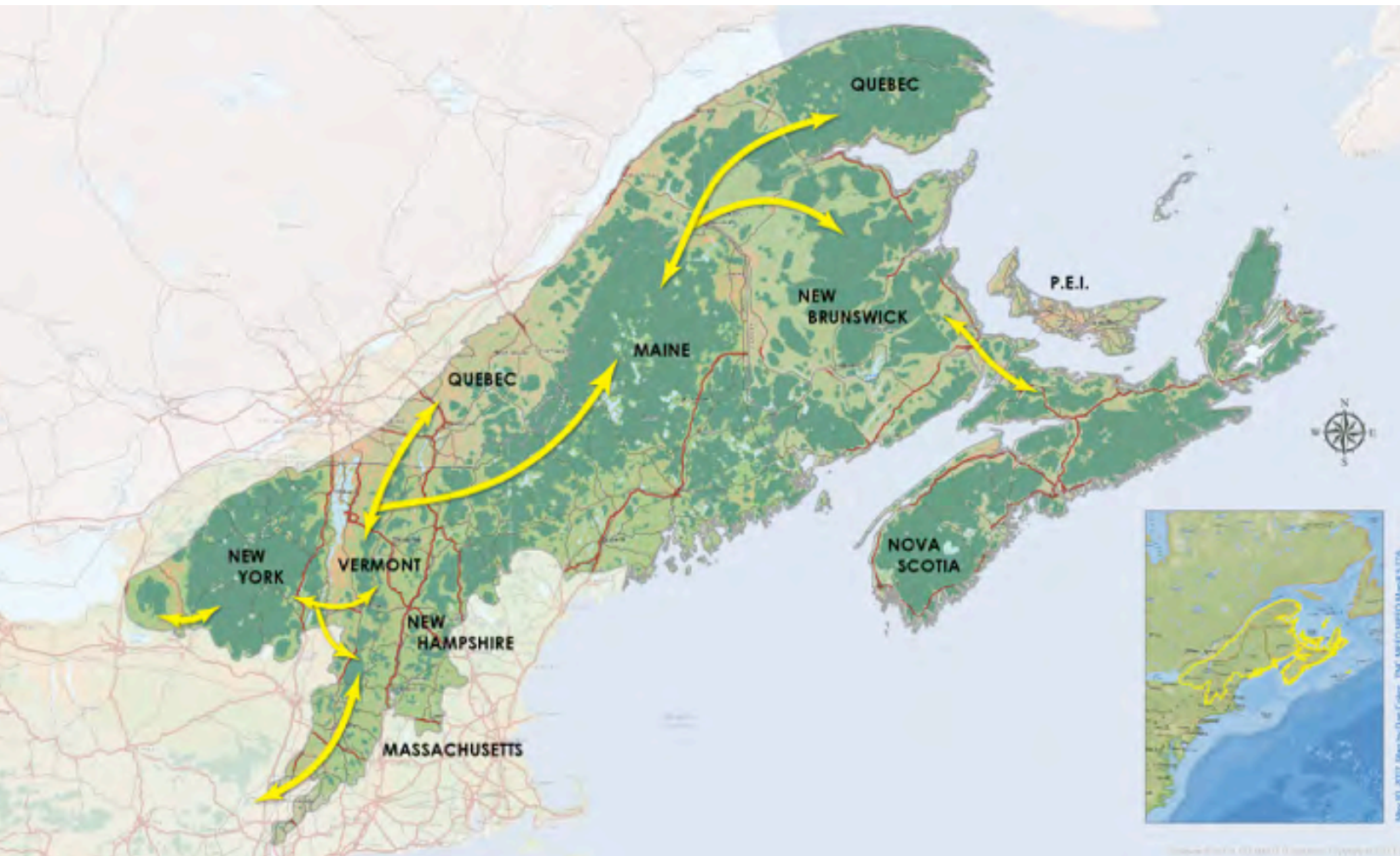
**THE IMPORTANCE OF HEALTHY, CONNECTED FORESTS**

THE NORTHERN APPALACHIAN FOREST, extending from New York and Massachusetts to New Brunswick and Nova Scotia, is the most intact temperate broadleaf forest in the world. It is home to more than 5 million people and millions of wild animals. The forests are vital to the region's communities and quality of life, providing economically important resources and livelihoods, clean water and air, and places to explore for recreation and respite. Thanks to a large network of healthy forests, wetlands and rivers, bobcat, black bear, moose and other wide-ranging mammals roam freely across much of the landscape.

