TOWN OF SURRY
NATURAL RESOURCES INVENTORY

Prepared for:
Surry Conservation Commission

Moosewood Ecological

Innovative Conservation Solutions for New England

TOWN OF SURRY
NATURAL RESOURCES INVENTORY

Prepared for:
Surry Conservation Commission

JEFFRY N. LITTLETON
Principal Ecologist

STEVEN LAMONDE
Ecologist / Project Manager

JAIME McGUIGAN
Ecologist

Moosewood Ecological
Innovative Conservation Solutions for New England

PO Box 9
Chesterfield, NH 03443
(603) 831-1980
info@moosewoodecological.com
www.moosewoodecological.com

May 2026

Cover Photograph An iconic natural feature of Surry, the Ashuelot River and its floodplains provide the community with incredible biodiversity and a variety of recreational opportunities. Photo by J. McGuigan

TABLE OF CONTENTS

Page

INTRODUCTION

Population Growth and Development

By the early 2000's, New Hampshire's population had been growing at a rate that was twofold that of the other New England states (SPNHF 2005). The population has doubled in the forty years leading up to the turn of the century in 2000, and there was a rise in population of 17.2% between 1990 and 2004 alone (SPNHF 2005). This rate of growth is followed by VT (10.4%), RI (7.7%), ME (7.3%), MA (6.7%), and CT (6.7%). In 2016, it was estimated that New Hampshire's population will increase 8.8% between 2010 and 2040 (RLS Demographics, Inc. 2016). However, a recent study found that New Hampshire is the fastest growing state in New England and has been for the previous three years (Johnson 2020). This rate of growth is also supported by the aforementioned 2005 study when comparing population growth between 1990 and 2004. New Hampshire's development pressure will tax the state's natural resources if not thoughtfully managed.

The bulk of population growth is in the southern half of the state; however, 75% of conservation lands are located in the northern regions. This entrusts towns in the southern half of New Hampshire with the responsibility of managing their natural resources and biological diversity (or biodiversity) appropriately, and establishes citizens as stewards of the land, requiring the use of informed decision making to promote a more sustainable approach to land use planning.

Surry today faces challenges that are familiar to many communities in southern New Hampshire. The rate of residential and commercial growth in the southwestern corner of the state has generally continued to increase, especially over the past three decades. Larger challenges not widely foreseen a half century ago are now in plain sight, as global climate change, invasive species, and biodiversity loss have become new causes for concern.

With the understanding that development will inevitably occur, Surry is faced with choices about directing growth and open space conservation so that a suitable balance can be achieved. Planning for the protection of open space is a critical and positive step towards solutions to these challenges.

Surry still has large areas of intact wildlife habitat of state-wide significance, natural river frontage, unique natural communities, and relatively large areas of unfragmented forest. Significant conservation lands like Surry Mountain Preserve, French-Harris Memorial Forest, Indian Arrowhead Forest Preserve, and the Army Corp of Engineers land along the Ashuelot along with private conservation easements are cause for optimism too, but the protection of other valuable open space lands will become increasingly important. Time, money, and human resources are limited in the accomplishment of conservation. Making the effort to document and keep track of the natural resources of a town is an effective and forward-thinking step in taking stock of assets and needs relative to which resources are most important to conservation.

Natural Resources Inventory

In order to provide a strong foundation for proactive planning and informed decision making, a Natural Resources Inventory, or NRI, is essential (Stone 2016). An NRI is a description of the natural elements that are tied to the geography of a town, a watershed, or larger region. These often include elements such as wetlands, aquifers, ponds, rivers, forests, plants, soils, and

wildlife. This information can be created from existing data or from field-based assessments to better reflect the extent of natural resources within a community.

Surry's NRI is not only an important starting point for informing conservation decisions; it is also a core responsibility written into the enabling State legislation allowing for the existence and authority of conservation commissions. This type of project helps to better understand what natural resources are within Surry and where they are located. In conjunction with the conservation planning that it can inform, an NRI can also provide a basis for public outreach and education, which can result in further support for natural resources protection.

New Hampshire statute RSA 36-A authorizes Conservation Commissions to create an NRI. Conservation Commissions are established "for the proper utilization and protection of natural resources and for the protection of watershed resources" of the town. RSA 36-A:2 continues to state that "Such commission shall conduct researches into its local land and water areas [and] … keep an index of all open space and natural, aesthetic, or ecological areas within the city or town … with the plan of obtaining information pertinent to the proper utilization of such areas, including lands owned by the state or lands owned by a town or city. It shall keep an index of all marshlands, swamps and all other wetlands in a like manner…"

Surry's NRI can serve as the basis for developing innovative land use planning techniques that can be adopted to help protect various resources, such as water resources, wetlands, wildlife habitats, and biological diversity. Biological diversity, or biodiversity, refers to the variety, variability, and complexity of life in all its forms and includes various ecological processes (for example, nutrient cycling, flooding, fires, wind events, and succession) that have helped to shape species over time.

Biodiversity includes various levels of ecological organization such as individual species and their genes that have evolved over time, as well as the many intricate plant and wildlife populations. It refers to even higher levels of organization including the assemblage of ecological communities - a group of two of more populations of different species found in the same place - and even entire ecosystems, such as wetlands, woodlands, and rivers. Therefore, the concept of biodiversity engenders all levels of biological organization and the interactions of living organisms within their physical environments. At its heart, the understanding of the dynamics of biodiversity can lead to the development of protection strategies, helping to ensure a healthy environment for humans, as well as all other life forms.

Surry's NRI should not be a static record but one that stays current with changes in land use planning, new natural resources data, and climate change. It is a planning tool that is based on the principles of conservation biology and incorporates the current natural resources of a given area (such as a town, a watershed, or an entire region). Thus, conservation planning ideally strives to incorporate the socio-economic fabric of our world with that of the ecological structure. This effort can help build more sustainable and resilient New Hampshire communities far into the future as a result of implementing comprehensive land use planning that considers both our natural environment and built infrastructure.

Planning for the conservation of natural resources and biodiversity is not a new concept. It has helped in such efforts as the recovery of the American bald eagle; has assisted in building preserves and managing other lands for species of greatest conservation need, as well as our most common species; aided in the identification of biodiversity hot spots; and has helped to identify and protect critical wildlife habitats within our landscape. It has been a center piece for natural resources protection, restoration, and adaptive management for the past five decades.

The need for this type of informed land use planning is becoming more evident with the passing of time. Ecosystems have long been susceptible to long-term degradation from overexploitation and misuse of natural resources. This has led to the loss of critical habitats as a result of sprawling residential and commercial developments. While the past few decades have seen significant development and land conversion, there has been a concomitant rise in conservation planning efforts over the same time period, especially in New Hampshire.

The Town of Surry published its latest revision of the Master Plan in 2025, providing a guide for the town's overall character and development. The Town's vision and various recommendations for future land use indicates that the town values its rural character, conservation, and community, as seen in the results of polling during development of the new Master Plan. This report represents a positive step towards this goal, and fulfills a recommendation in the Master Plan to develop an NRI.

Statement of Purpose

The Surry Natural Resources Inventory (NRI) was initiated in Fall 2024. The overall scope of this project was to develop a basic NRI (primarily map-based with limited field observations) to support the Town's natural resource protection efforts and provide a basis for informed land use and conservation planning. Goals of the project were to 1) review existing natural resources data and reports, 2) develop a series of NRI maps designed for educational and planning purposes, 3) conduct limited field investigations of wildlife habitats and biodiversity including species of greatest conservation need, and 4) combine the natural resources data and maps into this NRI report and conduct a public presentation of our findings.

The information found herein can be used in many ways by the Conservation Commission, Planning Board, and Select Board, as well as landowners, natural resource professionals, and the general public.

Land Use and Open Space

The aerial base map provides a unique perspective of Surry's landscape, current areas of development, and open space in Surry (Figure 1). It displays roads, streams, rivers, ponds, and wetlands as a base layer to assist the viewer in navigating throughout the town with a bird's eye view.

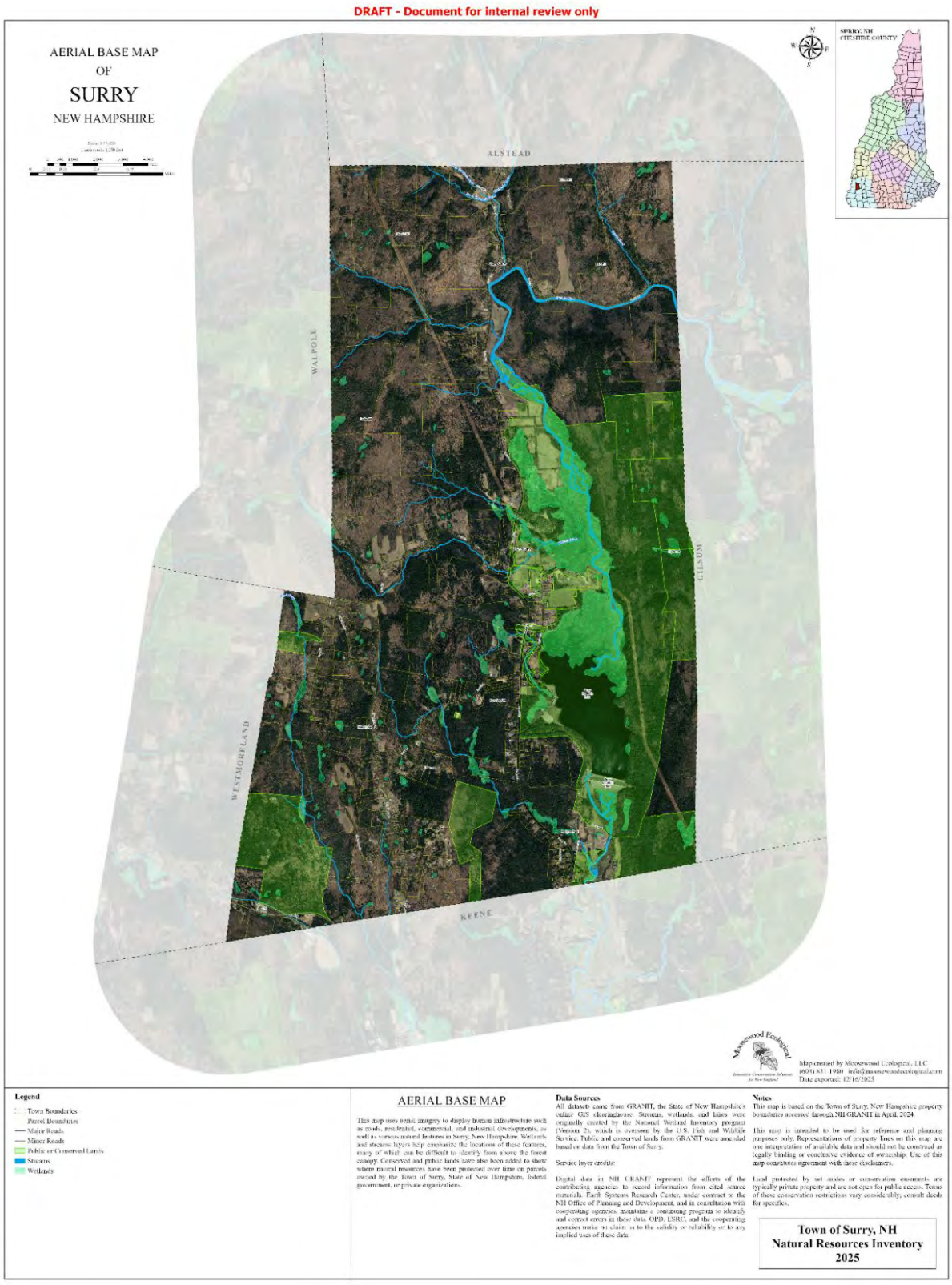

Figure 1 Aerial photography base map of Surry.

WATER RESOURCES

Water resources, including surface water and groundwater resources, are among Surry's valuable assets. Drinking water sources depend on groundwater in bedrock or sand and gravel aquifers. Ponds, streams, Surry Mountain Lake, and the Ashuelot River provide recreational opportunities and habitat for many wildlife species and contribute to downstream drinking water supplies. Wetlands provide varied habitats for wildlife, flood control by absorbing floodwaters and slowly releasing them, support maintenance of base flows in streams, protect and maintain water quality, and shoreline stabilization, among many important functions. This section provides detailed information about the type and extent of these resources in Surry.

Wetlands

Wetlands include habitats such as marshes, wet meadows, beaver impoundments, swamps, fens, and bogs. As noted above, they perform a variety of functions and values, such as providing significant habitats for wildlife and plants, maintaining good water quality, storing floodwaters, and recreation opportunities.

In New Hampshire, wetlands are defined by RSA 482-A:2 as "an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soils conditions." Activities in wetland resources are regulated by the NH Dept. of Environmental Services Wetlands Bureau under RSA 482-A:2. These protected wetlands include forested, scrub-shrub, and emergent wetlands, marshes, wet meadows, bogs, shorelines of streams, rivers, lakes, and ponds.

The US Fish and Wildlife Service (FWS) has mapped wetlands in the United States through its National Wetlands Inventory (NWI) program. The NWI uses the Classification of Wetlands and Deepwater Habitats of the United States to describe the different types of wetlands (Cowardin et al. 1979 and Federal Geographic Data Committee 2013).

These NWI mapping products are used by the state, municipalities, and natural resource managers to promote the understanding, conservation, and restoration of wetlands. The NWI provides useful information, including the type of wetland as well as its hydrology, associated plant communities, water chemistry, and other descriptors such as man-made dams and beaver influence. The NH Department of Environmental Services recently updated the NWI. This new dataset is referred as the NWI Plus, and includes additional functional assessment information.

Surry has approximately 929 acres of mapped wetlands dispersed throughout the town (Table 1 & Figure 2). These include three main types of wetland systems - lacustrine, riverine, and palustrine. Lacustrine wetlands include deepwater habitats in lakes and ponds (greater than 8.2 feet in depth) and the shallow littoral habitats that are considered wetlands. Surry Mountain Lake provides an example of a lacustrine wetland. Riverine wetlands are those associated with rivers and streams, such as the Ashuelot River.

Intact streamside shrub layers not only provide habitat diversity and scenic value but help to maintain water quality and recharge groundwater resources for the community.

All other wetlands in Surry are palustrine wetlands, defined as shallow, freshwater habitats dominated by vegetation. These include aquatic bed communities with water lilies and other floating or rooted aquatic plants, emergent marshes, shrub and forested swamps, and beaver ponds (unconsolidated bottom wetlands). The largest and most extensive wetlands can be found along the Ashuelot River, particularly at the north end of Surry Mountain Lake. In addition, Surry's landscape supports numerous small, isolated palustrine wetlands distributed widely throughout town.

Table 1 Summary of mapped wetlands in Surry.

Wetland Classification	**Area (acres)**
Lacustrine	**217**
Riverine	**114**
Palustrine	**598**
Aquatic Bed	3
Emergent Marsh	203
Forested Swamp	239
Scrub-shrub Swamp	124
Unconsolidated Bottom	29
SOURCE: National Wetlands Inventory Plus (2021)	

To adequately characterize and delineate wetlands, one must consider hydric soils, which include wetland soils categorized as poorly drained and very poorly drained. These soil types have been mapped for general planning purposes by the USDA Natural Resources Conservation Service (Figure 2). Poorly drained soils are estimated to cover about 480 acres in Surry, while very poorly drained soils cover 254 acres, based on GIS calculations and totaling 704 acres (Table 2). This differs slightly from the estimated area of wetlands noted above. The difference in these two datasets is primarily due to the types of data used and the inherent errors associated with these data. Delineation of wetlands for site-specific purposes (i.e., developments, trail crossings, and habitat restoration projects) requires on-site examination by a NH state-certified natural resources professional, under RSA 310-A.

Table 2 Summary of mapped wetlands in Surry.

Hydric Soils	**Area (acres)**
Poorly Drained	480
Very Poorly Drained	254
SOURCE: GIS analysis (Moosewood Ecological 2025) of USDA Natural Resources Conservation Service soils.	

Cat-tail marshes provide important habitat for secretive wetland birds such as bitterns and rails. Similar to other wetlands, these marshes perform additional essential ecological services such as maintaining good water quality, flood control, and restoring groundwater resources.

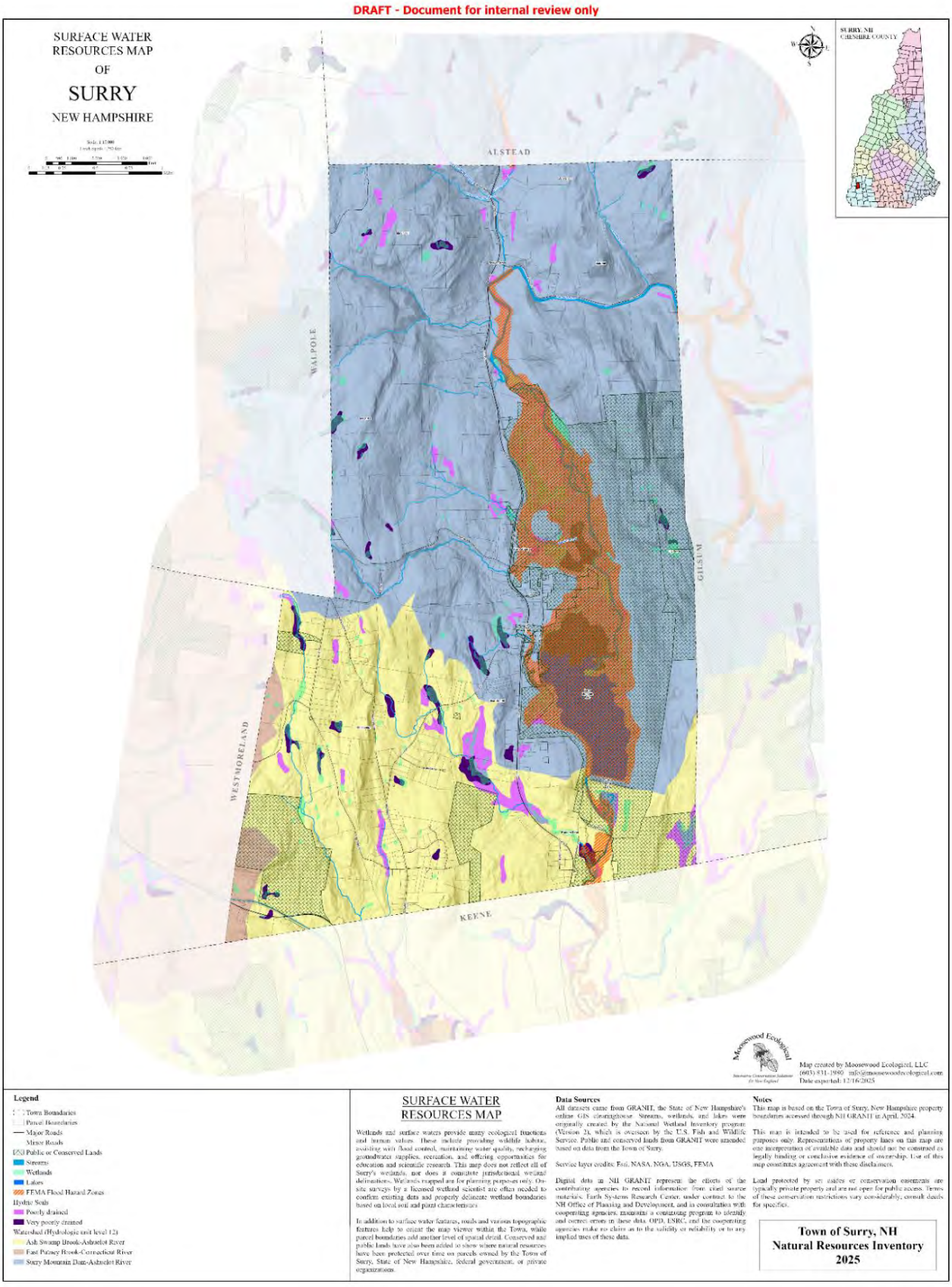

Figure 2 Wetlands and surface water resources in Surry.

Surface Waters

Surry's surface waters range from small hillside streams to the Ashuelot River and ponds ranging from beaver impoundments to engineered lakes like Surry Mountain Lake (Figure 2). Our surface waters provide a multitude of human benefits such as fishing, hunting, boating, swimming, and nature observation, and they are essential for wildlife and plants that depend upon these resources for their life cycle needs. Threats to Surry's water resources include potential water quality degradation by mobile, stationary, or area pollution sources; habitat loss due to surrounding land use including unsustainable forestry and agricultural practices; and land conversion associated with roads and other development.

Ponds

Surry has several small ponds distributed throughout the town, which mostly includes small private ponds. Together, the US Geological Survey and the NH Dept. of Environmental Services (NHDES) have identified three named ponds. These ponds cover approximately 364 acres in Surry (Table 3 and Figure 2). All three of these ponds are fully contained within the town boundaries.

Table 3 Summary of lakes and ponds in Surry.

Named Lakes and Ponds	Size (acres)
Lily Pond	6.6
Rodgers Pond	5.3
Surry Mountain Lake	352

SOURCE: GIS analysis (Moosewood Ecological 2025) of USGS topography, NHDES, and NWI Plus data.

Rivers and Streams

Approximately 44 miles of rivers and streams have been mapped in Surry (Table 4 and Figure 2). U.S. Geological Survey and NHDES have identified five named rivers and streams. The Ashuelot River is the largest flowing stream in Surry followed by Thompson Brook and Merriam Brook. There are approximately 29.5 miles of unnamed perennial streams. Nearly all of these are tributaries of the Ashuelot River.

Not all intermittent streams, those that flow seasonally, have been mapped for Surry. Also, ephemeral streams that flow in response to rain events have not been mapped. Most of these drainages are not shown on USGS topographic maps or in digital datasets used to map surface waters. Similar to perennial streams, intermittent streams have defined channels. However, they are typically fed by periods of high groundwater and supplemented by snowmelt and rain storms, and they typically do not have flowing water during dry periods.

In contrast, perennial streams flow generally throughout the year; whereas ephemeral streams are drainages that do not have distinct channels and only flow during snowmelt and rain storms. It is important to make these distinctions as each provides a different habitat, but all are important aspects of our landscape and their role in draining water from the uplands into

perennial streams and wetlands. Developments that do not include all of these drainages into the planning process can potentially cause unintended erosion and sedimentation of our water resources.

Table 4 Summary of rivers and streams in Surry.

Streams	Length (miles)	Stream Order
Ashuelot River	7.4	5th
Black Brook	2.8	1st - 2nd
Cannon Brook	1.1	1st
Merriam Brook	2.8	2nd - 3rd
Thompson Brook	0.9	3rd
Unnamed streams	29.5	1st - 2nd

SOURCE: USGS topography and hydrography datasets.