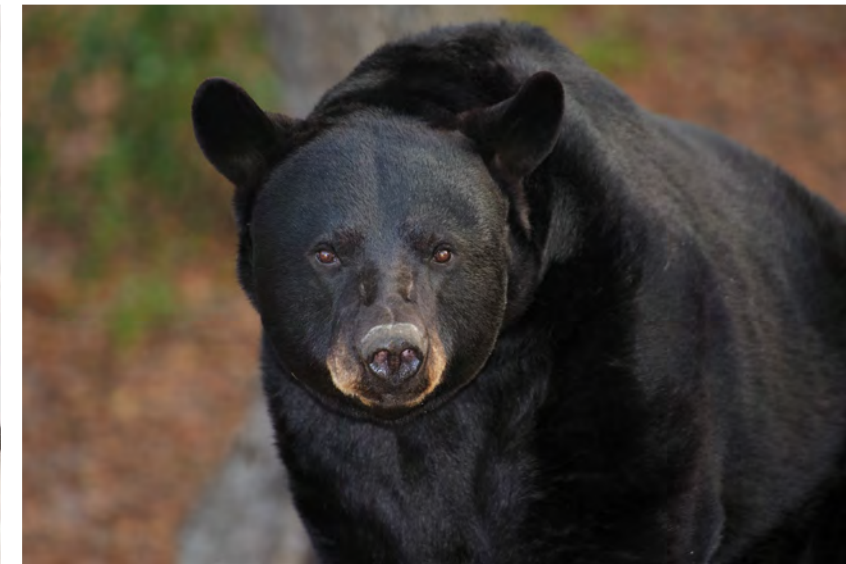
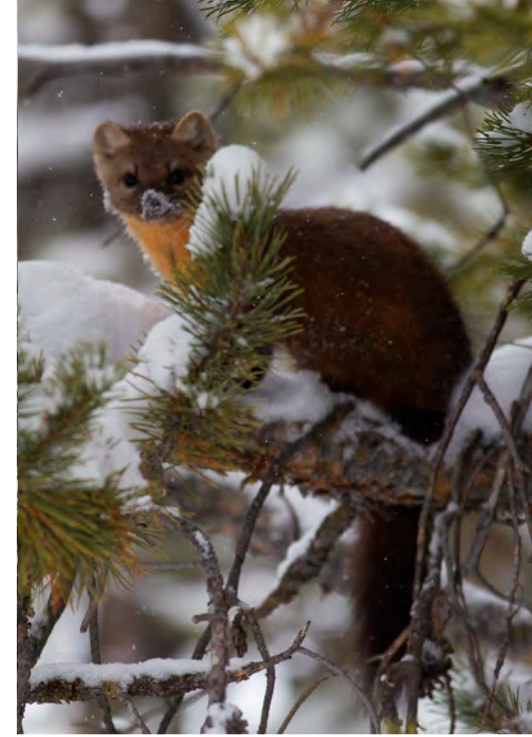
The long-term well-being of this region depends upon a connected landscape, comprised of large core forests with forested corridors between them. A connected landscape helps to safeguard animals and plants from the impacts of climate change while also sustaining livelihoods, activities and values dependent upon a thriving forest.

The Staying Connected Initiative, a program of Two Countries, One Forest, is an international collaboration working to sustain the forested landscape connections across this binational region, for the benefit of nature and people. SCI partners work across borders and at many different scales to ensure habitat connectivity, which conveys myriad ecological, social and economic benefits. Vibrant forests are ones that can sustain robust wildlife populations. By focusing on maintaining and improving wildlife habitat, we can preserve the health and character of our communities.

Through advanced computer modeling and on-the-ground research, SCI has identified nine priority linkage areas (shown by the yellow arrows in the accompanying map) connecting the core forests (shown in dark green) throughout the region.



Map © SCI



Top Row: © Larry Master; fisher, © Kent Mason; black bear, © Mark Conlin/Courtesy Tallahassee Museum

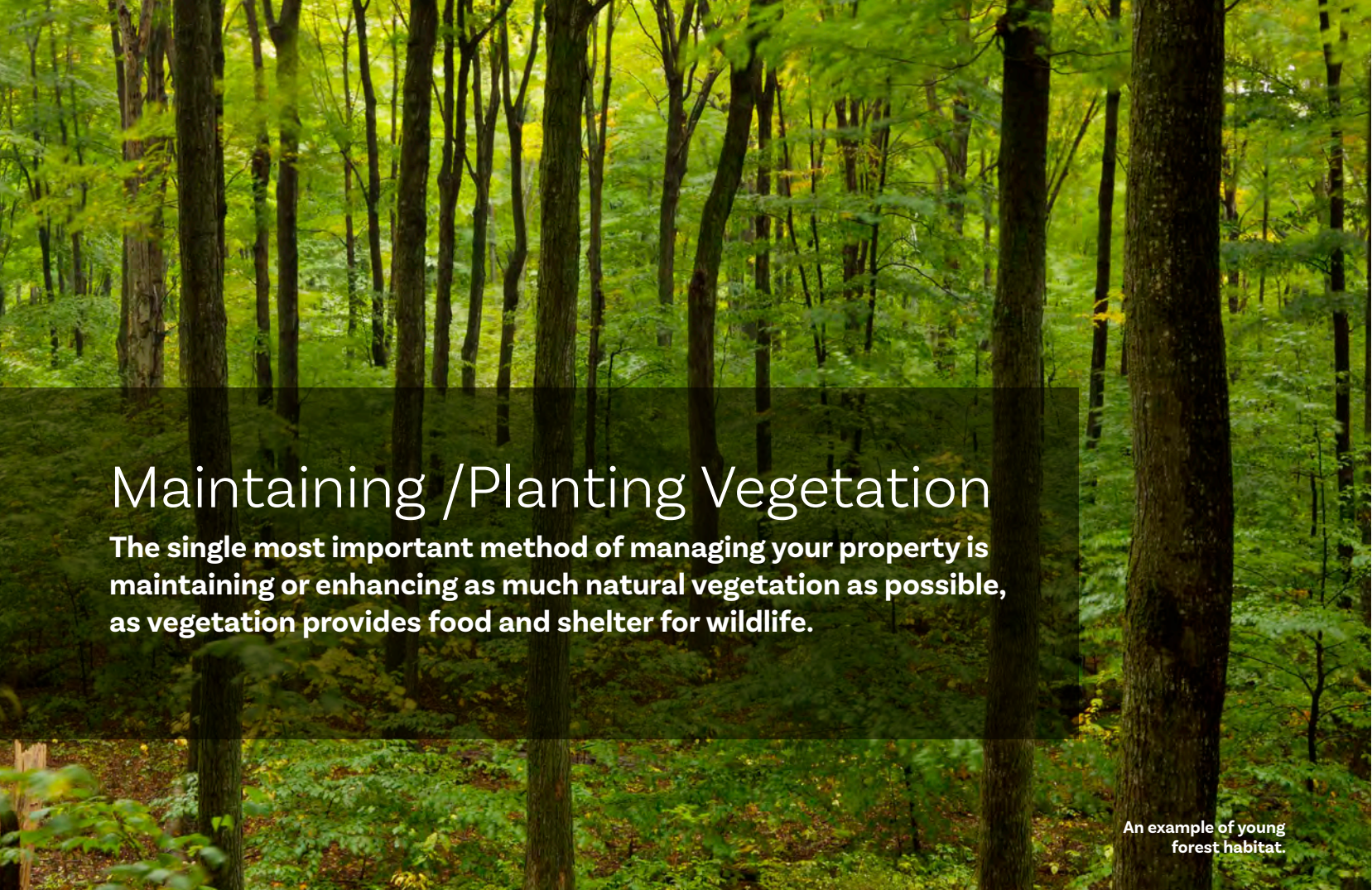
**BASIC WILDLIFE NEEDS**

WILDLIFE HAVE FOUR BASIC NEEDS for survival: food, water, cover and space. Cover is necessary for many life functions, including nesting, escaping from predators, resting and seeking shelter from the elements. Animals also need space in which to perform necessary activities such as feeding or finding mates. The space an animal needs is known as its home range; large carnivores, such as black bears, have a home range of up to 60 square miles, while smaller predators, such as fishers, can require up to 10 square miles. In general, large animals occupy larger home ranges than small animals, though even small animals benefit from large areas of undeveloped habitat.<sup>3</sup>

A connected landscape safeguards wildlife from the threat of genetic isolation over time. A population confined to one area because its movement is cut off by roads or

other development risks inbreeding, which diminishes the genetic diversity of the population and its overall resilience. A connected landscape also allows animals to shift ranges in response to changing habitat conditions. While movement on this scale may take more than one generation, it's critical to the long-term success of these species, especially as the climate changes.

The focal species for this guide include moose, bear, bobcat, marten, fisher and otter. These species are the widest-ranging, occupy the largest home ranges and have low population densities and reproductive rates. As a result, they are particularly susceptible to habitat loss and degradation. Conservationists often refer to these types of animals as umbrella species, because if their requirements are met, the requirements of other area wildlife will be satisfied as well.



# Maintaining /Planting Vegetation

The single most important method of managing your property is maintaining or enhancing as much natural vegetation as possible, as vegetation provides food and shelter for wildlife.

An example of young forest habitat.

## Habitat Management Options

THROUGHOUT THE NORTHERN Appalachian region, a complex variety of habitats support many different species. This guide provides information for habitat management options of various habitat features. Whether you own one acre or hundreds, you can make your land a better resource for wildlife.

### FORESTRY

**Maintaining/Planting Vegetation:** Plants that produce flesh fruits, nuts or seeds are generally valuable wildlife food sources. Maintaining a variety of plant species will help to ensure the availability of food seasonally and annually. For instance, red and white oaks may produce acorns in different years, so having both species on your property increases the probability acorns will be produced each year.<sup>10</sup> Nut trees and fruiting trees, shrubs and vines can provide good food resources when planted.

#### NUT TREES INCLUDE:

**oak, hickory and beech**

#### FRUITING TREES, SHRUBS AND VINES INCLUDE:

**black cherry, elderberry, blueberry, blackberry, apple, dogwood and grape vine<sup>2</sup>**

If your property has few evergreens, you may wish to plant natives or selectively remove other trees that are shading the evergreens to allow them to grow more rapidly upon release (see the section about harvesting for more information about tree release).<sup>10</sup> Evergreen trees and shrubs retain their leaves or needles throughout the year. In addition to providing nest sites and food, they also are a source of year-round shelter and provide thermal cover for wildlife in colder months. Trees with branches that extend all the way down to the base of the trunk are best because they block wind and snow.<sup>3</sup> Hemlock, white pine, rhododendron and other evergreens are most commonly used by wildlife as cover from harsh weather conditions.<sup>10</sup> Evergreens planted along a road act as a year-round screen that can reduce human disturbance and encourage greater wildlife use of nearby areas. The most effective evergreen cover is located near brushy areas or small herbaceous (non-woody, grassy) openings. If your property can accommodate it, 2 to 5 acres of evergreens per 100 acres of forest

© A. Blake Gardner

should provide adequate cover. Planting evergreens in a C-, S- or J-shape provides more edge habitat than a square or rectangular shape.<sup>7</sup>

If you have planted species to establish new habitat for wildlife, it may be necessary to protect the plants from browsing and other damage, such as trampling, until the plants are well established. Installing fencing or seedling protectors can prevent these issues. You can choose from a variety of materials, including woven-wire, high-tensile and electric fences, as well as tree shelters. Alternatively, you can build your own protection using galvanized fencing.<sup>2</sup>

**Harvesting Vegetation:** In some instances, removing certain vegetative growth may allow for more valuable species to fill those spaces or create habitat openings.