Shoreland Water Quality Protection Act

The Shoreland Water Quality Protection Act (SWQPA), RSA 483-B, is a state statute enacted to protect the shorelands and water quality of public waters (initially known as the Comprehensive Shoreland Protection Act). These include all great ponds (>10 acres), fourth order streams or higher, and state-designated rivers have been identified by the NH Dept. of Environmental Services as water bodies that are subject to the SWQPA. The Act established minimum standards for the subdivision, use, and development of the shorelands along the state's larger waterbodies. For most new construction, as well as land excavating and filling, a state permit may be required (certain exemptions apply). In Surry, the Ashuelot River and Surry Mountain Lake, a reservoir of the Ashuelot River, are public waters, and therefore included on the NHDES Consolidated List of Water Bodies subject to the SWQPA.

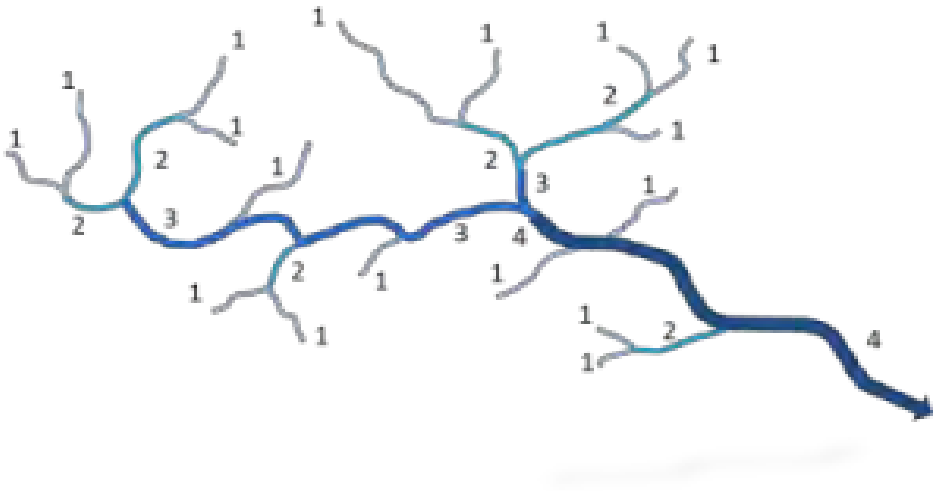

Diagram of how stream order is determined. Stream ordering is a method of classifying the hierarchy of tributaries within a watershed. The smaller the stream order value, the smaller the stream. First order streams include the headwater streams that can be found along the steeper slopes in Surry. When two first order streams converge, they form a second order stream, and so on. The numbers in this figure represent the stream order.

Groundwater Resources – Stratified Drift Aquifers

Groundwater resources that can serve as sources for drinking water are referred to as aquifers. These resources are located in two types of aquifers - sand and gravel deposits and bedrock.

In the last post-glacial period as glaciers melted, these meltwaters left behind layers of sorted sediments including sand and gravel. The larger spaces between the particles in the sand and gravel provides groundwater storage and flow. Groundwater stored in *stratified drift aquifers* can serve as an excellent source of drinking water due to the larger quantities available. Locating these geologic features and protecting them as current and future water sources can help to ensure a supply of clean drinking water free of contamination. In contrast, bedrock aquifers typically produce lower quantities of water than stratified drift aquifers; however, bedrock aquifers provide drinking water for households in Surry through private wells.

Stratified drift aquifers are grouped into categories based on *transmissivity*, or the rate at which water moves through them. Transmissivity is measured in square feet per day (ft^2/day). Therefore, higher rates of transmissivity correspond to a potentially higher yield of groundwater. Surry's stratified drift aquifers cover approximately 1,409 acres mainly in association with the Ashuelot River (Table 5 and Figure 3). These aquifers have various rates of transmissivity ranging from less than 1,000 $feet^2$/day to over 4,000 $feet^2$/day.

Table 5 Extent of Surry's stratified drift aquifers.

Groundwater Attribute	Size (acres)
Stratified Drift Aquifer Transmissivity Rates	
≤1,000 $feet^2$/day	1,243
1,000 - 2,000 $feet^2$/day	92
2,000 - 3,000 $feet^2$/day	45
3,000 - 4,000 $feet^2$/day	2
>4,000 $feet^2$/day	1
Favorable Gravel Well Analysis	
75 - 150 Gallons/Minute	16
>150 Gallons/Minute	10
Source: USGS stratified drift aquifers and NH DES favorable gravel well analysis.	

While transmissivity takes into account the quantity of water moving through an aquifer system it does not reflect the quality of the source. To help address this aspect and identify potential future public water supplies for communities, the NH Department of Environmental Services and the Society for the Protection of NH Forests prepared a Favorable Gravel Well Analysis (FGWA) for the entire state. This project analyzed stratified drift aquifers for transmissivity rates in combination with water quality based on known and potential locations of surface and groundwater pollution, affording the opportunity for town planners and water suppliers to determine quantity and quality constraints on aquifers. The FGWA areas are illustrated in Figure 3 and summarized in Table 5.

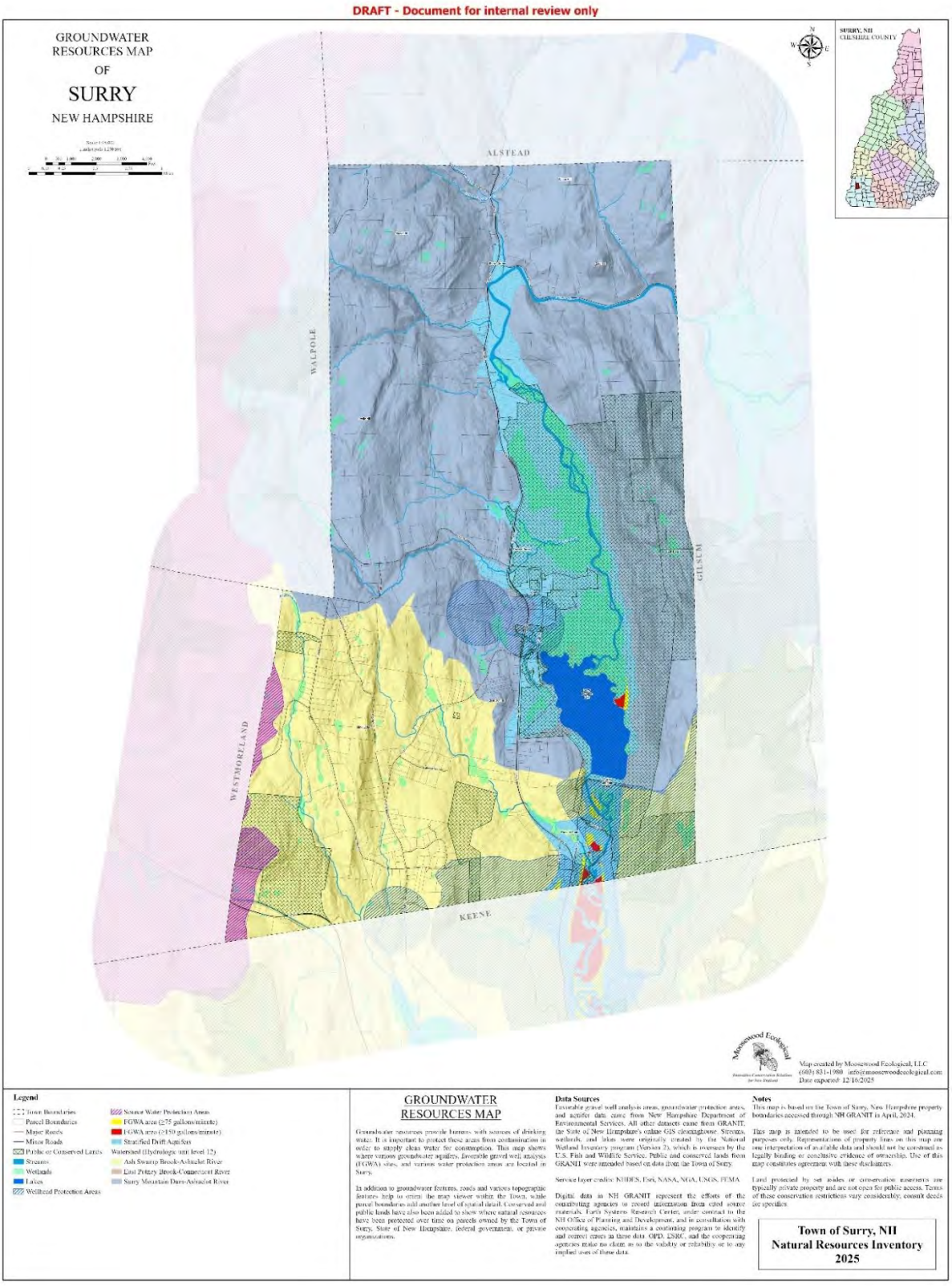

Figure 3 Groundwater resources in Surry.

ECOLOGICAL RESOURCES

Ecological resources provide certain necessary but overlooked system maintenance functions within ecosystems (Scott et al. 1998). Ecological resources in Surry include many features such as wildlife habitats, natural (plant) communities, and rare species. These natural resources encompass the realm of biodiversity, or the variety and variability of life, which supports healthy ecosystems for wildlife, plants, and humans.

This Natural Resources Inventory was enhanced by field surveys on select properties to assess some of Surry's biodiversity on the ground. These surveys focused on assessing Surry's wildlife and plant diversity and habitats on 1) public lands, 2) roadside surveys, and 3) assessments on private properties where landowners provided permission. These assessments provide a sample of Surry's landscape. The following sections provide a glimpse into the range of diverse species and habitats present in Surry.

Field Surveys

Field surveys were conducted over a five-day period during the 2025 field season. Habitats with a high potential to harbor rare species and natural communities were identified using GIS mapping to guide field efforts. A subset of parcels identified for field surveys was chosen beginning with properties owned or protected by the public entities or other conservation organizations. A list identifying private lands as suitable for surveys was created, and this list formed the foundation of a permissions-based outreach effort to individual landowners. Those who granted permission to conduct a survey were contacted in advance based on their preferences, and their properties were surveyed for a variety of ecological features. A total of twelve private and public properties were visited during the study, as well as observations from the roadsides.

State Wildlife Action Plan Habitats

Surry's landscape supports a variety of wildlife habitats and natural communities, including rivers, streams, ponds, wetlands, and floodplains interspersed with a variety of upland forests, rocky ridges, grasslands, and shrublands distributed throughout the town. This diverse landscape supports a high degree of biodiversity.

The NH Fish and Game Department, in cooperation with other agencies, organizations, and individuals, produced the first State Wildlife Action Plan (SWAP) in 2005. The latest revision was produced in 2025 (NH Fish and Game, 2025). Habitat data is revised every 5 years. As such, these data were last revised in 2025. The SWAP was designed as a planning and educational tool for federal, state, and municipal governing bodies, conservation commissions, land trusts and other conservation organizations, natural resource professionals, and private landowners, as well as the general public, to promote the conservation and management of New Hampshire's biological diversity. The SWAP provides a resource for developing informed land use decisions and land management planning. The intent was to ensure that an adequate representation of various wildlife habitats is maintained across New Hampshire's landscape, keeping common species common and working to prevent the loss of our rare and endangered species.

The SWAP project grouped habitats at three scales: broad-scale (matrix forests and sub-watershed groupings), patch-scale (priority habitats such as grasslands and peatlands), and site-scale (documented occurrences of rare and uncommon species, natural communities, vernal pools). Mapped data are available for viewing and use only at the broad- and patch-scale levels. Habitat mapping is intended to predict, not necessarily guarantee that the habitats shown are present. For this reason, field and remote sensing verification is recommended by NH Fish and Game to increase the accuracy of the mapping at the parcel and municipal scale.

A total of 18 wildlife habitats described in the SWAP were mapped for Surry at broad- and patch-scale levels (Table 6 and Figure 4). These include three types of upland forests, floodplain forests, cliffs/talus slopes, and rocky ridges. Wetland habitats represent marshes, swamps, peatlands, open water, and streams. Other habitats are created through various land use changes and management, such as grasslands, shrublands, sand and gravel operations, and land development projects.

Table 6 Summary of wildlife habitats mapped by the State Wildlife Action Plan in Surry.

Wildlife Habitat	Extent (Area or Miles)	Percent of Town
Appalachian oak-pine forest	349 acres	3.4%
Cliff and Talus	113 acres	1.1%
Developed	517 acres	5.0%
Developed impervious surfaces	237 acres	2.3%
Floodplain forest	144 acres	1.4%
Grassland	326 acres	3.1%
Hemlock-hardwood-pine forest	7,442 acres	71.9%
Marsh or shrub wetland	292 acres	2.8%
Northern hardwood-conifer forest	87 acres	0.8%
Northern swamp	2 acres	<0.1%
Open water	376 acres	3.6%
Peatland	36 acres	0.3%
Rocky ridge	182 acres	1.8%
Sand/gravel	23 acres	0.2%
Shrubland	79 acres	0.8%
Temperate forested swamp	152 acres	1.5%
Vernal Pools	50 pools*	N/A
Streams	44.5 miles	N/A

* Estimate based on modeling of microtopographic features and land cover

Source: Wildlife Action Plan (2025), USGS NH Hydrography, vernal pools from Moosewood Ecological LLC

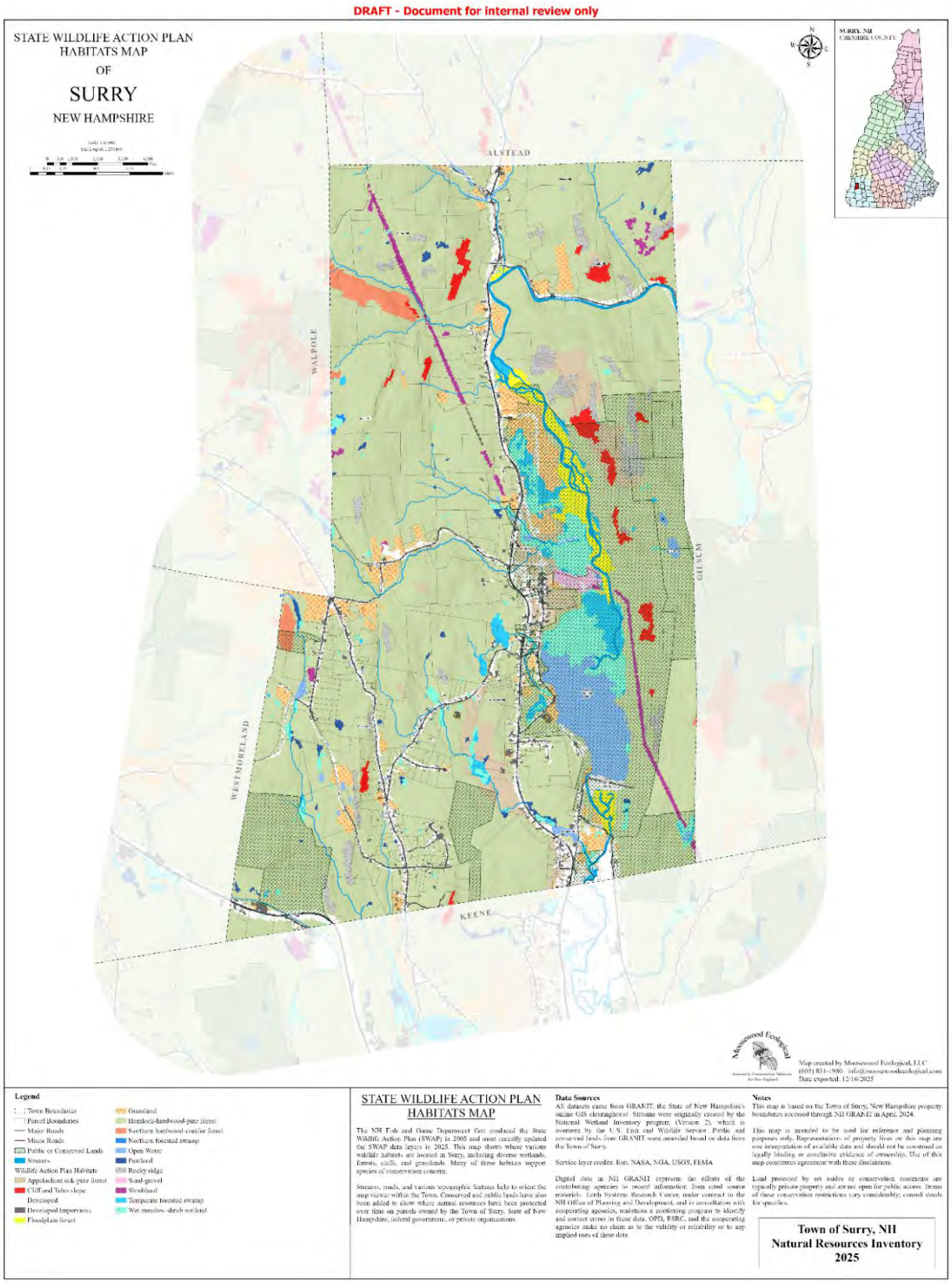

Figure 4 Significant wildlife habitats in Surry.

The following provides brief descriptions for many of the wildlife habitats predicted for Surry or observed on public lands and private properties during the course of field work completed in 2025. These descriptions also include basic wildlife observations. However, this does not represent a comprehensive inventory or list of wildlife, and many other species are expected to be using these habitats at various points of the year. Not included in these descriptions are the developed areas of Surry.

Hemlock-Hardwood-Pine Forests

This matrix forest is the most widespread type in Surry, covering 7613.5 acres, or approximately 74% of the town. Hemlock-hardwood-pine forests support 140 vertebrate wildlife species, including 15 amphibians, 13 reptiles, 73 birds, and 39 mammals (NH Fish and Game 2015). Typical wildlife or their sign observed during field surveys in 2025 included bobcat, bear, coyote, ovenbird, black-throated green warbler, hermit thrush, and numerous other birds. Hemlock-hardwood-pine forests also provide important habitat for red fox, fisher, common raccoon, gray squirrel, eastern chipmunk, wild turkey, pileated woodpecker, and common raven. In addition, several species of greatest conservation need were observed from the brightly-colored scarlet tanager to the well-camouflaged American woodcock, as well as wood thrush, veery, and moose.

This multiple-trunked red maple is a common site in hemlock-hardwood-pine forests, and it offers a key to the areas past land use history. Many hardwoods will stump sprout after being harvested. Multiple-trunked hardwoods are present in many of Surry's forests, indicative of at least one previous logging event at these areas. Red maples, like the one shown here, are less likely than other species of hardwood to stump sprout so we can even extrapolate the likely time of year the event occurred as a tree like this is more likely to stump sprout after an early spring logging event due to the amount of energy stored in the root system.

The hemlock-hardwood-pine forest ecosystem is a transitional forest type. It occurs at the overlap of the Appalachian oak-pine forest found at lower elevations and southward, and the northern hardwood-conifer forests found in higher elevations and farther north, both of which are found in small patches in Surry. Typically, this forest ecosystem is dominated by hemlock, beech, red oak, and white pine, with lower amounts of white ash, birches, maples, and occasionally hickories.

Appalachian Oak-Pine Forests

The Appalachian oak-pine forest ecosystem represents the second largest forested ecosystem, covering an estimated 406.6 acres in Surry, or approximately 3.9% of the town. This forest type is limited in their distribution in New Hampshire and are typically found in lower elevations below 900 feet. They are associated with nutrient poor, sandy soils or dry rocky ridges. In contrast, there are some rare forest communities within this ecosystem that have nutrient enriched soils characteristics. Fire is a common ecological process that helps to maintain these forests. Plants found within this forest ecosystem are commonly found along the Appalachian Mountains, including white oak, black oak, scarlet oak, chestnut oak, pitch pine, and American chestnut, as well as mountain laurel and a variety of hickories. In addition, this forest ecosystem supports 104 vertebrate wildlife species, including 8 amphibians, 67 birds, 14 mammals, and 12 reptiles. This forest ecosystem supports a similar suite of wildlife as the hemlock-hardwood-pine forest, including those observed in 2025.

Northern Hardwood-Conifer Forests

This represents 90 acres or 0.88% of Surry. These are typically found on the hilltops and north-facing slopes and Surry represents the southern edge of this forest type. Similar to hemlock-hardwood-pine and Appalachian oak-pine forests, northern hardwood-conifer forests support 137 vertebrate wildlife species, including 14 amphibians, 8 reptiles, 73 birds, and 42 mammals (NH Fish and Game 2015).

Rocky Ridges, Cliffs, and Talus Slopes

Rocky ridges are relatively open areas that are sparsely vegetated mainly due to the presence of open bedrock. These areas are typically very dry and acidic, supporting forest communities that are maintained by periodic fires due to exposure to lightning. Similarly, cliffs are relatively open with sparse vegetation. They are characterized as very steep, rock faces over 10 feet tall. Talus slopes occur at the base of cliffs where boulders accumulate, forming crevices and caves that many wildlife use to raise their young or for hibernation in winter.

These areas are fairly uncommon and can contain rare and exemplary forest communities due to their relative inaccessibility. They may support a number of species of greatest conservation need (SGCN), including eastern towhee, smooth green snake, and bats. Historically, these areas served as habitat for the state-endangered timber rattlesnake. Rocky ridges, cliffs, and talus slopes facing south also provide wonderful sunning sites for bobcat in the winter months as well as habitat for denning and hibernacula.

Rocky ridges, such as this example found on Surry Mountain, among higher elevations in Surry provide an uncommon habitat, supporting a unique community of plants and wildlife.

These three habitats occur together as a complex mosaic sporadically along Surry Mountain and Bald Hill where rocky ridges are located just above cliffs and their talus slopes. However, rocky ridges do occur as discrete, individual patches on Bald Hill, and near Joslin Hill. Collectively, these three habitats cover about 295 acres or 2.8% of the town's acreage. Although these habitats occupy a relatively small area, they contribute significantly to Surry's overall biodiversity. Species observed within these habitats during the 2025 field surveys included black bear, moose (SGCN), porcupine, chipmunk, green stink bug, banded tussock moth, and northern pearly-eye butterfly.

Grasslands

Grasslands are non-forested areas maintained for a variety of uses, such as hay, pastures, and wildlife habitat. They are dominated by grasses and forbs (an herbaceous flowering plant that is not grass-like) with little to no presence of trees and shrubs. Grasslands were more abundant during the late 1700s through the 1800s before farms were abandoned and allowed to revert into forest. As such, there has been a steep decline in the diversity of wildlife associated with this habitat. Currently Surry has about 343.6 acres of grasslands, or covers roughly 3.3% of the town.

Surry's grasslands include hayfields and meadows, as well as potential livestock pastures. This habitat supports numerous species of greatest conservation need, and therefore, are some of Surry's most significant habitats for wildlife. In fact, they can support uncommon or rare species such as American kestrel, vesper sparrow, eastern meadowlark, bobolink, wood turtle, and northern leopard frog. Eastern bluebird, northern flicker, mourning dove, deer, red fox, red-tailed hawk, wild turkey, common eastern bumblebee, common garter snake, red milkweed beetle, yellow garden spider, and common wood-nymph butterfly.

Hayfields not only support working farms, but they can provide scenic views and grassland habitat for species of greatest conservation need.

Shrublands

Shrublands contain thickets of young trees and shrubs mixed with occasional grasses and forbs. This habitat is declining in the state, and this decline has a profound effect on wildlife. Shrublands provide an important habitat for 139 species of reptiles, amphibians, mammals, and birds in New Hampshire (NH Fish and Game 2015). Several of these species have been identified as species of greatest conservation need (SGCN). In fact, 22 of 28 species of shrubland birds are currently in decline. Species observed in 2025 included coyote, deer, pickerel frog, eastern towhee (SGCN), chestnut-sided warbler, dun skipper butterfly, and American copper butterfly.

Shrublands can be difficult to quantify and map since they represent transitional habitat between forests and open areas, such as fields, utility corridors, and developed sites. Most shrublands revert to forest if not maintained by natural disturbances (i.e., fire) or active management (i.e., mowing). Some upland sites, such as the utility corridor that runs diagonally from the northwest corner to the southeast corner across Surry, may provide relatively consistent shrublands as they are maintained periodically to prevent trees from growing into the powerlines. Shrub swamps, shorelines, and other wetland sites also provide long-term shrub habitats where trees cannot grow due to flooding. The SWAP estimates that Surry contains about 79 acres of shrubland. This may be a low estimate, owing to the difficulty in mapping these important habitats,

Sand and Gravel

Sand and gravel habitats have been created though landscape conversion due to forest clearing and resource extraction. Initially after sand and gravel operations have been exhausted the area is mostly devoid of vegetation, leaving a sandy substrate. Reclamation of these sites may include land development which creates long term habitat loss. Another type of site reclamation may include habitat restoration with native plants that can be adapted for stewardship of

biodiversity, including species of greatest conservation need such as reptiles, insects, and plants.

Currently, there are only approximately 23 acres of active or previous sand and gravel operations in Surry. These sites are typically associated with outwash sands and other post glacial deposits that were left in place after the latest Laurentide ice sheet retreated from the region about 12,000 years ago. While Figure 4 shows the distribution of current and past sand and gravel operations, Figure 11 under the Geologic Resources section demonstrates where existing sand and gravel operations are located in conjunction with sites yet to be extracted. Once these operations reach the end of their existence they could be restored to provide critical habitat for nesting reptiles and birds.

Floodplains

Floodplains are typically found along river valleys directly adjacent to rivers, streams, and larger wetland complexes. In Surry they appear mainly along the Ashuelot River. They can vary in their species composition and overall structure from forests to open herbaceous floodplains with shrub swamps and vernal pools. They are strongly influenced by the size of the watershed and the gradient of the river. Historically, many of our floodplains were cleared for agricultural fields in the 1700s-1800s. Many have now been converted into residential, commercial, and industrial developments, while others remain as farmlands. As a result, floodplains are more limited due to these types of land conversion, as well as construction of dams that control water levels.

Floodplains and riparian forests play critical roles in helping to protect water quality by slowing floodwaters and supporting diverse plant communities. They also provide significant habitat for a wide variety of wildlife including several species of greatest conservation need, such as wood turtle, smooth green snake, northern leopard frog, Jefferson salamander, American woodcock, and veery.

It is estimated that Surry has about 144 acres of floodplain forest along the Ashuelot River. Some areas of the river show relatively heavy knotweed (*Reynoutria japonica*) populations which can alter native plant communities and wildlife habitat, impacting native biodiversity. Examples of wildlife observed directly or through sign in these habitats include white-tailed deer, raccoon, porcupine, bobcat, Eastern coyote, beaver, wild turkey, Louisianna waterthrush, cedar waxwing, American toad, green frog, pickerel frog, wood frog, sumac leak blotch miner moth, and morning cloak.

In some areas along the Ashuelot River S3S4 cobble sand river channel (top) transitions into a willow, dogwood and sedge-filled shrub wetlands which transitions into S1 sycamore floodplain forest (bottom) with a beautiful ironwood understory. These rare habitats can support a variety of species of concern as well as wetlands and vernal pools. Floodplains also provide essential ecological services for the community by maintaining water quality, recharging groundwater resources, and storing floodwaters during heavy rain events.

Marsh and Shrub Wetlands

There are about 292 acres of marsh and shrub wetlands in Surry. The largest marsh and shrub wetland complexes are found along the Ashuelot River, between Dort Road and Surry Mountain Lake Dam. However, many smaller examples can be also found associated with beaver ponds, along other streams, and small isolated pockets scattered throughout Surry in low-lying depressions or perched basins.

Marshes are often dominated by a combination of grasses, sedges, rushes, and to a lesser degree, forbs, and may contain areas of open water. Edges of beaver ponds tend to support marshes and abandoned beaver ponds usually revert to marsh habitat with less open water.

Shrub swamps, in contrast, are dominated by wetland shrubs such as highbush blueberry, arrowwood, northern wild raisin, winterberry, and speckled alder. Marsh and shrub wetlands are distinctly different in their habitat structure and therefore, will support different wildlife communities. However, they are often found existing together, supporting relatively high biodiversity. Marsh and shrub wetlands support 18 wildlife species of greatest conservation need in New Hampshire, as well as rare plants and plant communities.

Emergent marshes (top) are often dominated by a combination of grasses, sedges, rushes, and to a lesser degree, forbs. They also may contain areas of open water or form in old beaver ponds.

Shrub swamps (bottom), such as this one along an unnamed stream in Surry, also have open water but are dominated by wetland shrubs such as highbush blueberry, arrowwood, northern wild raisin, winterberry, and speckled alder. Marsh and shrub wetlands are distinctly different in their habitat structure and therefore, will support different wildlife communities.

Peatlands

Peatlands are open wetland habitats dominated by shrubs, sedges, and *Sphagnum* mosses. They are characterized by peat soil - organic soil of partially decomposed plants. Peatlands form in sites of limited or no surface water input and range from being highly acidic and poor nutrient levels to moderately nutrient-enriched. "Quaking" bogs are one uncommon type of peatland. Peatlands are often isolated in basin settings, or occupy the shallow end of larger wetlands or shallow ponds. The low pH (indicator of acidic conditions) is a strong factor influencing the composition of plant species.

Typical plants associated with poor to medium nutrient peatlands include insectivorous pitcher plants and sundews, diverse sedge communities, mosses, highbush blueberry, mountain holly, speckled alder, sheep laurel, bog rosemary, and forbs such as bog aster and bog goldenrod. Fifty-four rare plants are supported by peatlands state-wide, including dwarf huckleberry, several rare sedges, and rare orchids. Associated uncommon wildlife species of note include ringed boghaunter dragonfly, palm warbler, and ribbon snake.

It is estimated that there are about 36 acres of peatlands distributed with relative evenness around Surry. These mainly include small peatlands at the beginning of headwater streams or isolated pockets with few to no large examples found within town boundaries.

Temperate and Northern Forested Swamps

There are about 154 acres of forested swamps in Surry, of which only 2 acres are Northern Forested Swamp, which is at the southern edge of its range where it is found mainly at higher elevations. Forested swamps are typically isolated wetlands found in low-lying basins, although they can also be part of larger wetland complexes. Similar to marsh and shrub wetlands, forested swamps help maintain water quality, store floodwaters, recharge groundwater supplies, and may support vernal pools as well. The most common examples include seasonally flooded red maple swamps and hemlock-cinnamon fern swamps.

Vernal Pools

Vernal pools provide unique and critical habitats for a variety of species. These pools typically fill during the spring, dry out completely or partially later in the summer, and contain no viable fish populations. These attributes are critical for the long-term survival of vernal pool obligate organisms. They also have no permanent inlet or outlet streams. For vernal pools to continue to function as critical wildlife habitats, they require a forested canopy around the vernal pool and significant intact, natural forest surrounding them, as many obligate species spend most of their life cycles up to 1,000 feet from the vernal pool in these forested uplands. It is for this reason that larger forested buffers surrounding vernal pools are encouraged.

Amphibians such as wood frog, spotted salamander, and Jefferson's salamander (a species of greatest conservation need) use vernal pools. Vernal pools are also significant for other species of greatest conservation need, including Blanding's turtle, spotted turtle, and ribbon snake. Many aquatic macroinvertebrates such as fairy shrimp and fingernail clams depend upon this habitat.

Vernal pools can be found in many settings in Surry's landscape, such as at the beginning of headwater streams on hilltops and ridges, along benches on side slopes of hills and peaks, riparian forests, floodplain forests, and level areas between hilltops, as well as where the topography forms small depressions in flat areas. It is estimated that Surry has at least 50 potential vernal pools. However, this estimate is most likely much lower than what actual exists.

Amphibians such as wood frog, spotted salamander, and Jefferson's salamander (a species of greatest conservation need) use vernal pools. Many aquatic macroinvertebrates such as fairy shrimp and fingernail clams depend upon this habitat.

Open Water

There are 376 acres of open water habitat associated with ponds, US Army Corp dams, and beaver impoundments in Surry. The largest examples include Surry Mountain Lake, Rodgers Pond, and Lily Pond. Open water habitats are important for many species of reptiles and amphibians such as snapping turtles, painted turtles, red-spotted newts, green frogs, bullfrogs, and pickerel frogs. Many species of waterfowl use these habitats for resting during migration, as well as for feeding and breeding, including great blue herons, mallards, and geese. Bald eagles and numerous migrating shorebirds were observed in the habitats as well. They even provide a food source for bald eagles and osprey. Otters are often observed along with racoons hunting for fish and crayfish. In addition, there are numerous aquatic macroinvertebrates in ponds and lakes, providing a rich source of food for other wildlife species.

Rivers and Streams

There are approximately 44.5 miles of rivers and streams in Surry. They are quite diverse, providing important resources for a variety of species that thrive in both cold water and warm water habitats. Most of Surry's cold-water streams can be found cascading down the hills and ridgelines where they provide cold, clear, highly oxygenated waters. These streams are important for brook trout and stream salamanders such as the spring salamander, as well as crayfish and many other aquatic macroinvertebrates that provide an important source of food.

Ashuelot River is the dominate watercourse in Surry. This is followed by Thompson Brook, which joins the Ashuelot at River Road, and Merriam Brook. These rivers, streams, and their

tributaries provide habitat for a diverse wildlife community of aquatic, semi-aquatic, and wetland-associated wildlife and plants. Rivers and streams are threatened by climate change due to increasing water temperatures and erosion from more frequent and intense rainstorms. In addition, development adjacent to rivers and streams can degrade wildlife habitats by increasing the density of invasive plants, increasing water temperature, reducing water quality, and fragmenting natural landscapes.

Rivers and streams are threatened by climate change due to increasing water temperatures and erosion from more frequent and intense rainstorms. Here we see the Ashuelot River north of Dort Road, photographed during drought conditions in 2025.

State Wildlife Action Plan Highest Ranked Habitat by Ecological Condition

The State Wildlife Action Plan (SWAP) highest-quality tiers map (Figure 5) shows where habitats in the best ecological condition are located in Surry. These designations were based on biodiversity, arrangement of habitat types on the landscape, and lack of human impacts.

With the goal of setting priorities for conservation of important wildlife habitat in New Hampshire, the SWAP also identified areas of the state with unusually pristine, influential, diverse, or extensive examples of "exemplary" habitat. These areas were, in turn, ranked by condition on both sub-state regional and statewide levels, resulting in a tiered ranking of priority areas for conservation.

Color-coded areas shown in Figure 5 indicate highest ranked habitats by condition, both within New Hampshire (hot pink) and within an ecoregion (green). These highest ranked habitats include the entire Surry stretch of the Ashuelot River, Merriam Brook, Cannon Brook, Wilcox Hill, Joslin Hill, Marvin Hill, Surry Mountain, and Surry Mountain Lake. The extensive matrix of highest ranked habitats is surrounded by large areas of "Supporting Landscape," indicating that Surry has substantial significant habitat blocks to support the communities' biodiversity. Supporting Landscapes (in orange) provide important habitat of local significance. All three categories are considered unusually significant for wildlife, and especially important areas for land conservation.

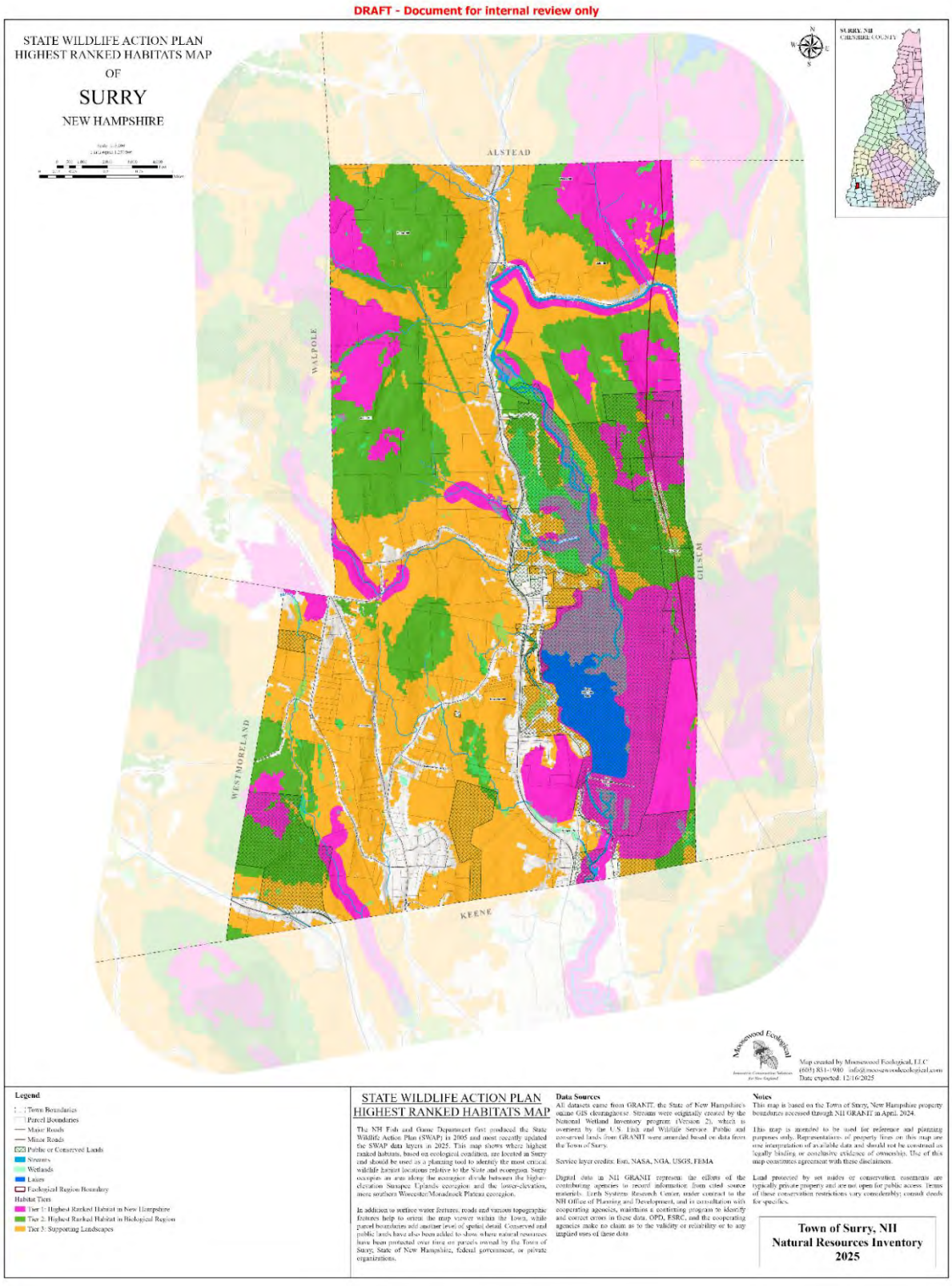

Figure 5 NH Wildlife Action Plan highest-quality habitat tiers in Surry.

Species of Greatest Conservation Need and Exemplary Natural Communities
The New Hampshire Natural Heritage Bureau (NHB) of the NH Division of Forests and Lands in cooperation with the New Hampshire Fish and Game Department's Nongame and Endangered Wildlife Program maintains a list of rare species and exemplary natural communities by municipality. Generalized information on the presence of these species and natural communities is available from the NHB by municipality (NH Natural Heritage Bureau 2020).

According to the Bureau's *Rare Plants, Rare Animals, and Exemplary Natural Communities in New Hampshire Towns* (2020), there were 16 known rare species and four exemplary natural communities previously documented in Surry prior to this NRI (Tables 7a-7c). To this end, 65 additional rare species or species of greatest conservation need (SGCN), including endangered, threatened, watchlist, indeterminate, and special concern species, have been added to this list using supplemental data from Moosewood Ecological's field surveys in 2025 as well as records retained from eBird, an online community science repository for bird sightings (Tables 7a-7c). These new observations include 16 species of plants and 65 species of wildlife. Examples of rare species include American kestrel (SGCN), eastern small-footed bat (state endangered), smooth green snake (SGCN), wood turtle (special concern), hollow Joe-Pye weed (state endangered), and American ginseng (state threatened).

The specific location and extent of these rare species and communities have not typically been available for this type of study due to data release policies of the NH Division of Forests and Lands, which houses the NHB. However, a recent data sharing release policy has allowed for site-specific Natural Heritage data to be accessed for use in identifying open space priority areas. The agreement does not allow for graphic display of, or references to, specific locations.

Six out of the 16 listed species currently in the NHB database are considered historical records since it has been greater than 20 years since their last observation. These include hollow Joe-Pye weed, northern bog violet, and eastern whip-poor-will. However, as indicated by Moosewood Ecological's field surveys and eBird data, there are other species of greatest conservation need that were documented in 2025. This list would undoubtedly increase with additional field work, which is a necessary component to inform proactive community land use planning and conservation priorities.

Table 7a. Exemplary natural communities and rare plants in Surry.

Rare Elemental Occurrence	Rarity Rank
Natural Communities - Terrestrial	
Rich mesic forest**	
Rich red oak rocky woods**	
Natural Communities - Palustrine	
Cobble - sand river channel**	
Sycamore floodplain forest*	
Plants	
Allegheny-vine (*Adlumia fungosa*)**	State Endangered
American cancer-root (*Conopholis americana*)	State Watchlist
American ginseng (*Panax quinquefolius*)**	State Threatened
American jumpseed (*Persicaria virginiana*)	Indeterminate
American sycamore (*Platanus occidentalis*)	State Watchlist
Appalachian ladies' tresses (*Spiranthes arcisepala*)	Indeterminate
Broad beech fern (*Phegopteris hexagonoptera*)	State Watchlist
Carolina crane's-bill (*Geranium carolinianum*)	State Endangered
Cut-leaved toothwort (*Cardamine concatenata*) ~	State Endangered
Drooping sedge (*Carex prasina*)	State Watchlist
Early blue cohosh (*Caulophyllum giganteum*)	State Threatened
Eastern Canada violet (*Viola canadensis* var. *canadensis*)	State Watchlist
Eastern leatherwood (*Dirca palustris*)	State Watchlist
Eastern waterleaf (*Hydrophyllum virginianum*)**	State Threatened
Greater fringed-gentian (*Gentianopsis crinita*)*	State Threatened
Hollow Joe-Pye weed (*Eutrochium fistulosum*) ~	State Endangered
Large-fruited sanicle (*Sanicula trifoliata*)**	State Threatened
Northern bog violet (*Viola nephrophylla*) ~	State Endangered
Pale jewelweed (*Impatiens pallida*)	State Watchlist
Reflexed sedge (*Carex retroflexa*) ~	State Endangered
Sharp-lobed hepatica (*Hepatica[Anemone] acutiloba*)	State Watchlist
Slender muhly (*Muhlenbergia tenuiflora*) ~	State Endangered
Small swollen bladderwort (*Utricularia radiata*)	State Watchlist
Squirrel corn (*Dicentra canadensis*)	State Watchlist
Virginia stickseed (*Hackelia virginiana*)**	State Threatened
Wide leek (*Allium tricoccum*var. *tricoccum*)	State Watchlist

SOURCE: NH Natural Heritage Bureau database (2020) and Moosewood Ecological search (2025) of biodiversity databases.

FE - Federally Endangered
SGCN - Species of Greatest Conservation Need
**** - Highest Importance
*** - Extremely High Importance
** - Very High Importance
* - High Importance
~ - Historical record
(n) - nonbreeding season

Table 7b. Bird species of greatest conservation need documented in Surry.

Rare Elemental Occurrence	Rarity Rank	Rare Elemental Occurrence	Rarity Rank
Birds		**Continued**	
American Black Duck	SGCN	Nelson's Sparrow (n)	Special Concern
American Kestrel	SGCN	Northern Harrier (n)	State Endangered
American Pipit (n)	Special Concern	Olive-sided Flycatcher (n)	SGCN
American Woodcock	SGCN	Peregrine Falcon (n)	State Threatened
Bald Eagle**	Special Concern	Pied-billed Grebe* (n)	State Threatened
Bank Swallow	Special Concern	Prairie Warbler	SGCN
Bay-breasted Warbler (n)	SGCN	Purple Finch	SGCN
Black-billed Cuckoo	SGCN	Ruffed Grouse	SGCN
Blue-winged Warbler	SGCN	Rusty Blackbird (n)	Special Concern
Bobolink	SGCN	Scarlet Tanager	SGCN
Brown Thrasher	SGCN	Semipalmated Sandpiper (n)	SGCN
Canada Warbler	SGCN	Veery	SGCN
Cape May Warbler (n)	SGCN	Vesper Sparrow (n)	Special Concern
Chimney Swift	SGCN	Wood Thrush	SGCN
Cliff Swallow (n)	State Threatened	SOURCE: NH Natural Heritage Bureau database (2020) and Moosewood Ecological search (2025) of biodiversity databases.	
Common Nighthawk (n)	State Endangered	FE - Federally Endangered	
Common Tern (n)	State Threatened	SGCN - Species of Greatest Conservation Need	
Eastern Meadowlark (n)	State Threatened	**** - Highest Importance	
Eastern Towhee	SGCN	*** - Extremely High Importance	
Eastern Whip-poor-will ~	SGCN	** - Very High Importance	
Field Sparrow	SGCN	* - High Importance	
Golden Eagle (n)	State Endangered	~ - Historical record	
Horned Lark (n)	Special Concern	(n) - nonbreeding season	
Marsh Wren	SGCN		

Species such as squirrel corn (left) and Canada warblers (right) are just two of the seventy-one species of greatest conservation needthat call Surry home.