To enhance the growth of specific species or groups of plants to provide more food or cover for wildlife, you could encourage growth by cutting back or harvesting other vegetation that is shading it. This is known as tree or shrub release, because it exposes the vegetation to direct sunlight. Most often this is done by crown release, a process in which the target vegetation's crown is freed by removing other vegetation on at least three of its sides. Vegetation chosen for release should provide high quality food or cover, such as fruiting shrubs. Old fruit trees, such as in abandoned fields or young forests, are often still viable and could easily return to fruit-producing condition through release, since fruit production is highly dependent on light.<sup>2</sup> If your property has few or no trees of mast-producing age, remove poor quality trees to release younger trees of various species in the stand. The remaining trees should fruit earlier and more prolifically. Be sure to leave behind some den or cavity trees; examples of these will be highlighted in a subsequent section.<sup>7</sup>

If shrub and young forest habitat is missing in surrounding areas, it can be created by harvesting so long as your property is large enough that too much forest cover is not compromised in the process. Having the right balance of shrub and young forest habitat, surrounded by denser mature forests, can be beneficial for certain wildlife species, such as black bear, moose and bobcat. These habitat types are transitioning to mature forest and are dominated by seedlings, saplings and shrubs with interspersed grasses and herbaceous plants.<sup>11</sup> When considering harvesting, please consult a professional forester to ensure it is actually beneficial, rather than harmful, when considered in the context of your own landscape.

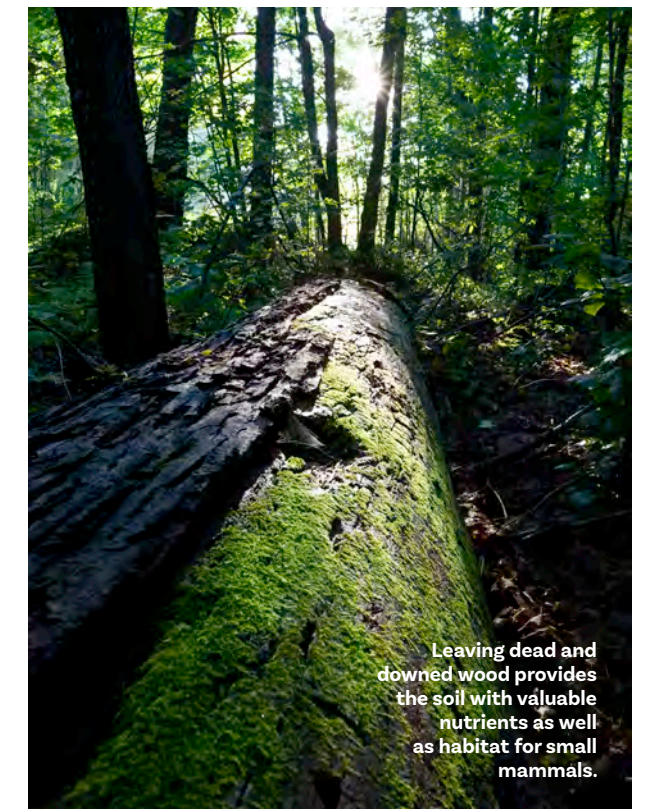
**Shrub Habitat:** If a forester deems that shrub habitat on your property would add value in your neighborhood, it can be established by cutting trees as low to the ground as possible. This method is preferable in areas with poor quality or poorly stocked trees. While doing so, you could harvest any potentially marketable timber.<sup>7</sup> After cutting, alternate mowing the thick brush over half of the area about every five years to suppress the establishment of tree

species, so shrubs can colonize the area. Allow younger, regenerating shrubs to populate half the site, while mature, fruit-producing shrubs populate the other half. Old fields can also become shrub habitat if shrubs are allowed to become established over time and mowed every five years, as mentioned above.<sup>11</sup> New growth is most successful when cut from October through February; be sure to avoid cutting during peak nesting months, from May through July.<sup>7</sup>

**Young Forest Habitat:** Young forest habitat is dominated by seedlings and saplings of forest trees, rather than shrubs. There are a variety of characteristics to look for when identifying potential sites to create young forest habitat. They include, in order of preference:

- 1) Patches with pioneer species—the first to colonize old field sites—such as pin cherry, aspen, alder and paper or gray birch, because these species produce the target habitat quickly.
- 2) Stands with a high proportion of low-quality trees or ones that have been high-graded, meaning the highest-quality trees had previously been harvested.
- 3) Stands with high-quality trees that have been identified as ready for harvest by a professional forester.

Creating young forest habitat is typically done by manual or mechanical cutting of trees or shrubs. For more comprehensive information about steps to create and maintain young forest habitat, refer to *Vermont Fish &*



Leaving dead and downed wood provides the soil with valuable nutrients as well as habitat for small mammals.

© Richard Hamilton Smith

Wildlife Department 2015 in the works cited.

**Leaving Vegetation:** Another method of property management is to leave behind certain features that you may otherwise clear out, such as snags and coarse woody debris. Doing so could provide nesting habitat and shelter, among other benefits.