Table 7c. Other species of greatest conservation need documented in Surry.

Rare Elemental Occurrence	Rarity Rank
Butterflies and Moths	
Monarch	SGCN
Mammals	
Moose	SGCN
Eastern Small-footed Bat	State Endangered
Mollusks	
Dwarf Wedge Mussel**	State Endangered, FE
Reptiles	
Smooth Green Snake**	Special Concern
Wood Turtle****	Special Concern

SOURCE: NH Natural Heritage Bureau database (2020) and Moosewood Ecological search (2025) of biodiversity databases.

FE - Federally Endangered
SGCN - Species of Greatest Conservation Need
**** - Highest Importance
*** - Extremely High Importance
** - Very High Importance
* - High Importance
~ - Historical record
(n) - nonbreeding season

Wildlife of Surry

Surry's wetland and upland habitats support an incredible diversity of wildlife. Over the 2025 field season biologists from Moosewood Ecological documented over 350 wildlife species. Records of additional species were sourced from NH Natural Heritage Bureau, NH Fish and Game, NH Audubon, and dozens of naturalists who shared observations through iNaturalist, eBird, and other community science databases. As of the writing of this NRI, Surry provides habitat for at least 571 wildlife species, and many more await discovery. This list includes 213 birds, 18 mammals, 11 amphibians, 5 reptiles, 21 fish, 22 arachnids (spiders and mites), 6 mollusks, 270 insects, and five other invertebrates (Appendix B). Of these, there are 44 species of greatest conservation need as noted by the State Wildlife Action Plan (NH Fish and Game 2020), including one federally-endangered species, five state-endangered species, five state-threatened species, and nine species of special concern. This lengthy, yet incomplete, list of wildlife inhabiting Surry provides a well-rounded understanding of species occurrences. More research is needed to establish local population distributions and trends, particularly regarding uncommon and rare species.

Unfragmented Lands and Habitat Connectivity

Unfragmented lands are relatively large blocks of contiguous habitat that include a mix of forests, wetlands, riparian areas, or other habitat and thus support wide-ranging mammals and forest interior birds. Unfragmented lands are defined by the lack of human infrastructure, such as

roads and developed areas. Fragmentation of landscapes can negatively affect wildlife populations in various ways, from reducing habitat quality and availability to causing direct mortality for wildlife migration across roads. Increased predation and nest parasitism occurs along edges of smaller blocks of habitat resulting in diminished breeding success and may lead to species loss altogether. The degree of severity of fragmentation can be affected by the size and shape of unfragmented blocks, the species or natural community in question, the extent of loss of natural habitats, intensity of human use, and colonization by invasive species.

Surry contains large blocks of unfragmented lands (Figure 6). The three largest tracts are located on the eastern side of town associated with Surry Mountain as well as the northwest and southwest sections of town. NH Fish and Game developed an unfragmented lands analysis as part of earlier versions of the State Wildlife Action Plan. For this project, fragmenting features were defined as 500 feet from existing roadways, including all state and town roads, but excluding Class VI roads and trails, as well as private driveways. This analysis assumes that most development occurs within 500 feet of roadways.

Larger blocks of unfragmented areas support greater biodiversity than smaller blocks. They include a variety of natural habitats such as forests, wetlands, streams, and ponds but also can include human-modified areas such as agricultural lands and shrublands. As unfragmented areas become fragmented due to the construction of roadways and development, their biodiversity generally decreases. This fragmentation effect has less immediate impact on generalist species or those with small home ranges (such as gray squirrel, raccoon, many amphibians, and small rodents) while affecting and potentially eliminating area-sensitive specialists that need large forested blocks in order to maintain their home ranges and for long-term survival (such as bear, bobcat, moose, wood thrush, goshawk, and various reptiles such as Blanding's turtles). Appendix C provides a general list of habitat block size requirements for wildlife to help illustrate this point.

Riparian habitat along the Ashuelot River and other streams provides important corridors for wildlife movement. Disruption of instream and adjacent forested habitat can affect wildlife connectivity between important habitats.

Surry's large unfragmented landscapes allow wildlife to move among critical feeding, breeding, nesting, and overwintering habitats, and to migrate to new territories. Maintaining connectivity between critical habitats can provide permanent wildlife corridors within the built environment, enabling wildlife populations to survive.

Wildlife must be able to travel safely throughout the landscape to meet their biological needs. Many depend upon a variety of habitats for their survival and may utilize many natural features for travel. These include features such as riparian zones of wetlands, ponds and streams, ridgelines, utility rights-of-way, and forest patches acting as a safe route between two or more habitats. A variety of wildlife can be associated with these corridors, including otter, muskrat, fox, coyote, bobcat, deer, moose, fisher, mink, and bear.

Wildlife corridors in Surry are not only significant for mammals but equally important for amphibians, reptiles, and migratory birds. Amphibians and reptiles begin to move from their wintering habitats to their respective breeding and nesting grounds in the spring. This is the time of year that most mortality can be noticed as these species travel across roadways in search of suitable habitats. This negative effect is repeated when the same individuals return to their wintering habitats. Thus, there is a great significance in maintaining habitat connectivity, as well as understanding where these patterns of movement are taking place. This latter point can be an especially important focus for community education and awareness about wildlife corridors that cross roadways. It can provide a means to adjust transportation patterns to help eliminate potential road mortality or identify sites for road modifications, including bridges and culverts designed to allow wildlife to safely cross within them.

In 2018, the New Hampshire Fish and Game Department developed a wildlife corridor model to assist communities like Surry with land use planning and habitat connectivity (Figure 7). This model identified habitat priority blocks using the unfragmented landscape (Figure 6) and results from the NH Wildlife Action Plan highest-quality habitat tiers (Figure 5) to demonstrate the most important locations for primary and secondary wildlife corridors. This model uses 16 different species that represent a suite of wildlife with greatest risk to loss of corridors resulting in direct mortality, habitat fragmentation, and barriers to dispersal.

At approximately 1400 feet in elevation Lily Pond, near the peak of Surry Mountain, is not quite considered a high elevation pond but open water in any upland area serves as an important resource for upland and large-ranging wildlife.

This southerly view of Surry Mountain Lake from a rocky ridge habitat provides a sense of the large, undeveloped landscape in Surry. Large tracts of unfragmented lands are essential for the long-term viability of many wildlife and plants, supporting biodiversity and important ecological services.

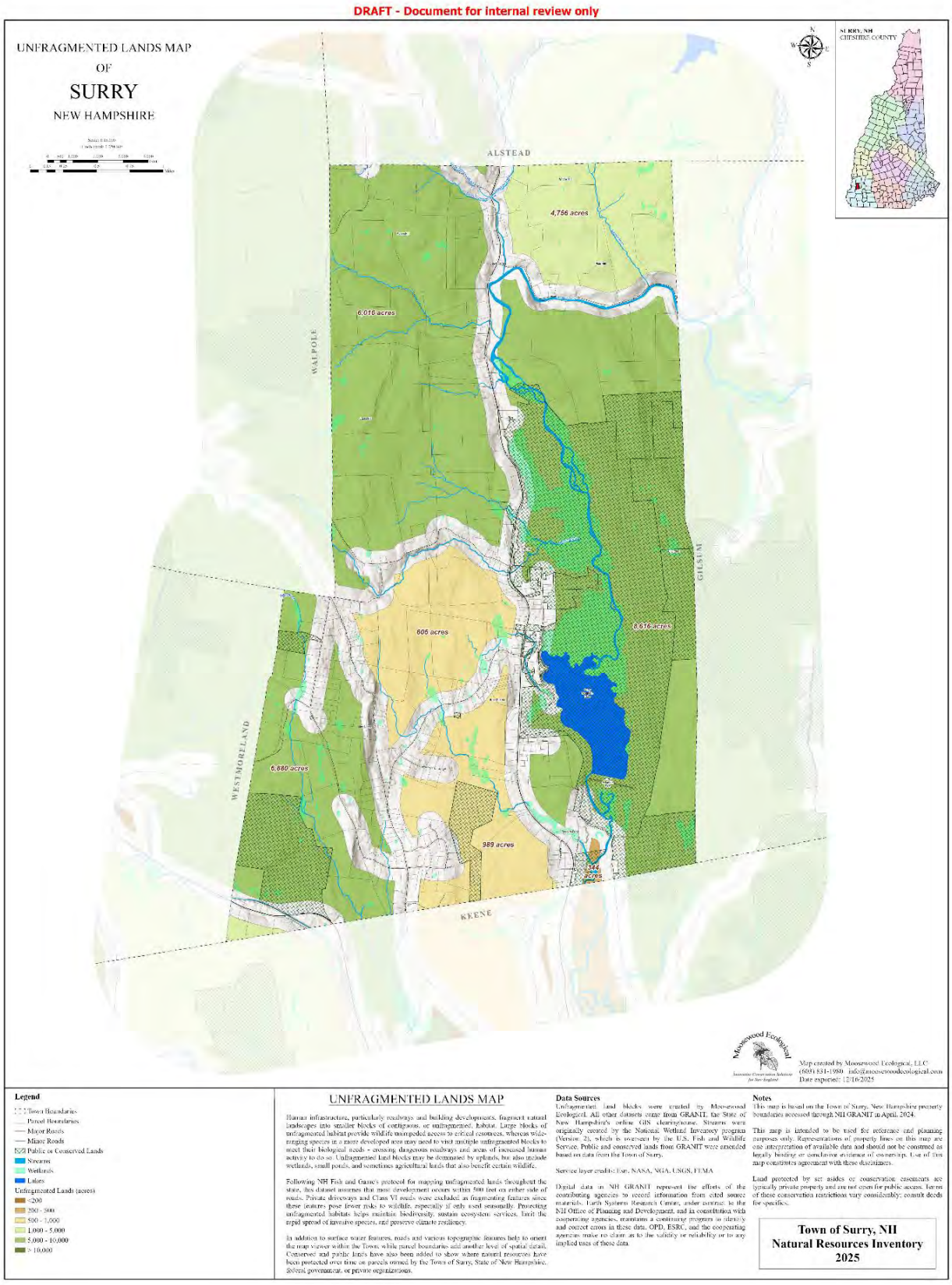

Figure 6 Unfragmented lands in Surry.

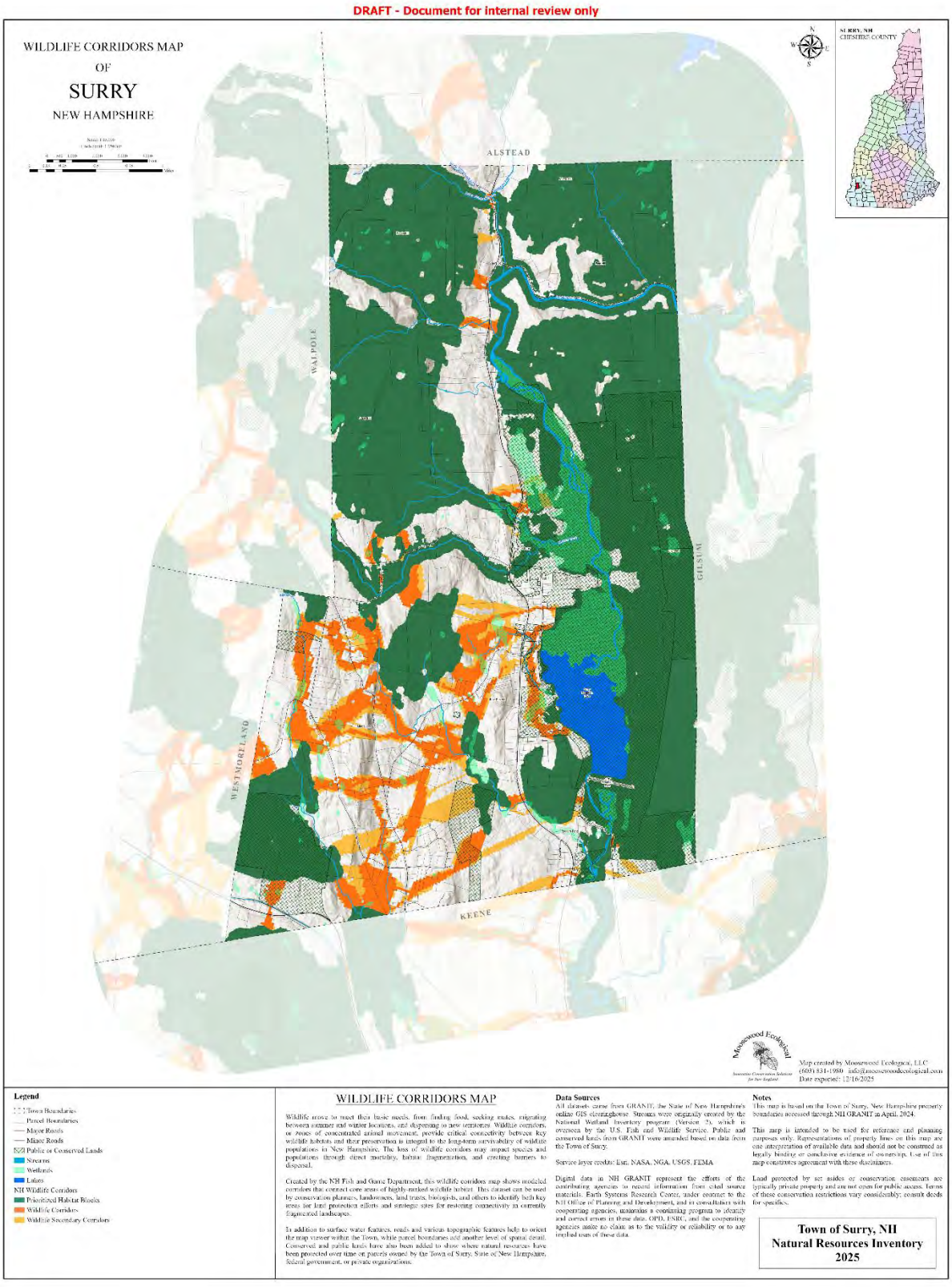

Figure 7 Wildlife corridors providing connectivity between priority habitat blocks in Surry.

Invasive Species

Invasive species are defined as any species that is non-native to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health. These invasive species aggressively compete with and displace the associated flora and fauna communities (Mehrhoff et al. 2003). In other words, they possess many traits that provide them with a competitive edge, including the production of numerous offspring, adaptation to a variety of site and soil conditions, thrive in areas of disturbance, and early, rapid development in the spring.

Many of our invasive plants were brought here for many uses such as ornamental components of landscaping, erosion control, and food for native wildlife. Several other invasive species, including plants, macroinvertebrates, and fungi, were brought to North America inadvertently through shipments of various products from other continents. Historically, these invasive organisms have caused the near demise of American chestnuts and elms as well as the decreased longevity and ecological fitness of American beech. Currently, we are faced with many other pathogens that are affecting our forests, including emerald ash borer, beech leaf disease, hemlock wooly adelgid, Asian long-horned beetle, and red pine scale. Among other forest pests and pathogens, emerald ash borer and beech leaf disease were first detected in Surry in 2022 and 2025, respectively.

Glossy buckthorn is an invasive plant found in wetlands. It is a highly aggressive species that tends to outcompete and displace native plants, affecting our wildlife and the habitat they depend upon.

As with most communities in New Hampshire, Surry has areas that have a strong presence of invasive plants while other areas may have relatively low to no presence. Edges of natural habitat including shorelines and road frontage, powerlines, recently logged areas, old farm fields, and abandoned buildings and properties are especially likely to have invasive plant species, as we found in Surry. Invasive plants observed include Japanese knotweed, purple loosestrife, oriental bittersweet, glossy buckthorn, Japanese barberry, multi-flora rose, autumn olive, garlic mustard, burning bush, and bush honeysuckles.

AGRICULTURAL AND FOREST RESOURCES

Surry has a variety of soils that have supported forestry and agriculture over the years. These areas represent some of the best soils to produce forest products and food, feed, and fiber from farming. These natural resources can help provide us with insight into the potential production within the working landscape.

Important Agricultural Soils

In response to the Farmland Protection Policy Act of 1981[2], agricultural soils were mapped by the US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). Based on a variety of physical and chemical properties (i.e., drainage, texture, hydric regime, pH, erodibility factor), soils considered "Important Agricultural Soils" are among the most productive lands for many types of farming practices. Important Agricultural Soils that are mapped consist of prime farmland, and farmland of statewide or local importance.

Prime Farmland

Prime Farmland Soils are those soils best suited to food, feed, forage, fiber, and oilseed crops. The soils are of the highest quality and can economically produce sustained high yields of crops when treated and managed according to acceptable farming methods (UNH Cooperative Extension 2021). The specific criteria for prime farmland soils are:

- Soils that have an aquic or udic moisture regime and sufficient available water capacity within a depth of 40 inches to produce the commonly grown cultivated crops adapted to New Hampshire in 7 or more years out of 10.
- Soils that are in the frigid or mesic temperature regime.
- Soils that have a pH between 4.5 and 8.4 in all horizons within a depth of 40 inches.
- Soils that have either no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow cultivated crops common to New Hampshire to be grown.
- Soils that have a saturation extract less than 4 mmhoc/cm and the exchangeable sodium percentage is less than 15 in all horizons within a depth of 40 inches.
- Soils that are not frequently flooded during the growing season (less than a 50% chance in any year or the soil floods less than 50 years out of 100).
- The product of the erodibility factor times the percent slope is less than 2.0 and the product of soil erodibility and the climate factor does not exceed 60.
- Soils that have a permeability rate of at least 0.06 inch per hour in the upper 20 inches.
- Soils that have less than 10 percent of the upper 6 inches consisting of rock fragments larger than 3 inches in diameter.

[2] As defined by the USDA NRCS: “The Farmland Protection Policy Act of 1981 was established to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses.

Farmland of Statewide Importance
These soils refer to land that is not prime or unique but is considered farmland of statewide importance to produce food, feed, fiber, forage, and oilseed crops. Soils of statewide importance are soils that are not prime or unique and:

- Have slopes of less than 15 percent
- Are not stony, very stony or boulder
- Are not somewhat poorly, poorly, or very poorly drained
- Includes soil complexes comprised of less than 30 percent shallow soils and rock outcrop and slopes do not exceed 8 percent.
- Are not excessively drained soils developed in stratified glacial drift, generally having low available water holding capacity.

Farmland of Local Importance
Farmland of local importance is farmland that is not prime, unique or of statewide importance, but has local significance to produce food, feed, fiber, and forage. The criteria for soils of local importance in Surry and Cheshire County are as follows.

Soils that are not prime or unique farmland or soils of statewide importance and meet the following criteria:

- Have slopes less than 25%
- Are not extremely stony or bouldery
- Are not poorly or very poorly drained
- Complexes consisting of less than 40 percent shallow soils and rock outcrop and slopes do not exceed 25 percent.
- Maybe excessively drained soils developed in stratified glacial drift.

Important agricultural soils cover approximately 2,246 acres, or roughly 21.8% of Surry (Table 8 and Figure 8). These soils are widely distributed throughout the town. Prime farmland soils make up about one-quarter of Surry's important agricultural soils, while farmland soils of local and statewide significance represent the other three-quarters of these soils.

Table 8 Summary of important soils for farm production in Surry.

Important Soil Type	Size (acres)	% of Town
Prime Farmland Soils	544	5.3%
Farmland Soils of Statewide Significance	225	2.2%
Farmland Soils of Local Significance	1,477	14.3%
Not Prime Farmland	8,100	78.2%

SOURCE: USDA Natural Resources Conservation Service soils (2009).

Other important agricultural resources include active agricultural lands. These were identified by aerial photography interpretation, totaling approximately 314 acres. Land uses include hayfields or meadow (260 acres), pastureland (26 acres), row crops (9 acres), orchards (1.8 acres) and other agricultural land use types (6 acres). Additional agricultural lands may be present in Surry.

Important Forest Soils

Forest resources within Surry and all of New Hampshire are significant for many reasons. Forests provide sources of employment, many forest products, promote local economies, recreation, and tourism, provide clean air, mitigate the effects of climate change, and provide substantial habitats for wildlife and plants, as well as diverse ecological functions (such as nutrient cycling, carbon sequestration, and water quality maintenance through sediment trapping). For these reasons, it is important to maintain large tracts of forests and to better understand where important and undeveloped forest soils exist in Surry.

New Hampshire soils are complex and highly variable due primarily to their glacial origins. The Natural Resource Conservation Service (NRCS) soil mapping recognizes and inventories these complex patterns and organized them into a useful and understandable planning tool, Important Forest Soil Groups. These groupings allow managers to evaluate the relative productivity of soils and to better understand patterns of plant succession and how soil and site interactions influence management decisions. All soils have been grouped into one of six categories.

The NRCS has mapped the distribution of important forest soils and has classified them according to their capacity to grow trees. These soils signify areas as providing the most productive lands for timber production. The NRCS has identified three soil groups within this category and has described each as follows:

Forest Soil Class IA

This group consists of the deeper, loamy textured, moderately well, and well-drained soils. Generally, these soils are more fertile and have the most favorable soil moisture relationships. The successional trends on these soils are toward stands of shade tolerant hardwoods, such as beech and sugar maple. Successional stands frequently contain a variety of hardwoods such as red oak, beech, sugar maple, red maple, white birch, yellow birch, aspen, and white ash in varying combinations with red spruce, hemlock, and white pine. Hardwood competition is severe on these soils. Softwood regeneration is usually dependent upon persistent hardwood control efforts.

Forest Soil Class IB

The soils in this group are generally sandy or loamy over sandy textures and slightly less fertile than those in group IA. These soils are moderately well-drained and well-drained. Soil moisture is adequate for good tree growth, but may not be quite as abundant as in group IA soils. Soils in this group tend to transition into late successional forests tolerant of hardwoods, predominantly beech. Forest growing on this soil group that are heavily cutover, are commonly composed of a variety of hardwood species such as red oak, red maple, aspen, paper birch, yellow birch, sugar maple, and beech, in combinations with white pine, red spruce, balsam fir, and hemlock. Hardwood competition is moderate to severe on these soils. Successful softwood regeneration is dependent upon hardwood control.

Forest Soil Class IC
The soils in this group are outwash sands and gravels. Soil drainage is somewhat excessively to excessively drained and moderately well-drained. Soil moisture is adequate for good softwood growth, but is limited for hardwoods. White pine, red maple, aspen, and paper birch are common in early and mid-successional stands. Successional trends on these coarse-textured, somewhat droughty, and less fertile soils are toward stands of shade tolerant softwoods (i.e., hemlock and red spruce). Hardwood competition is moderate to slight on these soils. Due to less hardwood competition, these soils are ideally suited for softwood production. With modest levels of management, white pine can be maintained and reproduced on these soils. Because these soils are highly responsive to softwood production, especially white pine, they are ideally suited for forest management.

Important forest soils comprise nearly 3,821 acres, or approximately 37% of Surry (Table 9 and Figure 9). Forest soil groups IA and IB make up the majority of this resource. These soil groups are most ideally suited for hardwood production and are distributed widely throughout Surry. Soil group IC are more restricted to stream drainages where outwash sands and gravels were deposited by glacial activity about 12,000 years ago. In Surry, areas of forest soil group IC are associated strongly with the major river system of the Ashuelot River. These areas are also associated with the sand and gravel deposits found in Figure 11. Group IC soil types are suited for softwood production, mainly white pine.

Table 9 Summary of important forest soil groups for timber production in Surry.

Important Soil Type	Size (acres)	% of Town
Hardwood Production (Groups IA and IB)	3,232	31.2%
Softwood Production (Group IC)	589	5.7%

SOURCE: USDA Natural Resources Conservation Service soils (2009).

There are numerous resources to help landowners in Surry manage their forests responsibly. UNH Cooperative Extension has many publications on this topic. It is highly recommended that landowners work with qualified, reputable professionals, including a licensed forester and an ecologist/wildlife biologist to develop a land management plan. Good Forestry in the Granite State (Bennett 2010) is a great resource for both professionals and landowners. This guide provides best management practices for forestry activities and can be found at the following website: www.extension.unh.edu/goodforestry

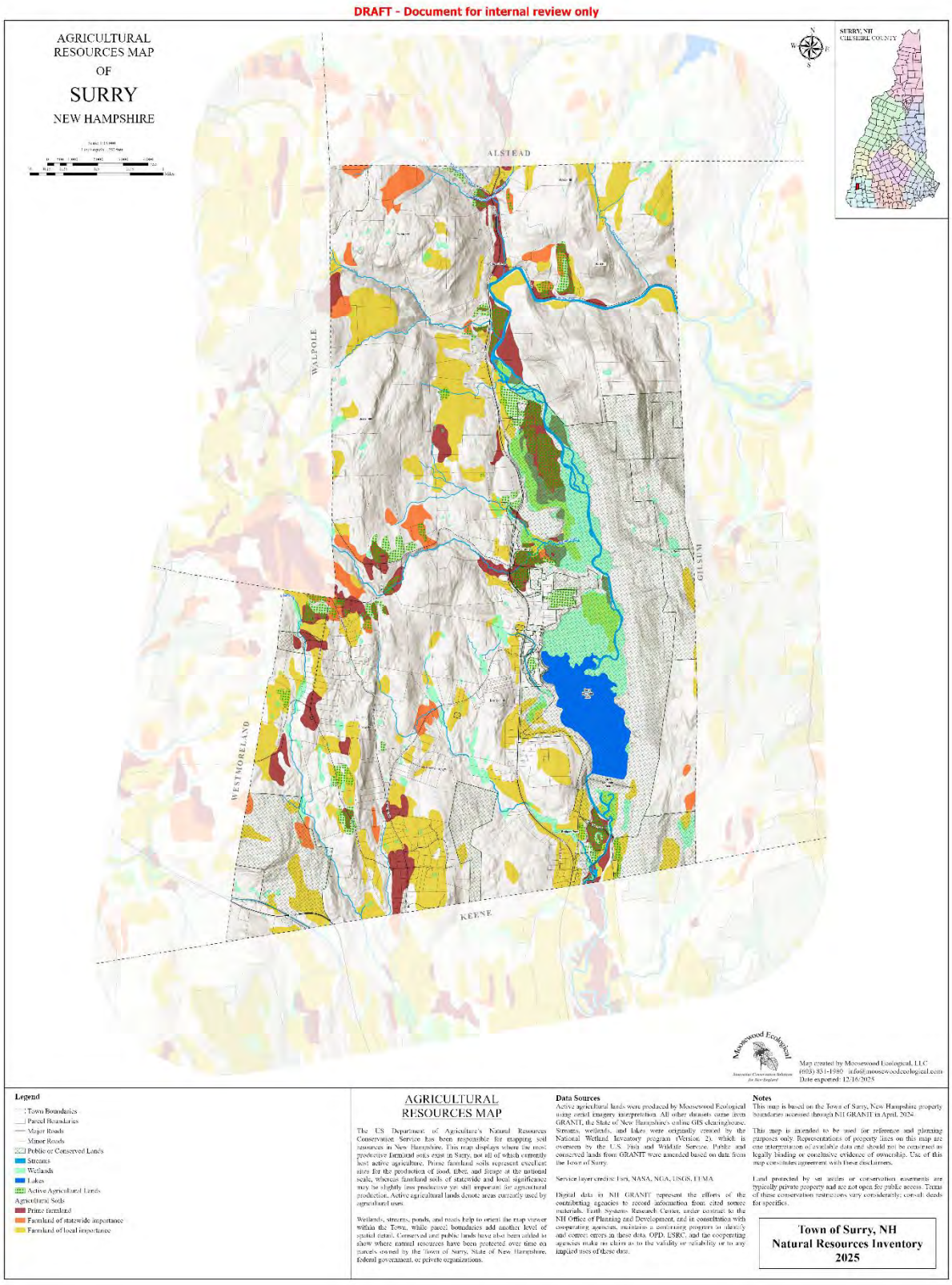

Figure 8 Agricultural resources in Surry.

Figure 9 Forest resources in Surry.

GEOLOGIC RESOURCES

Sand and Gravel Deposits

As the last glaciers retreated from this region about 12,000 years ago, the force of their melting waters created several types of landforms. These depositional features are composed of unsorted materials including various soils and bedrock called glacial till. Landforms such as eskers, drumlins, and outwash sands typically consist of extractable sands and gravels used in many development scenarios such as the construction of roads, parking lots, and airports as well as residential, commercial, and institutional buildings.

Surry contains several areas of sand and gravel deposits (Table 10 and Figure 10). The largest area is just north of Surry Village above Surry Mountain Lake but a few patches appear along the drainages of the Ashuelot River. These areas were derived from various sources of data, including the USDA Natural Resources Conservation Service and The Nature Conservancy.

It is estimated that roughly 785 acres, or 8% of the land area of Surry contains sand and gravel deposits. This estimate does not consider the depth and associated volume of these materials. Currently, there are roughly 49 acres of land associated with active or past sand and gravel operations. Some of these extend beyond the areas of the predicted extractable materials, suggesting that additional areas exist beyond the boundaries identified in Figure 10.

Table 10 Summary of sand and gravel deposits in Surry.

Soils Types with Abundant Sand or Gravel	Area (acres)
Gravel pits	49
Gravelly sandy loam	216
Fine sandy loam	339
Loamy fine sand	2
Loamy sand	179

SOURCE: GIS analysis (Moosewood Ecological 2025)
of USDA Natural Resources Conservation Service soils.

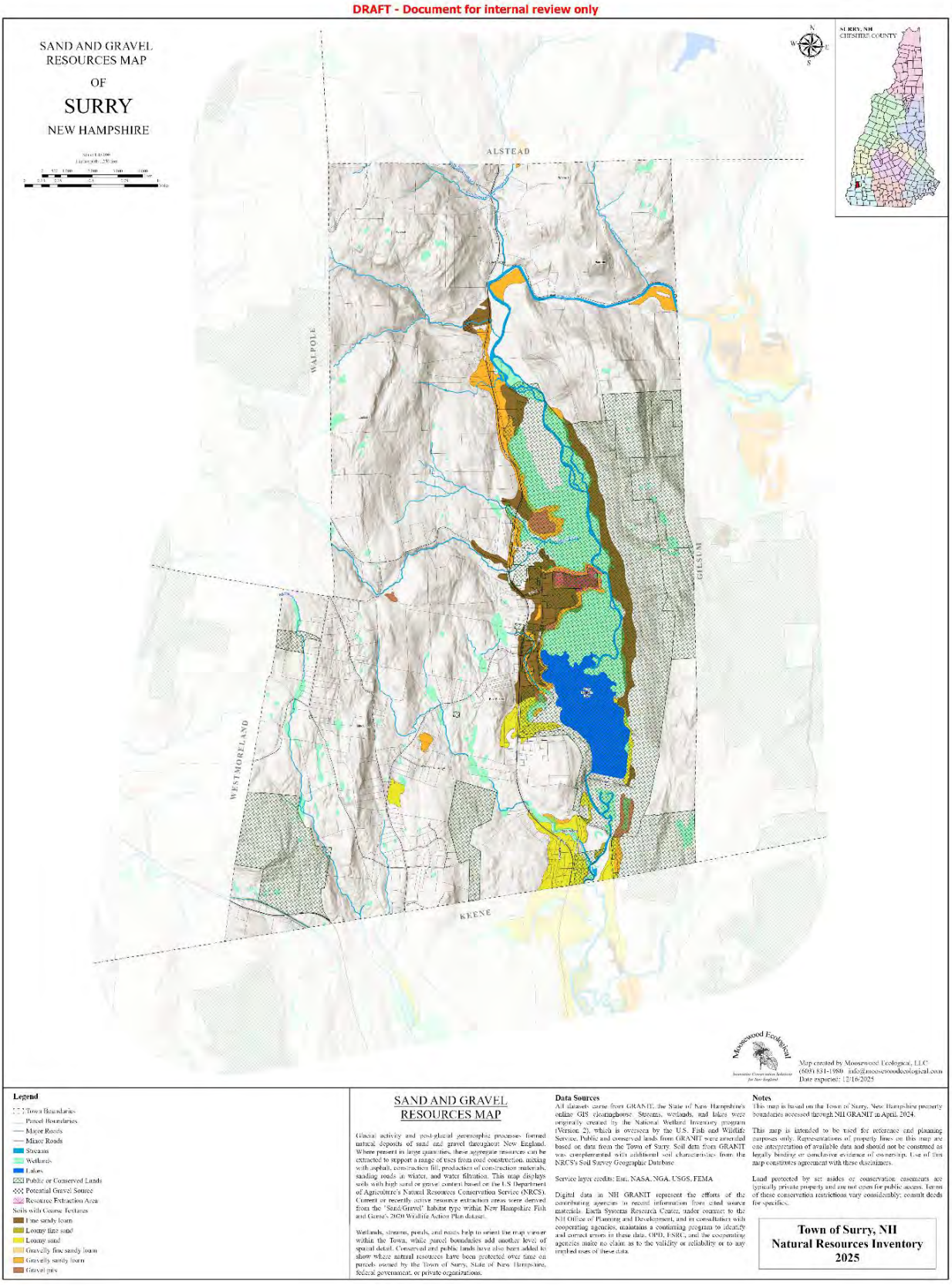

Figure 10 Sand and gravel deposits in Surry.

Steep Slopes

Steep slopes are a critical resource of Surry's landscape. Steeper slope gradients can present some challenges for various types of land use, such as roads, housing and commercial developments, agriculture, forest management, and recreation. Main concerns centered around the alteration of steep slopes include soil erosion, loss of plant communities and wildlife habitat as well as reduced flood resiliency.

Natural vegetation (trees, shrubs, ferns, and wildflowers) and leaf litter, limbs, and downed trees covering the soil on steep slopes helps to absorb rain water during storms and to slow down the flow of surface water. This helps to provide flood resiliency for the community, whereby our forests naturally reduce the amount of water that enters our streams, wetlands, ponds, and lakes. Compounding the steepness of slopes and the effects of potentially excessive flooding is the erosion of soils.

Soil erosion, particularly on steep slopes, creates several concerns. These include soil loss and degradation, loss of nutrients and soil biota, loss of natural vegetation, introduction of invasive plants, excess sedimentation and compromised water quality of wetlands, streams, and lakes, negative effects on aquatic biodiversity, and changes in water flow (both surficial and groundwater).

Slope gradients were generated for Surry using high-resolution LiDAR-derived bare earth elevation data models (Table 11 and Figure 11). Neary half of Surry is associated with slopes of 15% or less. Moderately steep slopes (15-25%) occupy almost one-quarter of the town, while very steep slopes (25% or greater) represent about 28% of Surry's landscape.

Table 11 Summary of slope gradients in Surry.

Slope (%)	Acres	% of Town
Less than 15	5,045	49%
15 to 25	2,390	23%
Greater than 25	2,920	28%

SOURCE: GIS analysis (Moosewood Ecological 2025) of LiDAR elevation data from GRANIT (2015).

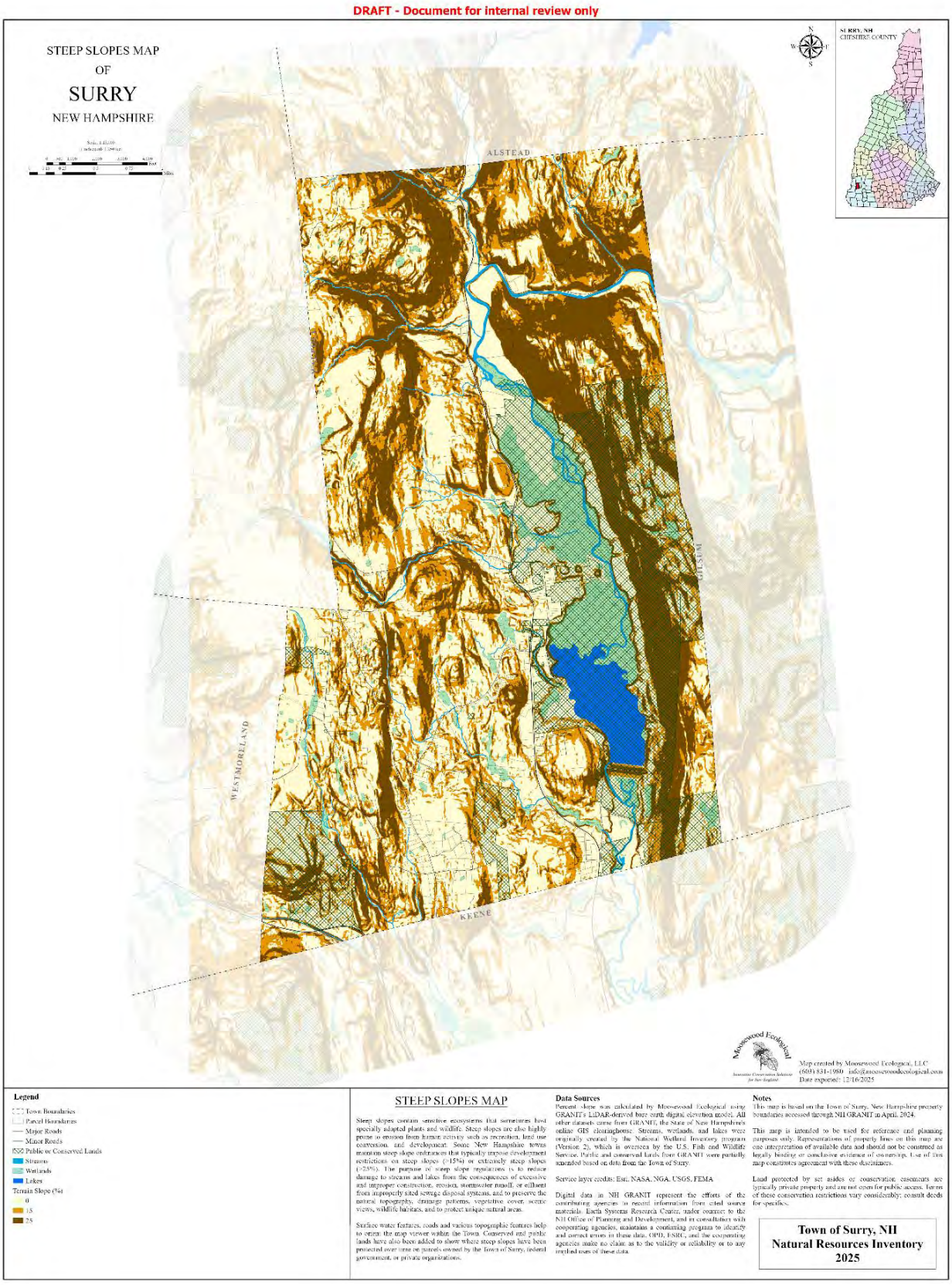

Figure 11 Steep slopes mapped using high-resolution LiDAR elevation data in Surry.

CONSERVATION AND PUBLIC LANDS

The permanent protection offered by conservation easements and deed restrictions, and lands held by public entities for conservation, protect open space, natural resources, traditional uses, natural processes (e.g., protection of drinking water, retention of floodwaters, nutrient cycling in soils), and provide access to recreational resources that are essential to sustaining Surry's rural character and quality of life. These lands will remain undeveloped and in their natural state, often in perpetuity, to support important environmental or aesthetic functions. Some may also be used for agriculture, forestry, or outdoor recreation.

The authors reviewed existing sources of mapped conservation lands including NH GRANIT. The parcel geography was rectified to match the digital tax parcel lines. Following the guidance provided by NH GRANIT, each parcel was assigned to one of five protection codes based on the nature of the ownership and conservation protection of the parcel. A dataset of parcels with some conservation purpose or restrictions (such as water supply lands), including conservation easements, was produced and is displayed in each NRI map.

Surry's updated conservation and public lands are displayed in Figure 12. The history, nature, method, and parties involved with "conservation" in Surry are highly variable. A number of parcels are protected with legally binding conservation restrictions, including conservation easements held by non-governmental organizations. The final conservation lands dataset is inclusive of not only natural open space areas and private lands, but also public lands that have a variety of active outdoor uses. Each parcel was assigned a code representing the nature of the conservation level, including type of protection and a brief description of each. Descriptions of land conservation types are provided in Table 12. *Please note that all properties shown on the conservation and public lands map are not open to the public*.

Table 12 Descriptions of the various types of land conservation found in Surry.

Code	Protection Type	Description
CE	Conservation Easement	Legal conservation restrictions enforced by an agency, land trust, or municipal easement holder.
DR	Deed Restriction	Protections originated by restrictions, often regarding development and land use, written into the parcel deed. Terms of restrictions vary considerably.
FO	Fee Ownership	Property held in fee by a town, land trust, or agency, not necessarily for conservation. (may also have an easement).
FR	Federal Flowage Rights Easement	Flowage rights are granted to the federal government by the fee owner while retaining rights and privileges to the land without interfering with the rights of the easement.

Based on this new dataset, Surry has a total of 2,792 acres of conservation and public lands (Figure 12 and Table 13). This represents nearly 20% of the total area of the town. By way of comparison, the combined five boroughs of New York City have 21.2% of area within the municipal corporate boundary devoted to open space uses (Harnik et al. 2017). However, this does not ensure that all of these lands are protected in perpetuity.

Table 13 Conservation lands in Surry by type and acreage.

Protection Type	Acres
Federal Land	1,722
Private Land with Federal Flowage Rights Easement	61
Private Land with Conservation Easement	591
Land Trust Holdings with Conservation Easement or Deed Restrictior	107
Town Land	207
Town Land with Conservation Easement	102
Town Land with Flowage Rights Easement	2

SOURCE: GRANIT Conservation Lands database (2024), Surry Conservation Commission

This semi-rich mesic sugar maple forest provides habitat on a private parcel in Surry This site, like many observed in Surry, provides a source of soil enrichment that supports unique plant communities and rare plants not found in more acidic forests typical of New Hampshire.

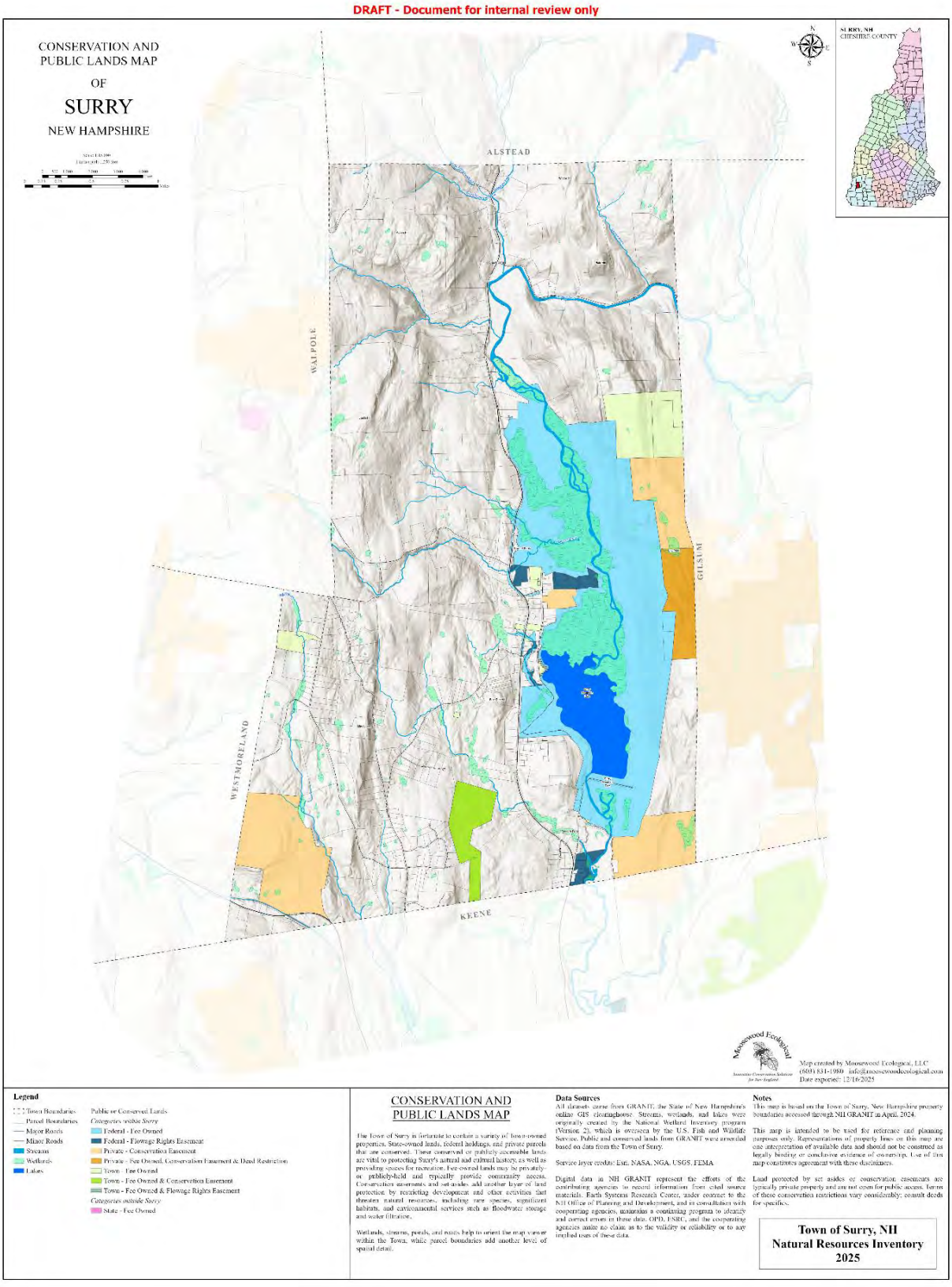

Figure 12 Conservation and public lands in Surry.