Although it may not be as visually appealing to do so, leaving dead and downed wood on your property helps maintain important components of wildlife habitat. Dead and downed wood includes fallen branches and trees lying on the ground—even rotting logs and stumps. The decaying wood returns nutrients to the soil and supports insect colonies, on which various mammals such as black bears feed. Downed wood also provides habitat for small mammals, on which some larger mammals, such as fisher, prey. If you would still like to maintain some tidiness on your property, you could collect a portion of the dead wood into a brush pile but leave the rest where it lies. (More information about brush piles is provided in a following section.) You could also add more dead wood to the system during tree cutting by leaving some felled trees on the forest floor and building brush piles with others.<sup>3</sup>

Cavity trees and snags, which are dead standing trees, provide nesting and denning sites for mammals and harbor insects that serve as a food source for them. Cavities can also provide refuges for smaller mammals. The most valuable cavity trees are large and located near streams and

forest openings or in proximity to other cover types. They also show evidence of use, such as gnawing around the entrance or a smooth, worn surface. Other characteristics of valuable cavity trees include a healthy crown, a cavity entrance located where rain cannot enter the hole and the ability to provide multiple benefits for wildlife (e.g., multiple dens, seed production). If you don't have cavity trees on your property, you can maintain trees that have the potential to become cavity trees by leaving them alone and letting mature forests develop.<sup>10</sup>

Mature forests benefit wildlife in a variety of other ways. Overstory trees, the tallest trees that rise above the forest canopy, produce more nuts, acorns and fruit, preferred by species such as black bear. The larger the expanse of mature, natural forest, the better, as wide-ranging mammals don't persist long in small, fragmented patches of habitat.

**Creating Openings:** For very large properties or properties that adjoin vast expanses of forest, it may be beneficial to foster or create open areas for herbaceous (non-woody, grassy) species to grow. Doing so could allow more space for food resources and provide attractive hunting grounds for some mammals, such as bobcat.

Herbaceous openings in continuous and extensive forests may provide the diversity to sustain a greater variety of wildlife.<sup>7</sup> In general, forests may be more attractive to a greater variety of birds and mammals when they offer 1 to 3 acres of herbaceous openings for every 50 wooded acres.



A spring seep within a forest.



Wetlands provide valuable habitat for a wide variety of wildlife and perform important services.

Left to right: © Kent Mason, © The Nature Conservancy

© Larry Master



## WATER SOURCES

ANY NATURAL WATER SOURCE on your property is valuable to all wildlife species. Below are descriptions of various water bodies and explanations of how to best manage them.

**Spring Seeps:** Spring seeps provide an important source of water for wildlife. They are small streams or ponds fed by fresh water below the ground surface that persist year-round, providing a constant water supply. Seeps often occur along hillsides or at the base of mountains where groundwater flows to the surface, but they may also be found in fields and forests.<sup>2</sup> They are particularly important during the winter, as they can be an animal's only source of fresh water. Seeps typically remain warmer than air and ground temperatures, while other water sources may be frozen for extended periods of time or buried beneath deep snow. Areas around seeps also remain unfrozen and provide snow-free travel pathways and access to vegetation or insect larvae when food is otherwise scarce or unattainable.<sup>10</sup> Additionally, vegetation grows first around seeps, providing a food source for wildlife in early spring when most other sources have been depleted.<sup>3</sup> The most important management practice for seeps is to protect them from activity that could degrade water quality or quantity, such as clear-cutting or agricultural pollution. To enhance

It's especially important, however, to consider the lands beyond your property when contemplating this management strategy, and to consult a professional forester before taking any action. If forest cover is lacking on adjoining properties, it's best to avoid creating any openings at all.

Examples of these openings include fields, orchards, old logging roads and utility rights-of-way.<sup>2</sup> Plants in these openings supply food for various mammals. Additionally, animals such as bobcats use them for hunting throughout all seasons. Abandoned fields with scattered shrubs are more attractive to wildlife than heavily grazed pastures. Cutting small openings of at least one-quarter acre or widening existing openings along access roads or trails can provide an abundance of herbs and grasses that are not found under the dense forest canopy. These openings can also grow along forest edges if you do not pasture cattle there or plow directly up to the trees. The openings can be established by seeding or allowing native plants to take over a site. Seeding is important if there is risk of soil erosion so cover can be established quickly, or if there is risk of competition from fast-sprouting woody plants, so their growth can be inhibited.<sup>7</sup> For more specific information about steps to take to create an opening, refer to *Hassinger et al. 1979* in the works cited.



Hedgerows provide important travel corridors for wildlife in otherwise open areas.

seep habitat, you could release or plant beneficial trees and shrubs around the seep's perimeter.<sup>2</sup>

**Temporary Pools:** Temporary pools are wetlands that fill with water during rainy seasons and subsequently dry up. Despite their small size, temporary pools may support the greatest biomass of vertebrates in the forest and host complex interactions among a variety of organisms.<sup>10</sup> Temporary pools do not support fish populations, so amphibian eggs can develop without predation threat; once hatched, amphibians serve as prey to numerous predators. The best management strategy for temporary pools is to protect them from destruction and degradation, such as from development or land use changes. Temporary pools can be hard to identify in the dry season, which makes it especially important to protect them.