RECOMMENDATIONS

The information provided herein, including the maps, can be used when considering the adoption of various land use planning techniques or when working with willing landowners on resource protection efforts. The data used to develop this information represent the most current, readily available data to better understand Surry's natural resources. As such, there are some basic guidelines that the town can use to promote innovative and informed land use planning.

- Protect large unfragmented blocks, especially those with high quality habitats located within close proximity of one another and with limited barriers for wildlife movement.
- Protect known rare species populations.
- Protect representative examples of critical habitats for known rare species.
- Protect rare and representative examples of natural communities.
- Protect intact wetland and stream riparian buffers and promote the restoration of degraded areas.
- Support voluntary and regulatory approaches at natural resources protection.
- Build upon existing contiguous protected lands.
- Protect drinking water resources for future community water supply.
- Connect protected lands and other critical habitats with upland, aquatic, and/or riparian corridors.
- Better understand wildlife movement patterns to identify and design the most effective conservation corridors.
- Promote community education and outreach regarding Surry's biodiversity and the importance of long-term protection strategies.

The following general recommendations were based on the findings of the project. These are considered as the next *Actions Steps* for future work to be considered in Surry while proceeding with community land use planning, conservation projects, and community education.

<u>Surry Conservation Commission</u>

- Appoint members to the Conservation Commission to assist the Planning Board and Select Board with the statute addressed in RSA 36-A, which outlines the roles and duties of the Commission (https://www.gencourt.state.nh.us/rsa/html/iii/36-a/36-a-mrg.htm).
- Seek assistance and resources from the NH Association of Conservation Commissions to learn more about how the Conservation Commission can assist the Town with natural resources planning and protection as well as training and education opportunities, including their annual meetings (https://www.nhacc.org/).
- Working with other Town boards, develop goals and objectives to implement the NRI. Examples can be found at NH Association of Conservation Commissions. https://www.nhacc.org/application/files/3316/6016/2427/NHACC-NRI_workplan.pdf

NRI and Master Plan

- Incorporate the NRI into the 2025 Surry Master Plan revision. This provides a vision for the town from which land use planning can be adopted to help achieve the goals and objectives outlined in the revised Master Plan.

Open Space Conservation Plan

- Develop more detailed and relevant natural resources data specific to Surry, such as undeveloped riparian areas, erosion risk, flood prone areas, potential vernal pools, wildlife corridors, scenic resources, biodiversity, and other important information.
- Analyze all natural resources data to identify and detail *Conservation Focus Areas* in Surry. This can be achieved through co-occurrence analyses of natural resources and parcel-based assessment models that identify parcels of high natural resources value. Incorporate the Quabbin to Cardigan regional conservation plan and Ashuelot River Watershed Conservation Plan as part of these analyses.
- Prepare an *Open Space Conservation Plan*, which is the next step in natural resources planning at the municipal level. This plan will help detail Surry's most significant natural resources and focus areas, assisting the Town with efficient use of its resources. Additionally, the *Plan* should include goals and objectives for implementation.

Town Regulations and Natural Resources Protection Audit

- Conduct an assessment of current town regulations and planning documents to understand how natural resources and wildlife habitat protection are being addressed. Documents should include the Master Plan, Zoning Ordinance, Subdivision Regulations, and Site Plan Review. This assessment will help determine how town regulations are used to implement the Master Plan, and where language can be strengthened. This assessment will also help to identify discrepancies between the Master Plan and town regulations.
- This effort can illuminate certain land use planning techniques that Surry might want to consider in an effort to support informed land use decisions for a more sustainable future. It also affords the opportunity to help better achieve the Vision, Goals, and Objectives outlined in the current and any future Master Plan revision. The Town is encouraged to review *Innovative Land Use Planning Techniques* developed by the NH Dept. of Environmental Services (2008) when revising or adopting new land use regulations.
- This audit can be created as a stand-alone document or produced as part of the *Open Space Conservation Plan* described above.

Wetland Evaluations

- Complete a full evaluation of Surry's wetlands This effort should follow the NH Method found at the UNH Extension, which affords the opportunity to identify Surry's most significant wetland complexes to assist with community outreach and education and conservation planning, as well as town-wide land use planning.

Community Outreach

- Utilize a variety of avenues to disseminate information to residents. Educational outreach is a key component of informing the residents of Surry about its natural resources and their significance on multiple levels. This includes information that property owners may use for their own land management and townwide land use planning, as well as how Surry's natural resources fit into the larger landscape of the surrounding region.
- Outreach efforts for residents could include informational sessions and workshops, published materials, social media, hikes, and other means of community education and outreach. A combination of outreach efforts affords the opportunity to include a diverse audience of residents. This will help to inform the community about its natural resources and future planning.
- Surry could also consider supporting citizen science (also known as community science) programs to support community engagement by its residents to learn more about the town's biodiversity. A series of trainings for the iNaturalist program could be developed to teach residents how to employ this easy-to-use technology as a way to gather information on Surry's biodiversity. This action could be enhanced hosting special workshops such as seasonal Bioblitz events.

Future Biodiversity Assessments

- Incorporate additional biodiversity assessments to better understand Surry's rich array of wildlife, plants, insects, mushrooms, lichens, and more. These assessments can also provide information on site-specific habitats such as vernal pools, turtle nesting sites, wildlife corridors, and uncommon/rare plant communities and forests. Biodiversity assessments provide a strong basis for land use planning, supporting town regulations, and garnering public support for natural resources protection efforts. They can also promote community engagement through Bioblitz events.

Outreach with Adjacent Communities

- Develop good relationships with adjacent communities to effectively communicate efforts on similar conservation initiatives of common interest. It would be helpful to meet annually, at a minimum, with the Conservation Commissions (and potentially other boards) within each of the adjacent communities to build strong relationships and create open lines of communication, informing these communities about Surry's conservation planning efforts and land use concerns.

Future NRI Revisions

- The Town, including the Conservation Commission, should periodically review its NRI every 3-5 years. This provides the opportunity to conduct additional inquiries to support natural resources planning on current and future needs on an ongoing basis. Additionally, the NRI should be revised at least every 10 years to incorporate new data and other information while incorporating past progress and future needs.

SOURCES

Bennett. K. 2010. Good Forestry in the Granite State: Recommended Voluntary Forest Management Practices for New Hampshire (2nd edition). UNH Cooperative Extension, Durham, NH.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. US Dept. of Interior, Fish and Wildlife Service, Washington D.C.

Federal Geographic Data Committee. 2013. *Classification of wetlands and deepwater habitats of the United States*. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.

French, L. 2018. Forest Management Plan: Surry Town Forest and Maple Street Lot. Meadowsend Consulting Company, New London, NH.

Harnik, P., C. McCabe, and A. Hiple. 2017. 2017 City Parks Facts. Center for City Park Excellence, The Trust for Public Land.

Hunt, P. 2002. *Urban Bird Project*. Audubon Society of New Hampshire, Concord, NH.

Johnson, K. 2020. New Hampshire's Estimated Population Gain is the Largest in New England. Carsey School of Public Policy, University of New Hampshire, Durham, NH.

Mehrhoff, L. J., J. A. Silander, Jr., S. A. Leicht, E. S. Mosher and N. M. Tabak. 2003. *IPANE: Invasive Plant Atlas of New England*. Department of Ecology & Evolutionary Biology, University of Connecticut, Storrs, CT, USA.

New Hampshire Department of Environmental Services. 2008. *Innovative Land Use Planning Techniques: A Handbook for Sustainable Development.* New Hampshire Department of Environmental Services, Concord, New Hampshire.

New Hampshire Fish and Game Department. 2025. *New Hampshire Wildlife Action Plan.* New Hampshire Fish and Game Department, Concord, New Hampshire.

New Hampshire Fish and Game. 2018. NH Wildlife Corridors. Report on NH Senate Bill 376. June, 2018.

New Hampshire Natural Heritage Bureau. 2020. *Rare Plants, Rare Animals, and Exemplary Natural Communities in New Hampshire Towns*. Concord, NH. www.nh.gov/nhdfl/documents/town-lists.pdf

RLS Demographics, Inc. 2016. State of New Hampshire Regional Planning Commissions: 2016 County Population Projections by Age and Sex. RLS Demographics, Inc., Rensselaerville, NY.

Scott M.J., G.R. Bilyard, S.O. Link, C.A. Ulibarri, H.E. Westerdahl, P.F. Ricci, and H.E Seely. 1998. Valuation of Ecological Resources and Functions. *Environ Manage*. 22(1):49-68.

Society for the Protection of New Hampshire Forests (SPNHF). 2005. *New Hampshire's Changing Landscape - Population Growth and Land Use Changes: What They Mean for the Granite State.* SPNHF, Concord, NH.

Sperduto, D.D. 2011. *Natural Community Systems of New Hampshire*. New Hampshire Natural Heritage Bureau, Concord, New Hampshire.

Sperduto, D.D. and William F. Nichols. 2011. *Natural Communities of New Hampshire.* UNH Cooperative Extension, Durham, New Hampshire.

Stone, A.J.L. 2016. *Natural Resources Inventory – A Guide for New Hampshire Communities and Conservation Groups.* UNH Cooperative Extension, Durham, New Hampshire.

Town of Surry. 2024. Surry Zoning Ordinance. Surry Planning Board, Surry, NH.

Town of Surry. 2008. Surry Subdivision Regulations. Surry Planning Board, Surry, NH.

Town of Surry. 2025. Surry Master Plan. Surry Planning Board, Surry, NH.

UNH Cooperative Extension. 2021. Farmlands. UNH Cooperative Extension, Durham, New Hampshire. https://extension.unh.edu/nhnriguide/nri-components/farmlands

US Environmental Protection Agency. 2021. Adapting to Climate Change: Northeast. www.epa.gov/sites/default/files/2016-07/documents/northeast_fact_sheet.pdf

APPENDIX A: GIS DATA and USE DISCLAIMER

Moosewood Ecological LLC GIS Data Disclaimer

A variety of existing and newly created data layers were used to prepare the Natural Resources Inventory (NRI) maps. These existing data have been developed by numerous government agencies and other sources. They have been produced specifically for the town, the state of New Hampshire, or the entire United States using *remote data*. These sources of remote data were developed from the interpretation of satellite imagery, aerial photography, or LiDAR (Light Detection and Ranging) technology. The data were produced at various scales and therefore, represent different degrees of errors, omissions, and inaccuracies.

The NRI maps are for education and planning purposes only. They are suitable for general land use planning. However, they are not suitable for detailed site planning and design. The identification of wetlands requires a field delineation by a certified natural resources professional. As such, boundaries of all habitats, including wetlands and parcels are approximate locations and should be field verified. The accuracy of the data is the end user's responsibility, and Moosewood Ecological LLC cannot be responsible for the accuracy and completeness of the data. Moosewood Ecological LLC makes no warranty, expressed or implied, as to the accuracy or completeness of the data. Furthermore, Moosewood Ecological LLC shall assume no responsibility for any errors, omissions, or inaccuracies in the information provided.

APPENDIX B. BIODIVERSITY OF SURRY

This appendix lists all species reported from Surry and was compiled by Moosewood Ecological from multiple sources including biodiversity surveys as part of the Surry Natural Resources Inventory, community science datasets (i.e., eBird, iNaturalist), and datasets from NH Fish and Game, NH Audubon, and NH Natural Heritage Bureau. Over 1,100 species have been reported from Surry, and many more await discovery.

Order	Family	Scientific Name	Common Name
Agaricales	Entolomataceae	*Entoloma abortivum*	Aborted entoloma
Hymenoptera	Vespidae	*Dolichovespula* spp.	Aerial Yellowjackets
Pucciniales	Coleosporiaceae	*Quasipucciniastrum ochraceum*	Agrimony Rust
Passeriformes	Tyrannidae	*Empidonax alnorum*	Alder Flycatcher
Rosales	Rosaceae	*Rubus allegheniensis*	Allegheny blackberry
Lamiales	Phrymaceae	*Mimulus ringens*	Allegheny monkeyflower
Myrtales	Onagraceae	*Circaea alpina*	Alpine Enchanter's-nightshade
Cornales	Cornaceae	*Cornus alternifolia*	alternate-leaved dogwood
Stylommatophora	Succineidae	*Succineidae* [Family]	Amber Snails
Rodentia	Castoridae	*Castor canadensis*	American Beaver
Fagales	Fagaceae	*Fagus grandifolia*	American beech
Pelecaniformes	Ardeidae	*Botaurus lentiginosus*	American Bittern
Carnivora	Ursidae	*Ursus americanus*	American Black Bear
Anseriformes	Anatidae	*Anas rubripes*	American Black Duck
Dipsacales	Viburnaceae	*Sambucus canadensis*	American black elderberry
Anura	Ranidae	*Lithobates catesbeianus*	American Bullfrog
Asterales	Asteraceae	*Erechtites hieraciifolius*	American burnweed
Lamiales	Orobanchaceae	*Conopholis americana*	American cancer-root
Fagales	Fagaceae	*Castanea dentata*	American chestnut
Lepidoptera	Lycaenidae	*Lycaena hypophlaeas*	American Copper
Passeriformes	Corvidae	*Corvus brachyrhynchos*	American Crow
Lepidoptera	Noctuidae	*Acronicta americana*	American Dagger
Ixodida	Ixodidae	*Dermacentor variabilis*	American Dog Tick
Malpighiales	Violaceae	*Viola labradorica*	American dog violet
Rosales	Ulmaceae	*Ulmus americana*	American elm
Odonata	Corduliidae	*Cordulia shurtleffii*	American Emerald
Dipsacales	Caprifoliaceae	*Lonicera canadensis*	American fly-honeysuckle
Apiales	Araliaceae	*Panax quinquefolius*	American ginseng
Saxifragales	Saxifragaceae	*Chrysosplenium americanum*	American golden saxifrage
Passeriformes	Fringillidae	*Spinus tristis*	American Goldfinch
Accipitriformes	Accipitridae	*Astur atricapillus*	American Goshawk
Araneae	Thomisidae	*Misumessus oblongus*	American Green Crab Spider
Fabales	Fabaceae	*Apios americana*	American groundnut
Asterales	Asteraceae	*Packera* spp.	American groundsels and ragworts
Charadriiformes	Laridae	*Larus smithsonianus*	American Herring Gull

Fabales	Fabaceae	*Amphicarpaea bracteata*	American hog-peanut
Fagales	Betulaceae	*Ostrya virginiana*	American hophornbeam
Fagales	Betulaceae	*Carpinus caroliniana*	American hornbeam
Caryophyllales	Polygonaceae	*Persicaria virginiana*	American jumpseed
Falconiformes	Falconidae	*Falco sparverius*	American Kestrel
Lepidoptera	Nymphalidae	*Vanessa virginiensis*	American Lady
Rosales	Rosaceae	*Sorbus americana*	American mountain ash
Passeriformes	Motacillidae	*Anthus rubescens*	American Pipit
Lamiales	Plantaginaceae	*Plantago rugelii*	American plantain
Rodentia	Sciuridae	*Tamiasciurus hudsonicus*	American Red Squirrel
Passeriformes	Parulidae	*Setophaga ruticilla*	American Redstart
Passeriformes	Turdidae	*Turdus migratorius*	American Robin
Osmundales	Osmundaceae	*Osmunda spectabilis*	American Royal Fern
Apiales	Araliaceae	*Aralia racemosa*	American spikenard
Proteales	Platanaceae	*Platanus occidentalis*	American sycamore
Anura	Bufonidae	*Anaxyrus americanus*	American Toad
Passeriformes	Passerellidae	*Spizelloides arborea*	American Tree Sparrow
Apiales	Araliaceae	*Hydrocotyle americana*	American Water-pennywort
Alismatales	Alismataceae	*Alisma subcordatum*	american water-plantain
Anseriformes	Anatidae	*Mareca americana*	American Wigeon
Ericales	Ericaceae	*Pyrola americana*	American wintergreen
Charadriiformes	Scolopacidae	*Scolopax minor*	American Woodcock
Agaricales	Amanitaceae	*Amanita muscaria guessowii*	American Yellow Fly Agaric
Pezizales	Morchellaceae	*Morchella americana*	American yellow morel
Asterales	Asteraceae	*Erigeron annuus*	annual fleabane
Lepidoptera	Nymphalidae	*Lethe appalachia*	Appalachian Brown
Asparagales	Orchidaceae	*Spiranthes arcisepala*	Appalachian ladies' tresses
Polypodiales	Polypodiaceae	*Polypodium appalachianum*	Appalachian rockcap fern
Rosales	Rosaceae	*Malus* spp.	apples and crabapples
Stylommatophora	Arionidae	*Arion* spp.	Arion Slugs
Polyporales	Polyporaceae	*Ganoderma applanatum*	artist's bracket
Boletales	Boletinellaceae	*Boletinellus merulioides*	ash-tree bolete
Odonata	Gomphidae	*Phanogomphus lividus*	Ashy Clubtail
Coleoptera	Coccinellidae	*Harmonia axyridis*	Asian Lady Beetle
Salmoniformes	Salmonidae	*Salmo salar*	Atlantic Salmon
Odonata	Coenagrionidae	*Chromagrion conditum*	Aurora Damsel
Asterales	Asteraceae	*Scorzoneroides autumnalis*	Autumn Hawkbit
Odonata	Libellulidae	*Sympetrum vicinum*	Autumn Meadowhawk
Rosales	Elaeagnaceae	*Elaeagnus umbellata*	autumn olive
Lepidoptera	Geometridae	*Epirrita autumnata*	Autumnal Moth
Gentianales	Rubiaceae	*Houstonia caerulea*	azure bluet
Charadriiformes	Scolopacidae	*Calidris bairdii*	Baird's Sandpiper
Accipitriformes	Accipitridae	*Haliaeetus leucocephalus*	Bald Eagle

Passeriformes	Icteridae	*Icterus galbula*	Baltimore Oriole
Coleoptera	Geotrupidae	*Geotrupes balyi*	Baly's Earth-boring Beetle
Araneae	Araneidae	*Argiope trifasciata*	Banded Garden Spider
Lepidoptera	Erebidae	*Halysidota tessellaris*	Banded Tussock Moth
Diptera	Ulidiidae	*Chaetopsis* spp.	Banded-wing Flies
Diptera	Limoniidae	*Epiphragma fasciapenne*	Band-winged Crane Fly
Odonata	Libellulidae	*Sympetrum semicinctum*	Band-winged Meadowhawk
Passeriformes	Hirundinidae	*Riparia riparia*	Bank Swallow
Passeriformes	Hirundinidae	*Hirundo rustica*	Barn Swallow
Boletales	Diplocystidaceae	*Astraeus* spp.	Barometer Earthstars
Strigiformes	Strigidae	*Strix varia*	Barred Owl
Malvales	Malvaceae	*Tilia americana*	basswood
Coleoptera	Chrysomelidae	*Baliosus nervosus*	Basswood Leafminer
Polyporales	Polyporaceae	*Picipes badius*	Bay Polypore
Passeriformes	Parulidae	*Setophaga castanea*	Bay-breasted Warbler
Hypnales	Hypnaceae	*Callicladium haldaneanum*	Beautiful Branch Moss
Dipsacales	Caprifoliaceae	*Kolkwitzia amabilis*	Beauty Bush
Odonata	Corduliidae	*Epitheca canis*	Beaverpond Baskettail
Odonata	Gomphidae	*Phanogomphus borealis*	Beaverpond Clubtail
Hypocreales	Nectriaceae	*Neonectria faginata*	Beech Bark Canker Fungus
Rhabditida	Anguinidae	*Litylenchus crenatae*	Beech Leaf Disease
Hemiptera	Eriococcidae	*Cryptococcus fagisuga*	Beech Scale
Lamiales	Orobanchaceae	*Epifagus virginiana*	Beechdrops
Coraciiformes	Alcedinidae	*Megaceryle alcyon*	Belted Kingfisher
Russulales	Bondarzewiaceae	*Bondarzewia berkeleyi*	Berkeley's Polypore
Lamiales	Lamiaceae	*Galeopsis bifida*	Bifid Hemp-nettle
Malpighiales	Salicaceae	*Populus grandidentata*	bigtooth aspen
Hemiptera	Aphididae	*Euceraphis* spp.	Birch Aphids
Lepidoptera	Tortricidae	*Thyraylia nana*	Birch Conch
Polyporales	Fomitopsidaceae	*Fomitopsis betulina*	birch polypore
Fabales	Fabaceae	*Lotus corniculatus*	bird's-foot trefoil
Fagales	Juglandaceae	*Carya cordiformis*	bitternut hickory
Solanales	Solanaceae	*Solanum dulcamara*	bittersweet nightshade
Lamiales	Oleaceae	*Fraxinus nigra*	black ash
Rosales	Rosaceae	*Prunus serotina*	black cherry
Centrarchiformes	Centrarchidae	*Pomoxis nigromaculatus*	Black Crappie
Coleoptera	Lampyridae	*Lucidota atra*	Black Firefly
Ericales	Ericaceae	*Gaylussacia baccata*	black huckleberry
Malpighiales	Salicaceae	*Populus nigra*	Black Poplar
Anseriformes	Anatidae	*Melanitta americana*	Black Scoter
Cornales	Nyssaceae	*Nyssa sylvatica*	Black Tupelo
Cathartiformes	Cathartidae	*Coragyps atratus*	Black Vulture
Passeriformes	Parulidae	*Mniotilta varia*	Black-and-white Warbler

Charadriiformes	Charadriidae	*Pluvialis squatarola*	Black-bellied Plover
Lepidoptera	Tischeriidae	*Coptotriche aenea*	Blackberry Leafminer Moth
Cuculiformes	Cuculidae	*Coccyzus erythropthalmus*	Black-billed Cuckoo
Passeriformes	Parulidae	*Setophaga fusca*	Blackburnian Warbler
Passeriformes	Paridae	*Poecile atricapillus*	Black-capped Chickadee
Pelecaniformes	Ardeidae	*Nycticorax nycticorax*	Black-crowned Night Heron
Asterales	Asteraceae	*Rudbeckia hirta*	black-eyed Susan
Poales	Poaceae	*Patis racemosa*	black-fruit mountain-ricegrass
Passeriformes	Parulidae	*Setophaga striata*	Blackpoll Warbler
Odonata	Gomphidae	*Dromogomphus spinosus*	Black-shouldered Spinyleg
Passeriformes	Parulidae	*Setophaga caerulescens*	Black-throated Blue Warbler
Passeriformes	Parulidae	*Setophaga virens*	Black-throated Green Warbler
Odonata	Aeshnidae	*Aeshna tuberculifera*	Black-tipped Darner
Poales	Cyperaceae	*Carex intumescens*	bladder sedge
Agaricales	Clitocybaceae	*Collybia nuda*	Blewit
Lepidoptera	Sphingidae	*Paonias excaecata*	Blinded Sphinx
Ranunculales	Papaveraceae	*Sanguinaria canadensis*	bloodroot
Ranunculales	Berberidaceae	*Caulophyllum thalictroides*	blue cohosh
Passeriformes	Corvidae	*Cyanocitta cristata*	Blue Jay
Lamiales	Verbenaceae	*Verbena hastata*	blue vervain
Asparagales	Iridaceae	*Sisyrinchium* spp.	blue-eyed grasses
Centrarchiformes	Centrarchidae	*Lepomis macrochirus*	Bluegill
Poales	Poaceae	*Poa* spp.	Bluegrasses
Passeriformes	Polioptilidae	*Polioptila caerulea*	Blue-gray Gnatcatcher
Passeriformes	Vireonidae	*Vireo solitarius*	Blue-headed Vireo
Asterales	Asteraceae	*Solidago caesia*	bluestem goldenrod
Anseriformes	Anatidae	*Spatula discors*	Blue-winged Teal
Passeriformes	Parulidae	*Vermivora cyanoptera*	Blue-winged Warbler
Polypodiales	Woodsiaceae	*Woodsia obtusa obtusa*	Blunt-lobe Cliff Fern
Passeriformes	Icteridae	*Dolichonyx oryzivorus*	Bobolink
Alismatales	Araceae	*Arisaema stewardsonii*	bog Jack-in-the-pulpit
Fagales	Myricaceae	*Myrica gale*	bog myrtle
Passeriformes	Bombycillidae	*Bombycilla garrulus*	Bohemian Waxwing
Hypocreales	Hypocreaceae	*Hypomyces chrysospermus*	bolete mold
Charadriiformes	Laridae	*Chroicocephalus philadelphia*	Bonaparte's Gull
Agaricales	Mycenaceae	*Mycena* spp.	Bonnets
Lecanorales	Parmeliaceae	*Usnea subfloridana*	Boreal Beard Lichen
Plecoptera	Perlidae	*Acroneuria lycorias*	Boreal Stone
Hymenoptera	Vespidae	*Ancistrocerus adiabatus*	Bramble Mason Wasp
Poales	Cyperaceae	*Carex leptalea*	bristle-stalked sedge
Apiales	Araliaceae	*Aralia hispida*	bristly sarsaparilla
Polypodiales	Thelypteridaceae	*Phegopteris hexagonoptera*	broad beech fern
Alismatales	Alismataceae	*Sagittaria latifolia*	broadleaf arrowhead

Myrtales	Onagraceae	*Circaea canadensis*	broadleaf enchanter's nightshade
Caryophyllales	Polygonaceae	*Rumex obtusifolius*	broad-leaved dock
Asterales	Asteraceae	*Solidago flexicaulis*	broad-leaved goldenrod
Asparagales	Orchidaceae	*Epipactis helleborine*	Broad-leaved helleborine
Poales	Poaceae	*Dichanthelium latifolium*	broad-leaved panic grass
Poales	Cyperaceae	*Carex platyphylla*	broad-leaved sedge
Coleoptera	Cerambycidae	*Prionus laticollis*	Broad-necked Root Borer
Orthoptera	Tettigoniidae	*Scudderia pistillata*	Broad-winged Bush Katydid
Accipitriformes	Accipitridae	*Buteo platypterus*	Broad-winged Hawk
Hypnales	Hypnaceae	*Callicladium imponens*	brocade moss
Hemiptera	Pentatomidae	*Trichopepla semivittata*	Broken-lined Stink Bug
Salmoniformes	Salmonidae	*Salvelinus fontinalis*	Brook Trout
Siluriformes	Ictaluridae	*Ameiurus nebulosus*	Brown Bullhead
Passeriformes	Certhiidae	*Certhia americana*	Brown Creeper
Hymenochaetales	Coltriciaceae	*Coltricia perennis*	Brown Funnel Polypore
Passeriformes	Mimidae	*Toxostoma rufum*	Brown Thrasher
Salmoniformes	Salmonidae	*Salmo trutta*	Brown Trout
Passeriformes	Icteridae	*Molothrus ater*	Brown-headed Cowbird
Sapindales	Sapindaceae	*Aesculus* spp.	buckeyes and horse-chestnuts
Anseriformes	Anatidae	*Bucephala albeola*	Bufflehead
Apiales	Apiaceae	*Cicuta bulbifera*	bulblet-bearing water hemlock
Asterales	Asteraceae	*Cirsium vulgare*	Bull Thistle
Poales	Typhaceae	*Sparganium* spp.	bur-reeds
Gentianales	Rubiaceae	*Cephalanthus occidentalis*	buttonbush
Lepidoptera	Pieridae	*Pieris rapae*	Cabbage White
Asterales	Asteraceae	*Symphyotrichum lateriflorum*	calico aster
Odonata	Libellulidae	*Celithemis elisa*	Calico Pennant
Rosales	Urticaceae	*Pilea pumila*	Canada clearweed
Odonata	Aeshnidae	*Aeshna canadensis*	Canada Darner
Asterales	Asteraceae	*Solidago canadensis*	Canada goldenrod
Anseriformes	Anatidae	*Branta canadensis*	Canada Goose
Liliales	Liliaceae	*Lilium canadense*	Canada lily
Asparagales	Asparagaceae	*Maianthemum canadense*	Canada mayflower
Lamiales	Plantaginaceae	*Linaria canadensis*	Canada toadflax
Passeriformes	Parulidae	*Cardellina canadensis*	Canada Warbler
Pinales	Taxaceae	*Taxus canadensis*	Canada yew
Poales	Poaceae	*Calamagrostis canadensis*	canadian bluejoint
Cornales	Cornaceae	*Cornus canadensis*	Canadian bunchberry
Piperales	Aristolochiaceae	*Asarum canadense*	Canadian wild ginger
Candelariales	Candelariaceae	*Candelaria concolor*	Candleflame Lichen
Passeriformes	Parulidae	*Setophaga tigrina*	Cape May Warbler
Asterales	Campanulaceae	*Lobelia cardinalis*	cardinal flower
Geraniales	Geraniaceae	*Geranium carolinianum*	Carolina crane's-bill

Orthoptera	Acrididae	*Dissosteira carolina*	Carolina Grasshopper
Caryophyllales	Montiaceae	*Claytonia caroliniana*	Carolina Springbeauty
Passeriformes	Troglodytidae	*Thryothorus ludovicianus*	Carolina Wren
Lamiales	Lamiaceae	*Ajuga reptans*	carpet bugle
Charadriiformes	Laridae	*Hydroprogne caspia*	Caspian Tern
Gentianales	Rubiaceae	*Galium aparine*	catchweed bedstraw
Poales	Typhaceae	*Typha* spp.	Cattails
Lepidoptera	Saturniidae	*Hyalophora cecropia*	Cecropia Moth
Passeriformes	Bombycillidae	*Bombycilla cedrorum*	Cedar Waxwing
Hymenochaetales	Hymenochaetaceae	*Inonotus obliquus*	chaga
Salmoniformes	Esocidae	*Esox niger*	Chain Pickerel
Odonata	Libellulidae	*Ladona julia*	Chalk-fronted Corporal
Asparagales	Orchidaceae	*Goodyera tesselata*	checkered rattlesnake plantain
Odonata	Libellulidae	*Sympetrum internum*	Cherry-faced Meadowhawk
Passeriformes	Parulidae	*Setophaga pensylvanica*	Chestnut-sided Warbler
Polyporales	Laetiporaceae	*Laetiporus sulphureus*	chicken of the woods
Apodiformes	Apodidae	*Chaetura pelagica*	Chimney Swift
Architaenioglossa	Viviparidae	*Cipangopaludina chinensis*	Chinese Mystery Snail
Passeriformes	Passerellidae	*Spizella passerina*	Chipping Sparrow
Stemonitidales	Stemonitidaceae	*Stemonitis* spp.	Chocolate Tube Slimes
Rosales	Rosaceae	*Aronia* spp.	chokeberries
Polypodiales	Dryopteridaceae	*Polystichum acrostichoides*	Christmas fern
Taphrinales	Taphrinaceae	*Taphrina polystichi*	Christmas fern leaf curl
Osmundales	Osmundaceae	*Osmundastrum cinnamomeum*	cinnamon fern
Odonata	Coenagrionidae	*Ischnura hastata*	Citrine Forktail
Passeriformes	Hirundinidae	*Petrochelidon pyrrhonota*	Cliff Swallow
Hypnales	Climaciaceae	*Climacium* spp.	Climacium Mosses
Coleoptera	Curculionidae	*Brachypera zoilus*	Clover Leaf Weevil
Lepidoptera	Erebidae	*Caenurgina crassiuscula*	Clover Looper Moth
Diptera	Polleniidae	*Pollenia* spp.	Cluster Flies
Caryophyllales	Polygonaceae	*Polygonella articulata*	Coastal jointweed
Asterales	Asteraceae	*Eutrochium dubium*	coastal plain Joe-Pye weed
Asterales	Asteraceae	*Tussilago farfara*	colt's-foot
Bartramiales	Bartramiaceae	*Bartramia pomiformis*	Common Apple-moss
Lepidoptera	Psychidae	*Psyche casta*	Common Bagworm Moth
Odonata	Corduliidae	*Epitheca cynosura*	Common Baskettail
Malpighiales	Violaceae	*Viola sororia*	common blue violet
Asterales	Asteraceae	*Symphyotrichum cordifolium*	Common Blue Wood Aster
Asterales	Asteraceae	*Eupatorium perfoliatum*	common boneset
Asterales	Asteraceae	*Hypochaeris radicata*	Common Cat's-ear
Caryophyllales	Caryophyllaceae	*Stellaria media*	common chickweed
Rosales	Rosaceae	*Potentilla simplex*	common cinquefoil
Agaricales	Bolbitiaceae	*Conocybe tenera*	common conecap

Asterales	Asteraceae	*Taraxacum officinale*	common dandelion
Rosales	Rosaceae	*Rubus flagellaris*	Common Dewberry
Hymenoptera	Apidae	*Bombus impatiens*	Common Eastern Bumble Bee
Squamata	Colubridae	*Thamnophis sirtalis*	Common Garter Snake
Anseriformes	Anatidae	*Bucephala clangula*	Common Goldeneye
Passeriformes	Icteridae	*Quiscalus quiscula*	Common Grackle
Odonata	Aeshnidae	*Anax junius*	Common Green Darner
Lecanorales	Parmeliaceae	*Flavoparmelia caperata*	common greenshield lichen
Lamiales	Lamiaceae	*Galeopsis tetrahit*	Common hemp-nettle
Diptera	Muscidae	*Musca domestica*	Common House Fly
Ericales	Balsaminaceae	*Impatiens capensis*	common jewelweed
Pinales	Cupressaceae	*Juniperus communis*	common juniper
Caryophyllales	Amaranthaceae	*Chenopodium album*	Common Lambsquarters
Lamiales	Oleaceae	*Syringa vulgaris*	common lilac
Gaviiformes	Gaviidae	*Gavia immer*	Common Loon
Anseriformes	Anatidae	*Mergus merganser*	Common Merganser
Gentianales	Apocynaceae	*Asclepias syriaca*	common milkweed
Lamiales	Lamiaceae	*Leonurus cardiaca*	common motherwort
Asterales	Asteraceae	*Artemisia vulgaris*	common mugwort
Caprimulgiformes	Caprimulgidae	*Chordeiles minor*	Common Nighthawk
Pelliales	Pelliaceae	*Pellia epiphylla*	common pellia
Carnivora	Procyonidae	*Procyon lotor*	Common Raccoon
Asterales	Asteraceae	*Ambrosia artemisiifolia*	common ragweed
Passeriformes	Corvidae	*Corvus corax*	Common Raven
Lepidoptera	Nymphalidae	*Coenonympha california*	Common Ringlet
Lamiales	Lamiaceae	*Prunella vulgaris*	common selfheal
Cypriniformes	Leuciscidae	*Luxilus cornutus*	Common Shiner
Testudines	Chelydridae	*Chelydra serpentina*	Common Snapping Turtle
Diptera	Rhagionidae	*Rhagio mystaceus*	Common Snipe Fly
Poales	Cyperaceae	*Eleocharis palustris*	common spikerush
Malpighiales	Hypericaceae	*Hypericum perforatum*	Common St. John's Wort
Plecoptera	Perlidae	*Acroneuria abnormis*	Common Stone
Agaricales	Psathyrellaceae	*Psathyrella piluliformis*	Common Stump Brittlestem
Charadriiformes	Laridae	*Sterna hirundo*	Common Tern
Umbilicariales	Umbilicariaceae	*Lasallia papulosa*	Common Toadskin Lichen
Odonata	Libellulidae	*Plathemis lydia*	Common Whitetail
Piperales	Aristolochiaceae	*Asarum canadense canadense*	common wild ginger
Saxifragales	Hamamelidaceae	*Hamamelis virginiana*	common witch-hazel
Lepidoptera	Nymphalidae	*Cercyonis pegala*	Common Wood-Nymph
Asterales	Asteraceae	*Solidago rugosa*	common wrinkle-leaved goldenrod
Asterales	Asteraceae	*Achillea millefolium*	common yarrow
Passeriformes	Parulidae	*Geothlypis trichas*	Common Yellowthroat
Accipitriformes	Accipitridae	*Astur cooperii*	Cooper's Hawk

Agaricales	Psathyrellaceae	*Atramentariae* spp.	Coprinopsis sect. Atramentariae
Hypocreales	Nectriaceae	*Nectria cinnabarina*	Coral Spot
Coleoptera	Chrysomelidae	*Chrysomela scripta*	Cottonwood Leaf Beetle
Carnivora	Canidae	*Canis latrans*	Coyote
Poales	Poaceae	*Digitaria* spp.	crabgrasses, cottontops, and allies
Cypriniformes	Leuciscidae	*Semotilus atromaculatus*	Creek Chub
Poales	Poaceae	*Agrostis stolonifera*	Creeping Bent
Saxifragales	Saxifragaceae	*Tiarella stolonifera*	Creeping Foamflower
Ericales	Primulaceae	*Lysimachia nummularia*	creeping Jenny
Ericales	Ericaceae	*Gaultheria hispidula*	creeping snowberry
Lepidoptera	Nymphalidae	*Phyciodes* spp.	Crescents
Lepidoptera	Geometridae	*Xanthotype* spp.	Crocus Geometer Moths
Sphagnales	Sphagnaceae	*Sphagnum squarrosum*	Crome Sphagnum
Pucciniales	Pucciniaceae	*Puccinia coronata*	Crown Rust
Russulales	Auriscalpiaceae	*Artomyces pyxidatus*	crown-tipped coral fungus
Lecanorales	Parmeliaceae	*Platismatia tuckermanii*	Crumpled Rag Lichen
Liliales	Liliaceae	*Medeola virginiana*	Cucumber Root
Lepidoptera	Geometridae	*Eutrapela clemataria*	Curved-toothed Geometer Moth
Ophioglossales	Ophioglossaceae	*Sceptridium dissectum*	Cutleaf Grapefern
Diptera	Tachinidae	*Gonia* spp.	Cutworm Flies
Coleoptera	Elateridae	*Sylvanelater cylindriformis*	Cylindrical Click Beetle
Malpighiales	Euphorbiaceae	*Euphorbia cyparissias*	cypress spurge
Brassicales	Brassicaceae	*Hesperis matronalis*	dame's rocket
Araneae	Dolomedidae	*Dolomedes tenebrosus*	Dark Fishing Spider
Poales	Cyperaceae	*Scirpus atrovirens*	Dark Green Bulrush Complex
Passeriformes	Passerellidae	*Junco hyemalis*	Dark-eyed Junco
Hypocreales	Nectriaceae	*Fusicolla merismoides*	deer vomit
Poales	Poaceae	*Dichanthelium clandestinum*	deertongue
Lepidoptera	Hesperiidae	*Anatrytone logan*	Delaware Skipper
Asterales	Asteraceae	*Bidens frondosa*	Devil's Beggarticks
Rosales	Rosaceae	*Rubus dalibarda*	dewdrop
Poales	Cyperaceae	*Carex deweyana*	Dewey's sedge
Coleoptera	Chrysomelidae	*Chrysochus auratus*	Dogbane Leaf Beetle
Odonata	Libellulidae	*Leucorrhinia intacta*	Dot-tailed Whiteface
Suliformes	Phalacrocoracidae	*Nannopterum auritum*	Double-crested Cormorant
Asparagales	Orchidaceae	*Goodyera pubescens*	downy rattlesnake plantain
Piciformes	Picidae	*Dryobates pubescens*	Downy Woodpecker
Malpighiales	Violaceae	*Viola pubescens*	downy yellow violet
Lecanorales	Cladoniaceae	*Cladonia squamosa*	Dragon Horn
Odonata	Gomphidae	*Hagenius brevistylus*	Dragonhunter
Poales	Cyperaceae	*Carex prasina*	drooping sedge
Poales	Cyperaceae	*Carex arctata*	drooping woodland sedge
Araneae	Lycosidae	*Gladicosa gulosa*	Drumming Sword Wolf Spider

Polyporales	Polyporaceae	*Cerioporus squamosus*	Dryad's Saddle
Lepidoptera	Hesperiidae	*Euphyes vestris*	Dun Skipper
Charadriiformes	Scolopacidae	*Calidris alpina*	Dunlin
Ranunculales	Papaveraceae	*Dicentra cucullaria*	Dutchman's breeches
Apiales	Araliaceae	*Panax trifolius*	dwarf ginseng
Rosales	Rosaceae	*Rubus pubescens*	dwarf raspberry
Malpighiales	Hypericaceae	*Hypericum mutilum*	Dwarf St. John's Wort
Polypodiales	Dennstaedtiaceae	*Pteridium aquilinum latiusculum*	eagle fern
Ranunculales	Berberidaceae	*Caulophyllum giganteum*	early blue cohosh
Asterales	Asteraceae	*Solidago juncea*	early goldenrod
Ranunculales	Ranunculaceae	*Thalictrum dioicum*	early meadow-rue
Diptera	Tachinidae	*Epalpus signifer*	Early Tachinid Fly
Odonata	Libellulidae	*Perithemis tenera*	Eastern Amberwing
Agaricales	Omphalotaceae	*Omphalotus illudens*	Eastern American jack-o'-lantern
Ixodida	Ixodidae	*Ixodes scapularis*	Eastern Black-legged Tick
Cypriniformes	Leuciscidae	*Rhinichthys atratulus*	Eastern Blacknose Dace
Passeriformes	Turdidae	*Sialia sialis*	Eastern Bluebird
Diptera	Syrphidae	*Toxomerus geminatus*	Eastern Calligrapher
Malpighiales	Violaceae	*Viola canadensis canadensis*	eastern Canada violet
Rodentia	Sciuridae	*Tamias striatus*	Eastern Chipmunk
Lepidoptera	Nymphalidae	*Polygonia comma*	Eastern Comma
Lagomorpha	Leporidae	*Sylvilagus floridanus*	Eastern Cottontail
Malpighiales	Salicaceae	*Populus deltoides*	Eastern Cottonwood
Megaloptera	Corydalidae	*Corydalus cornutus*	Eastern Dobsonfly
Unionida	Unionidae	*Elliptio complanata*	Eastern Elliptio
Odonata	Coenagrionidae	*Ischnura verticalis*	Eastern Forktail
Rodentia	Sciuridae	*Sciurus carolinensis*	Eastern Gray Squirrel
Opiliones	Sclerosomatidae	*Leiobunum vittatum*	Eastern Harvestman
Pinales	Pinaceae	*Tsuga canadensis*	eastern hemlock
Passeriformes	Tyrannidae	*Tyrannus tyrannus*	Eastern Kingbird
Malvales	Thymelaeaceae	*Dirca palustris*	eastern leatherwood
Rodentia	Cricetidae	*Microtus pennsylvanicus*	Eastern Meadow Vole
Passeriformes	Icteridae	*Sturnella magna*	Eastern Meadowlark
Squamata	Colubridae	*Lampropeltis triangulum*	Eastern Milksnake
Caudata	Salamandridae	*Notophthalmus viridescens*	Eastern Newt
Agaricales	Amanitaceae	*Amanita bisporigera*	Eastern North American Destroying Angel
Passeriformes	Tyrannidae	*Sayornis phoebe*	Eastern Phoebe
Sapindales	Anacardiaceae	*Toxicodendron radicans*	eastern poison ivy
Scolopendromorpha	Scolopocryptopidae	*Scolopocryptops sexspinosus*	Eastern Red Centipede
Caudata	Plethodontidae	*Plethodon cinereus*	Eastern Red-backed Salamander
Poales	Cyperaceae	*Carex scabrata*	eastern rough sedge
Strigiformes	Strigidae	*Megascops asio*	Eastern Screech-Owl
Lepidoptera	Lycaenidae	*Cupido comyntas*	Eastern Tailed-Blue