**Wetlands:** Wetlands are areas where water is present at or near the surface of the ground for a portion of the year. They feature plants specifically adapted to wet conditions and saturated soils.<sup>14</sup> In addition to supplying and filtering water, forested wetlands also reduce erosion and flooding, create fire breaks and provide vegetation used for food and cover. Black bears and moose spend a great deal of time feeding on wetland vegetation during spring and sum-

mer. Wetlands also provide quality habitat for smaller prey animals.<sup>10</sup> It is best to leave wetlands alone, as they function most naturally when undisturbed. Wetlands can be restored on lands that were previously drained by removing drainage tiles or plugging drainage ditches, though restoration requires careful consideration and technical assistance.<sup>2</sup>

**Artificial Ponds:** Fresh and clean water is an essential habitat feature for all wildlife. If you would like to construct an artificial pond on your property, make sure you do not build it within an existing wetland area. You must consider various factors before installing a pond, including site selection, groundwater availability, topography, land use, soil composition, drainage area size, spillway maintenance, pH and turbidity adjustment, among others.<sup>14</sup> Please refer to pages 54-59 in "A Landowner's Guide: Wildlife Habitat Management for Lands in Vermont (2015)," published by the Vermont Fish & Wildlife Department, for more information.

**Riparian Buffers:** A riparian buffer is a vegetated area alongside a stream or river. It is critical to maintain riparian buffers to preserve water quality and habitat and protect against the impact of adjacent land uses. Many wildlife,

including moose, fisher and bobcat, use riparian buffers as travel corridors.<sup>11</sup> A wetland, stream or pond surrounded by a mowed lawn will not support the wildlife it could if it is surrounded by a buffer of grasses, forbs, shrubs and trees.<sup>3</sup> Maintaining a variety of vegetation types and structure in the buffer area is preferable, as it allows for a greater tolerance to potential fluctuations in environmental conditions and for greater support of various ecological functions.<sup>4</sup> The best way to protect a riparian buffer is to avoid harvesting timber or mowing near the water body.<sup>5</sup> Buffers should ideally extend 330 feet from each side of the water body to fully protect wildlife functions and should not be treated with herbicide or other chemical applications.<sup>1</sup>

### HEDGEROWS

A HEDGEROW, OR fencerow, is a strip of habitat that connects larger habitat patches isolated from one another by agricultural fields or suburban development. Maintaining, enhancing or establishing tree and shrub hedgerows adds cover, food and the opportunity for movement between forested areas. Hedgerows are especially important in areas where there are vast open spaces. For most wildlife, the wider the hedgerow the better; at minimum, hedgerows should be 15 feet wide.<sup>10</sup> The length of connecting hedgerows should also be as short as possible, with ample understory to assist in supporting density and cover.<sup>5</sup>

### BRUSH PILES

BRUSH PILES CAN be assembled to provide den sites as well as resting and escape cover for smaller mammals. To construct a brush pile, it is best to start with the largest materials (pole-sized logs) at the bottom and end with the smallest materials (small limbs or shrubs) at the top. Arrange the materials so the pile is raised slightly above the ground, which allows animals to get under the pile and into cover. Brush piles should be placed near food sources or in places with low cover, such as forest openings, forest edges and timbered areas. Maintaining about 10 percent of your forested property with brush cover will increase species diversity.<sup>2</sup> You can use large logs or stones to create the pole base. After adding brush to the top, the pile should be about 6 feet high and 6 feet wide.<sup>10</sup>

### INVASIVE SPECIES

INVASIVE SPECIES ARE PLANTS, animals and other organisms either accidentally or intentionally introduced from other places that cause harm to the environment, economy or human health.<sup>1</sup> Invasive species can out-compete native species and reduce the diversity of natural communities, which has an adverse effect on the quality of habitat for wildlife. Infestations can disrupt forest succession, species composition, water absorption and circulation, and nutrient cycling, or even create a toxic environment. They can also impact agricultural systems by reducing crop productivity and our food supply.<sup>1</sup> Invasive plants can become established quite easily, and can be hard to remove once present.<sup>2</sup> Some examples of invasive plants you may find on your property are purple loosestrife, garlic mustard, Japanese knotweed, common reed and black swallow-wort. Take care to ensure that all species you plant are native—a step you can take by checking with a local nursery or a resource professional.<sup>2</sup> To remove invasive plants from your property, please refer to the Adirondack Park Invasive Plant Program's website, [adkinvasives.com](http://adkinvasives.com), for a detailed strategy tailored to each species. Some invasive species, such as garlic mustard, pictured here, can be easily managed by hand if populations are identified quickly following establishment. Larger infestations can still be successfully managed, but they may require more intense control methods such as herbicide application.

Furthermore, various invasive pests threaten to invade the Adirondack region. Be on the lookout for emerald ash borer, hemlock woolly adelgid and Asian longhorned beetle. The first two target the tree species after which they are named, and the Asian longhorned beetle targets a range of hardwood trees. When these species invade, there are limited management options available, so responding quickly to new infestations is crucial to prevent large-scale habitat loss.



Removing garlic mustard by hand.

Above: © Carl Heilman II. Opposite page: © The Nature Conservancy



Fences, like this one here, can be upgraded or replaced with wildlife-friendly designs.

Limiting interior roads and trails where possible can benefit wildlife.

## AGRICULTURE-SPECIFIC RECOMMENDATIONS

**Stream Bank Fencing and Stabilized Crossings:** In agricultural settings, livestock have the potential to harm natural habitats if not managed properly. Livestock with free access to streams can destroy wildlife habitat, increase erosion and sedimentation, and degrade water quality. Installing stream bank fencing excludes livestock from sensitive riparian areas and allows a vegetative buffer zone to grow between the stream and the fence, which provides food, cover and improved water quality for target wildlife species.<sup>2</sup> To maintain access to the stream for drinking or crossing, you can install stabilized stream crossings: specific areas or structures that provide a travel path for livestock, equipment and vehicles while also providing for the natural passage of water within the stream channel during all seasons. Stabilized crossings generally have gradually sloping banks covered with a material that resists the impact of cattle and machinery.<sup>12</sup>

**Open Space Habitat:** As some species, such as bear, take advantage of open space habitat, crop fields, meadows, pastures and hay fields may benefit wildlife if there is enough surrounding forest, especially if you plant forbs and grasses.

**Integrated Pest Management:** You could also adopt the integrated pest management approach, which uses an as-

sortment of complementary methods to minimize the use of pesticides. Doing this reduces the impact on aquatic wildlife, mammals and beneficial insects that prey on pests.<sup>14</sup>

**Food Plots:** Planting food plots of grains, legumes and grasses, with a mix of annual and perennial species in corner fields, can provide over-winter food for wildlife and serve as buffers to other agricultural fields. Food plots function best when they are long and irregularly shaped and planted adjacent to areas that provide escape cover, such as hedgerows or forest edges.<sup>11</sup> Please note that while creating natural wildlife food plots is legal in New York, setting up a food station for deer or moose is not. When deer and moose gather at feeding sites, the risk of disease increases and the surrounding natural habitat can be severely over-browsed, resulting in habitat degradation over time. The New York State Department of Environmental Conservation recommends creating natural wildlife food plots only if deer and moose do not congregate there.<sup>8</sup>

**Rotational Grazing:** Practicing rotational grazing improves forage for wildlife and increases insect populations on which many species prey.

## Human Activity

### FENCING

FENCING CAN PROHIBIT WILDLIFE movement. Animals may have difficulty moving around or through fences, which may injure or even kill them. The resulting damage to fences can also be costly to landowners. Wildlife-friendly fences are cost-effective, as they reduce the need for future fence repair. If your property contains fences, consider removing obsolete ones and replacing the rest with wildlife-friendly options. If installing a new fence, consider avoiding fence placement that would block routes wildlife frequently travel to reach certain habitats or water sources. Wildlife-friendly fences should be highly visible, minimize the chance of entanglement and allow animals to easily jump over or slip under them. Fences should possess the following characteristics:

- Smooth wire or rounded rail should be used for the top, and smooth wire for the bottom.
- The top rail or wire should be at a height of 42 inches or lower.
- The top two wires should be at least 12 inches apart, and the bottom wire or rail should be at least 16 inches

above the ground.

- Fence posts should be placed at a minimum of 16-foot intervals.
- Wire should be highly visible. Flagging or other visual markers should be placed at the top.
- Removable fence sections or other animal passages should be incorporated.<sup>6</sup>

### PETS

DOGS AND CATS ARE CAPABLE of disturbing wildlife. It's best not to feed stray animals or allow access to outdoor food for pets.<sup>14</sup> If there are known wildlife denning sites on your property, take care to ensure your pets are kept away from those areas.

### INTERIOR ROADS AND TRAILS

MAINTAINING ROADLESS AREAS is important for all wide-ranging mammals, especially on properties that are surrounded by more fragmented areas. It's best not to create new interior roads and trails if possible and to limit the use of existing roads and trails, especially by motorized vehicles.

If you must plan a new road or trail, it should be as unobtrusive to wildlife as possible. Be sure to use soil erosion control measures, such as seeding grasses and establishing





good drainage, and avoid any wet areas, as wetlands are especially sensitive habitats. Wildlife viewing blinds can be incorporated to observe without disturbance.

### STRUCTURES

EVERY HUMAN STRUCTURE HAS a habitat footprint that extends well beyond the structure itself. For example, noise and light pollution can extend out at least 500-600 feet. Careful siting and clustering of structures and homes can preserve larger blocks of forest, reduce the need for new road construction and limit the area of human disturbance. If you intend to build on your property, the best time is in late summer, fall and winter, in order to minimize impacts to the many wildlife species that breed in spring.<sup>13</sup>

## Resources to Take Action

FOR MORE INFORMATION ON habitat management options and available resources, including those programs listed below, please contact Tug Hill Tomorrow Land Trust or the Adirondack Chapter of The Nature Conservancy. Together, our group of partners in the Black River Valley can help you navigate the different options and available programs to determine what's best for you and your property.

**Tug Hill Tomorrow Land Trust,**  
[tughilltomorrowlandtrust.org](http://tughilltomorrowlandtrust.org), (315) 779-8240

**The Adirondack Chapter of The Nature Conservancy,**  
[nature.org/Adirondacks](http://nature.org/Adirondacks), (518) 576-2082

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### OTHER PARTNERS INVOLVED IN THIS PROJECT IN THE BLACK RIVER VALLEY INCLUDE:

**Wildlife Conservation Society Adirondack Program,**  
[programs.wcs.org/northamerica/Wild-Places/Adirondacks.aspx](http://programs.wcs.org/northamerica/Wild-Places/Adirondacks.aspx), (518) 891-8872

**Tug Hill Commission,** [tughill.org](http://tughill.org), (315) 785-2380

### OTHER LANDOWNER PROGRAMS /ADDITIONAL RESOURCES

**USDA's Natural Resources Conservation Service (NRCS) Working Lands for Wildlife (WLFW)** works with partners and private landowners to focus voluntary conservation on working landscapes. NRCS provides technical and financial assistance to agricultural producers, helping them plan and implement conservation practices that benefit target species and priority landscapes.  
[nrcs.usda.gov/wps/portal/nrcs/detail/full/national/programs/financial/wlwf/?cid=STELPRDB1046975](http://nrcs.usda.gov/wps/portal/nrcs/detail/full/national/programs/financial/wlwf/?cid=STELPRDB1046975)

**The Environmental Quality Incentives Program** provides financial and technical assistance to agricultural producers to plan and implement conservation practices that improve soil, water, plant, animal, air and related natural resources on agricultural land and non-industrial private forest. This voluntary program may also help producers meet federal, state, tribal and local environmental regulations.  
[nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/](http://nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/)

**EQIP Forestry Initiative**, a subset of EQIP, is the result of a partnership effort between NRCS and the New York State Department of Environmental Conservation (DEC) Division of Land and Forests. The Forestry Initiative is an opportunity for private forest owners in New York to implement conservation and management practices that will improve health and productivity of their forests, prevent soil erosion and improve habitat for at-risk wildlife species.  
[dec.ny.gov/lands/53625.html](http://dec.ny.gov/lands/53625.html)

**The Regional Conservation Partnership Program (RCPP)** promotes coordination between NRCS and its partners to deliver conservation assistance to producers and landowners. NRCS provides assistance to producers through partnership agreements and through program contracts or easement agreements.  
[nrcs.usda.gov/wps/portal/nrcs/main/ny/programs/farmbill/rcpp/](http://nrcs.usda.gov/wps/portal/nrcs/main/ny/programs/farmbill/rcpp/)

**US Fish and Wildlife Service Partners for Fish and Wildlife (PFW)** is a voluntary program administered by the U.S. Fish and Wildlife Service. Established nationally in 1987, the program offers technical and financial assistance to help private landowners restore and enhance fish and wildlife habitats on their properties. Partnerships are a key component of the program and can be with

various entities including, but not limited to, other federal agencies, state and local governments, non-profit organizations, educational institutions and private landowners. The program was initiated in New York in 1989.  
[fws.gov/northeast/nyfo/partners/pfwdesc.htm](http://fws.gov/northeast/nyfo/partners/pfwdesc.htm)

### NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

**DEC Foresters:** DEC foresters are located throughout the state. Depending on availability, they can help landowners get started managing their land by creating a basic stewardship plan and providing technical assistance at no cost. Find a forester: [dec.ny.gov/lands/97398.html](http://dec.ny.gov/lands/97398.html)

**Consulting and Industrial Foresters:** Independent individuals and small businesses provide a wide array of forestry services to landowners. The DEC Cooperating Forester Program provides a list of consulting and industrial foresters who can help you meet your forestry goals. These foresters charge a fee and are able to provide a wide array of forestry services that complement the free service provided by DEC foresters. [dec.ny.gov/lands/5230.html](http://dec.ny.gov/lands/5230.html)

**480-a Forest Tax Law:** The State of New York's 480-a Forest Tax Law encourages the long-term management of woodlands to produce forest crops. It may be beneficial if you own 50 or more contiguous acres, are already harvesting those acres and plan to continue to do so. We encourage you to consider various ways to implement habitat management options in addition to using your property as a working forest. [dec.ny.gov/lands/5236.html](http://dec.ny.gov/lands/5236.html)

### CONSERVATION EASEMENTS

**PLACING A CONSERVATION EASEMENT**, a voluntary preservation agreement, on your property is an effective way to ensure habitat protection for wildlife in perpetuity, while also providing landowners with financial and/or technical assistance. For more information about conservation easements, or to investigate placing an easement on your property, contact:

**Tug Hill Tomorrow Land Trust,**  
[tughilltomorrowlandtrust.org](http://tughilltomorrowlandtrust.org), (315) 779-8240  
 or  
**The Adirondack Chapter of The Nature Conservancy,**  
[nature.org/Adirondacks](http://nature.org/Adirondacks), (518) 576-2082

Additionally, NRCS offers an Agricultural Conservation Easement Program (ACEP). Lands eligible for agricultural easements under ACEP include cropland, rangeland, grassland, pastureland and nonindustrial private forest land, and lands eligible for wetland reserve easements under ACEP include farmed or converted wetland that can be successfully and cost-effectively restored.  
[nrcs.usda.gov/wps/portal/nrcs/main/ny/programs/easements/acep/](http://nrcs.usda.gov/wps/portal/nrcs/main/ny/programs/easements/acep/)

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### A CONSERVATION EASEMENT LANDOWNER IN THE BLACK RIVER VALLEY WROTE THE FOLLOWING TESTIMONIAL TO THE ADIRONDACK LAND TRUST:

*"The Conservation Easement Agreement that I elected to enter into fit my needs (goals and objectives) perfectly.*

*First, I was able to protect the property from further development permanently, which was always my intent, while I still could enjoy it.*

*Second, it provided me with the financial benefit of a combination of cash and tax deductions from the sale and gift.*

*Third, it reduced my ongoing property tax liability to a comfortable level.*

*Fourth, it reduced the value of my estate so that my children would be able to afford the estate taxes without having to sell the property.*

*You can see that this was a win for me, my family, New York State, and all its residents. I would gladly consider doing it again."*

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