Ericales	Ericaceae	*Gaultheria procumbens*	Eastern Teaberry
Passeriformes	Passerellidae	*Pipilo erythrophthalmus*	Eastern Towhee
Caprimulgiformes	Caprimulgidae	*Antrostomus vociferus*	Eastern Whip-poor-will
Pinales	Pinaceae	*Pinus strobus*	eastern white pine
Stylommatophora	Polygyridae	*Neohelix albolabris*	Eastern Whitelip
Passeriformes	Tyrannidae	*Contopus virens*	Eastern Wood-Pewee
Odonata	Calopterygidae	*Calopteryx maculata*	Ebony Jewelwing
Odonata	Lestidae	*Lestes dryas*	Emerald Spreadwing
Lepidoptera	Saturniidae	*Saturniinae* [Family]	Emperor Moths
Lepidoptera	Noctuidae	*Acronicta ovata*	Epauleted Oak Dagger
Artiodactyla	Suidae	*Sus scrofa*	Eurasian Wild Pig
Hymenoptera	Vespidae	*Vespa crabro*	European Hornet
Mantodea	Mantidae	*Mantis religiosa*	European Mantis
Passeriformes	Sturnidae	*Sturnus vulgaris*	European Starling
Passeriformes	Fringillidae	*Hesperiphona vespertina*	Evening Grosbeak
Lepidoptera	Nymphalidae	*Lethe eurydice*	Eyed Brown
Pezizales	Pyronemataceae	*Scutellinia* spp.	Eyelash cups
Orthoptera	Gryllidae	*Gryllus pennsylvanicus*	Fall Field Cricket
Lepidoptera	Erebidae	*Hyphantria cunea*	Fall Webworm Moth
Cypriniformes	Leuciscidae	*Semotilus corporalis*	Fallfish
Rosales	Urticaceae	*Boehmeria cylindrica*	false nettle
Odonata	Coenagrionidae	*Enallagma civile*	Familiar Bluet
Lycopodiales	Lycopodiaceae	*Diphasiastrum digitatum*	fan clubmoss
Odonata	Aeshnidae	*Boyeria vinosa*	Fawn Darner
Poales	Cyperaceae	*Carex communis*	fibrous-rooted sedge
Asterales	Asteraceae	*Solidago nemoralis*	field goldenrod
Equisetales	Equisetaceae	*Equisetum arvense*	field horsetail
Passeriformes	Passerellidae	*Spizella pusilla*	Field Sparrow
Trichoptera	Philopotamidae	*Philopotamidae* [Family]	Fingernet Caddisflies
Rosales	Rosaceae	*Prunus pensylvanica*	fire cherry
Myrtales	Onagraceae	*Chamaenerion angustifolium*	fireweed
Pinales	Pinaceae	*Abies* spp.	firs
Passeriformes	Corvidae	*Corvus ossifragus*	Fish Crow
Cantharellales	Hydnaceae	*Craterellus ignicolor*	flame trumpet
Lycopodiales	Lycopodiaceae	*Dendrolycopodium obscurum*	flat-branched tree-clubmoss
Porellales	Radulaceae	*Radula complanata*	Flat-leaved Scalewort
Asterales	Asteraceae	*Doellingeria umbellata*	flat-top white aster
Asterales	Asteraceae	*Euthamia graminifolia*	flat-topped goldenrod
Lepidoptera	Lasiocampidae	*Malacosoma disstria*	Forest Tent Caterpillar Moth
Bartramiales	Bartramiaceae	*Philonotis fontana*	Fountain Apple-moss
Odonata	Libellulidae	*Libellula quadrimaculata*	Four-spotted Skimmer
Caudata	Plethodontidae	*Hemidactylium scutatum*	Four-toed Salamander
Passeriformes	Passerellidae	*Passerella iliaca*	Fox Sparrow

Odonata	Coenagrionidae	*Ischnura posita*	Fragile Forktail
Gentianales	Rubiaceae	*Galium triflorum*	fragrant bedstraw
Caryophyllales	Polygonaceae	*Parogonum ciliinode*	fringed black bindweed
Ericales	Primulaceae	*Lysimachia ciliata*	fringed loosestrife
Diptera	Mycetophilidae	*Mycetophilidae* [Family]	Fungus Gnats
Araneae	Araneidae	*Larinioides cornutus*	Furrow Orbweaver
Brassicales	Brassicaceae	*Alliaria petiolata*	garlic mustard
Ericales	Ericaceae	*Monotropa uniflora*	Ghost Pipe
Trichoptera	Phryganeidae	*Phryganeidae* [Family]	Giant Casemaker Caddisflies
Diptera	Tipulidae	*Tipula abdominalis*	Giant Crane Fly
Asterales	Asteraceae	*Solidago gigantea*	giant goldenrod
Ephemeroptera	Ephemeridae	*Hexagenia limbata*	Giant Mayfly
Rosales	Rhamnaceae	*Frangula alnus*	glossy buckthorn
Pelecaniformes	Threskiornithidae	*Plegadis falcinellus*	Glossy Ibis
Apiales	Apiaceae	*Zizia aurea*	golden Alexanders
Accipitriformes	Accipitridae	*Aquila chrysaetos*	Golden Eagle
Lamiales	Plantaginaceae	*Gratiola aurea*	golden hedge-hyssop
Coleoptera	Lycidae	*Dictyoptera coccinata*	Golden Net-winged Beetle
Agaricales	Strophariaceae	*Pholiota aurivella*	Golden Pholiota
Cypriniformes	Leuciscidae	*Notemigonus crysoleucas*	Golden Shiner
Passeriformes	Regulidae	*Regulus satrapa*	Golden-crowned Kinglet
Diptera	Tephritidae	*Procecidochares atra*	Goldenrod Brussels Sprout Gall Fly
Araneae	Thomisidae	*Misumena vatia*	Goldenrod Crab Spider
Apiales	Apiaceae	*Aegopodium podagraria*	Goutweed
Poales	Cyperaceae	*Carex gracillima*	graceful sedge
Fagales	Betulaceae	*Alnus incana*	gray alder
Fagales	Betulaceae	*Betula populifolia*	gray birch
Passeriformes	Mimidae	*Dumetella carolinensis*	Gray Catbird
Carnivora	Canidae	*Urocyon cinereoargenteus*	Gray Fox
Lecanorales	Cladoniaceae	*Cladonia rangiferina*	gray reindeer lichen
Anura	Hylidae	*Hyla versicolor*	Gray Treefrog
Araneae	Salticidae	*Phidippus princeps*	Grayish Jumping Spider
Charadriiformes	Laridae	*Larus marinus*	Great Black-backed Gull
Pelecaniformes	Ardeidae	*Ardea herodias*	Great Blue Heron
Passeriformes	Tyrannidae	*Myiarchus crinitus*	Great Crested Flycatcher
Pelecaniformes	Ardeidae	*Ardea alba*	Great Egret
Hymenoptera	Sphecidae	*Sphex ichneumoneus*	Great Golden Digger Wasp
Strigiformes	Strigidae	*Bubo virginianus*	Great Horned Owl
Lamiales	Scrophulariaceae	*Verbascum thapsus*	great mullein
Poales	Cyperaceae	*Cyperus lupulinus*	Great Plains Flatsedge
Lepidoptera	Nymphalidae	*Argynnis cybele*	Great Spangled Fritillary
Diptera	Bombyliidae	*Bombylius major*	Greater Bee Fly
Ranunculales	Papaveraceae	*Chelidonium majus*	Greater celandine

Anseriformes	Anatidae	*Aythya marila*	Greater Scaup
Poales	Cyperaceae	*Carex normalis*	Greater Straw Sedge
Jungermanniales	Lepidoziaceae	*Bazzania trilobata*	greater whipwort
Charadriiformes	Scolopacidae	*Tringa melanoleuca*	Greater Yellowlegs
Malpighiales	Violaceae	*Viola selkirkii*	Great-spurred Violet
Lamiales	Oleaceae	*Fraxinus pennsylvanica*	green ash
Caryophyllales	Molluginaceae	*Mollugo verticillata*	green carpetweed
Liliales	Melanthiaceae	*Veratrum viride*	green false hellebore
Anura	Ranidae	*Lithobates clamitans*	Green Frog
Pelecaniformes	Ardeidae	*Butorides virescens*	Green Heron
Russulales	Russulaceae	*Russula crustosa*	Green Quilt Russula
Lecanorales	Cladoniaceae	*Cladonia arbuscula*	Green Reindeer Lichen
Hemiptera	Pentatomidae	*Chinavia hilaris*	Green Stink Bug
Anseriformes	Anatidae	*Anas crecca*	Green-winged Teal
Lamiales	Lamiaceae	*Glechoma hederacea*	ground-ivy
Jungermanniales	Scapaniaceae	*Scapania nemorea*	Grove Earwort
Odonata	Coenagrionidae	*Enallagma hageni*	Hagen's Bluet
Polytrichales	Polytrichaceae	*Polytrichum* spp.	haircap mosses
Geoglossales	Geoglossaceae	*Trichoglossum hirsutum*	Hairy Earthtongue
Poales	Poaceae	*Dichanthelium acuminatum*	hairy rosette-panicgrass
Asparagales	Asparagaceae	*Polygonatum pubescens*	hairy Solomon's-seal
Apiales	Apiaceae	*Osmorhiza claytonii*	hairy sweet cicely
Piciformes	Picidae	*Leuconotopicus villosus*	Hairy Woodpecker
Eulipotyphla	Talpidae	*Parascalops breweri*	Hairy-tailed Mole
Caryophyllales	Polygonaceae	*Persicaria arifolia*	halberd-leaved tearthumb
Poales	Cyperaceae	*Schoenoplectus acutus*	hardstem bulrush
Odonata	Aeshnidae	*Gomphaeschna furcillata*	Harlequin Darner
Rosales	Rosaceae	*Crataegus* spp.	hawthorns
Polypodiales	Dennstaedtiaceae	*Dennstaedtia punctilobula*	hay-scented fern
Malpighiales	Salicaceae	*Salix eriocephala*	heart-leaved willow
Lamiales	Plantaginaceae	*Veronica officinalis*	heath speedwell
Solanales	Convolvulaceae	*Calystegia sepium*	hedge bindweed
Ericales	Ericaceae	*Lyonia ligustrina*	He-huckleberry
Coleoptera	Buprestidae	*Phaenops fulvoguttata*	Hemlock Borer
Polyporales	Polyporaceae	*Ganoderma tsugae*	hemlock varnish shelf
Hemiptera	Adelgidae	*Adelges tsugae*	Hemlock Woolly Adelgid
Gentianales	Apocynaceae	*Apocynum cannabinum*	hemp dogbane
Geraniales	Geraniaceae	*Geranium robertianum*	Herb Robert
Passeriformes	Turdidae	*Catharus guttatus*	Hermit Thrush
Coleoptera	Psephenidae	*Psephenus herricki*	Herrick's Water Penny Beetle
Lycopodiales	Lycopodiaceae	*Dendrolycopodium hickeyi*	Hickey's tree-clubmoss
Lepidoptera	Erebidae	*Lophocampa caryae*	Hickory Tussock Moth
Dipsacales	Viburnaceae	*Viburnum lantanoides*	hobblebush

Lepidoptera	Lycaenidae	*Celastrina* spp.	Holarctic Azures
Anseriformes	Anatidae	*Lophodytes cucullatus*	Hooded Merganser
Lecanorales	Parmeliaceae	*Hypogymnia physodes*	Hooded Tube Lichen
Passeriformes	Parulidae	*Setophaga citrina*	Hooded Warbler
Ranunculales	Ranunculaceae	*Ranunculus recurvatus*	Hooked buttercup
Poales	Cyperaceae	*Carex lupulina*	hop sedge
Diptera	Cecidomyiidae	*Dasineura pudibunda*	Hornbeam leaf gall midge
Podicipediformes	Podicipedidae	*Podiceps auritus*	Horned Grebe
Passeriformes	Alaudidae	*Eremophila alpestris*	Horned Lark
Asterales	Asteraceae	*Erigeron canadensis*	horseweed
Passeriformes	Fringillidae	*Haemorhous mexicanus*	House Finch
Passeriformes	Passeridae	*Passer domesticus*	House Sparrow
Odonata	Libellulidae	*Leucorrhinia hudsonica*	Hudsonian Whiteface
Lepidoptera	Sphingidae	*Hemaris thysbe*	Hummingbird Clearwing
Asparagales	Asparagaceae	*Hyacinthus orientalis*	Hyacinth
Asterales	Campanulaceae	*Lobelia inflata*	Indian tobacco
Passeriformes	Cardinalidae	*Passerina cyanea*	Indigo Bunting
Polypodiales	Dryopteridaceae	*Dryopteris intermedia*	intermediate wood fern
Lycopodiales	Lycopodiaceae	*Spinulum annotinum*	interrupted clubmoss
Osmundales	Osmundaceae	*Osmunda claytoniana*	interrupted fern
Coleoptera	Curculionidae	*Mononychus vulpeculus*	iris weevil
Lepidoptera	Erebidae	*Pyrrharctia isabella*	Isabella Tiger Moth
Alismatales	Araceae	*Arisaema triphyllum*	Jack-in-the-Pulpit
Ranunculales	Berberidaceae	*Berberis thunbergii*	Japanese barberry
Coleoptera	Scarabaeidae	*Popillia japonica*	Japanese Beetle
Caryophyllales	Polygonaceae	*Reynoutria japonica*	Japanese knotweed
Diptera	Agromyzidae	*Phytoliriomyza melampyga*	Jewelweed Leaf-miner Fly
Lepidoptera	Hesperiidae	*Erynnis juvenalis*	Juvenal's Duskywing
Hemiptera	Gerridae	*Limnoporus dissortis*	Kayak Pond Skater
Charadriiformes	Charadriidae	*Charadrius vociferus*	Killdeer
Caryophyllales	Polygonaceae	*Persicaria maculosa*	Lady's Thumb
Odonata	Gomphidae	*Phanogomphus exilis*	Lancet Clubtail
Odonata	Aeshnidae	*Aeshna constricta*	Lance-tipped Darner
Fabales	Fabaceae	*Trifolium aureum*	large hop clover
Lepidoptera	Geometridae	*Scopula limboundata*	Large Lace-border Moth
Apiales	Apiaceae	*Sanicula trifoliata*	large-fruited sanicle
Asterales	Asteraceae	*Eurybia macrophylla*	large-leaved aster
Centrarchiformes	Centrarchidae	*Micropterus nigricans*	Largemouth Bass
Passeriformes	Passerellidae	*Chondestes grammacus*	Lark Sparrow
Agaricales	Sarcomyxaceae	*Sarcomyxa serotina*	Late Oyster
Passeriformes	Tyrannidae	*Empidonax minimus*	Least Flycatcher
Charadriiformes	Scolopacidae	*Calidris minutilla*	Least Sandpiper
Ericales	Ericaceae	*Chamaedaphne calyculata*	leatherleaf

Anseriformes	Anatidae	*Aythya affinis*	Lesser Scaup
Caryophyllales	Caryophyllaceae	*Stellaria graminea*	lesser stitchwort
Lepidoptera	Crambidae	*Agriphila ruricolellus*	Lesser Vagabond Sod Webworm Moth
Charadriiformes	Scolopacidae	*Tringa flavipes*	Lesser Yellowlegs
Boletales	Boletaceae	*Sutorius eximius*	Lilac-brown bolete
Odonata	Gomphidae	*Arigomphus furcifer*	Lilypad Clubtail
Passeriformes	Passerellidae	*Melospiza lincolnii*	Lincoln's Sparrow
Poales	Poaceae	*Schizachyrium scoparium*	little bluestem
Polypodiales	Thelypteridaceae	*Phegopteris connectilis*	long beech fern
Cypriniformes	Leuciscidae	*Rhinichthys cataractae*	Longnose Dace
Poales	Cyperaceae	*Carex pedunculata*	long-stalked sedge
Anseriformes	Anatidae	*Clangula hyemalis*	Long-tailed Duck
Hymenoptera	Ichneumonidae	*Megarhyssa macrurus*	Long-tailed Giant Ichneumonid Wasp
Poales	Cyperaceae	*Carex laxiflora*	loose-flowered sedge
Passeriformes	Parulidae	*Parkesia motacilla*	Louisiana Waterthrush
Caryophyllales	Caryophyllaceae	*Psammophiliella muralis*	Low Baby's-breath
Caryophyllales	Polygonaceae	*Persicaria longiseta*	low smartweed
Ericales	Ericaceae	*Vaccinium angustifolium*	lowbush blueberry
Crassiclitellata	Lumbricidae	*Lumbricidae* [Family]	Lumbricid Earthworms
Hemiptera	Miridae	*Lygus* spp.	Lygus Bugs
Polypodiales	Cystopteridaceae	*Cystopteris tenuis*	Mackay's Fragile Fern
Passeriformes	Parulidae	*Setophaga magnolia*	Magnolia Warbler
Caryophyllales	Caryophyllaceae	*Dianthus deltoides*	Maiden Pink
Anseriformes	Anatidae	*Anas platyrhynchos*	Mallard
Lecanorales	Cladoniaceae	*Cladonia furcata*	many-forked cladonia
Lepidoptera	Incurvariidae	*Paraclemensia acerifoliella*	Maple Leafcutter Moth
Sarcoptiformes	Eriophyidae	*Vasates aceriscrumena*	Maple Spindle Gall Mite
Dipsacales	Viburnaceae	*Viburnum acerifolium*	mapleleaf viburnum
Polypodiales	Dryopteridaceae	*Dryopteris marginalis*	marginal wood fern
Malpighiales	Violaceae	*Viola cucullata*	marsh blue violet
Odonata	Coenagrionidae	*Enallagma ebrium*	Marsh Bluet
Polypodiales	Thelypteridaceae	*Thelypteris palustris*	marsh fern
Lamiales	Lamiaceae	*Scutellaria galericulata*	Marsh Skullcap
Lamiales	Plantaginaceae	*Veronica scutellata*	Marsh Speedwell
Passeriformes	Troglodytidae	*Cistothorus palustris*	Marsh Wren
Ophioglossales	Ophioglossaceae	*Botrychium matricariifolium*	matricary grapefern
Falconiformes	Falconidae	*Falco columbarius*	Merlin
Lepidoptera	Erebidae	*Euchaetes egle*	Milkweed Tussock Moth
Hymenoptera	Andrenidae	*Andrena* spp.	Mining Bees
Lepidoptera	Sphingidae	*Pachysphinx modesta*	Modest Sphinx
Lepidoptera	Nymphalidae	*Danaus plexippus*	Monarch
Artiodactyla	Cervidae	*Alces alces*	Moose
Dipsacales	Caprifoliaceae	*Lonicera morrowii*	Morrow's honeysuckle

Ericales	Ericaceae	*Kalmia latifolia*	mountain laurel
Sapindales	Sapindaceae	*Acer spicatum*	Mountain Maple
Polypodiales	Dryopteridaceae	*Dryopteris campyloptera*	mountain wood fern
Oxalidales	Oxalidaceae	*Oxalis montana*	mountain woodsorrel
Lepidoptera	Nymphalidae	*Nymphalis antiopa*	Mourning Cloak
Columbiformes	Columbidae	*Zenaida macroura*	Mourning Dove
Passeriformes	Parulidae	*Geothlypis philadelphia*	Mourning Warbler
Brassicales	Brassicaceae	*Arabidopsis thaliana*	mouse-ear cress
Chiroptera	Vespertilionidae	*Myotis* spp.	Mouse-eared Bats
Lepidoptera	Hesperiidae	*Poanes massasoit*	Mulberry Wing
Rosales	Rosaceae	*Rosa multiflora*	multiflora rose
Hymenochaetales	Hymenochaetaceae	*Fuscoporia gilva*	Mustard Yellow Polypore
Coleoptera	Staphylinidae	*Platydracus mysticus*	Mystic Rove Beetle
Dipsacales	Viburnaceae	*Viburnum lentago*	nannyberry
Lamiales	Orobanchaceae	*Melampyrum lineare*	narrowleaf cow wheat
Brassicales	Brassicaceae	*Cardamine impatiens*	narrow-leaved bittercress
Passeriformes	Parulidae	*Leiothlypis ruficapilla*	Nashville Warbler
Poales	Cyperaceae	*Carex projecta*	necklace sedge
Passeriformes	Passerellidae	*Ammospiza nelsoni*	Nelson's Sparrow
Caryophyllales	Polygonaceae	*Persicaria nepalensis*	Nepal Persicaria
Trichoptera	Hydropsychidae	*Hydropsychidae* [Family]	Net-spinning Caddisflies
Asterales	Asteraceae	*Symphyotrichum novae-angliae*	New England aster
Poales	Cyperaceae	*Carex novae-angliae*	New England sedge
Diptera	Asilidae	*Diogmites basalis*	New York Bee Killer
Polypodiales	Thelypteridaceae	*Amauropelta noveboracensis*	New York fern
Porellales	Frullaniaceae	*Frullania eboracensis*	New York Scalewort
Asterales	Asteraceae	*Bidens cernua*	Nodding Beggarticks
Poales	Cyperaceae	*Carex gynandra*	nodding sedge
Hymenoptera	Apidae	*Nomada* spp.	Nomad Bees
Diptera	Chironomidae	*Chironomidae* [Family]	Non-biting Midges
Araneae	Araneidae	*Araneus nordmanni*	Nordmann's Orbweaver
Lepidoptera	Noctuidae	*Crocigrapha normani*	Norman's Quaker
Rodentia	Cricetidae	*Peromyscus* spp.	North American Deer Mice
Rodentia	Erethizontidae	*Erethizon dorsatum*	North American Porcupine
Blattodea	Blattellidae	*Parcoblatta* spp.	North American Wood Cockroaches
Asparagales	Orchidaceae	*Platanthera aquilonis*	north wind bog orchid
Dipsacales	Viburnaceae	*Viburnum recognitum*	northern arrowwood
Asparagales	Iridaceae	*Iris versicolor*	northern blue flag
Odonata	Coenagrionidae	*Enallagma annexum*	Northern Bluet
Lepidoptera	Hesperiidae	*Polites egeremet*	Northern Broken-Dash
Lamiales	Lamiaceae	*Lycopus uniflorus*	northern bugleweed
Dipsacales	Caprifoliaceae	*Diervilla lonicera*	northern bush honeysuckle
Passeriformes	Cardinalidae	*Cardinalis cardinalis*	Northern Cardinal

Polyporales	Polyporaceae	*Trametes cinnabarina*	Northern Cinnabar Polypore
Piciformes	Picidae	*Colaptes auratus*	Northern Flicker
Accipitriformes	Accipitridae	*Circus hudsonius*	Northern Harrier
Ericales	Ericaceae	*Vaccinium corymbosum*	Northern highbush blueberry
Passeriformes	Troglodytidae	*Troglodytes aedon*	Northern House Wren
Polypodiales	Athyriaceae	*Athyrium angustum*	northern lady fern
Poales	Cyperaceae	*Carex folliculata*	northern long sedge
Polypodiales	Pteridaceae	*Adiantum pedatum*	northern maidenhair fern
Passeriformes	Mimidae	*Mimus polyglottos*	Northern Mockingbird
Polypodiales	Cystopteridaceae	*Gymnocarpium dryopteris*	northern oak fern
Hymenoptera	Vespidae	*Polistes fuscatus*	Northern Paper Wasp
Passeriformes	Parulidae	*Setophaga americana*	Northern Parula
Lepidoptera	Nymphalidae	*Lethe anthedon*	Northern Pearly-eye
Anseriformes	Anatidae	*Anas acuta*	Northern Pintail
Fagales	Fagaceae	*Quercus rubra*	northern red oak
Passeriformes	Hirundinidae	*Stelgidopteryx serripennis*	Northern Rough-winged Swallow
Poales	Poaceae	*Brachyelytrum aristosum*	Northern Shorthusk
Passeriformes	Laniidae	*Lanius borealis*	Northern Shrike
Laurales	Lauraceae	*Lindera benzoin*	northern spicebush
Ericales	Primulaceae	*Lysimachia borealis*	northern starflower
Polyporales	Meruliaceae	*Climacodon septentrionalis*	Northern Tooth
Asparagales	Orchidaceae	*Platanthera flava herbiola*	northern tubercled orchid
Passeriformes	Parulidae	*Parkesia noveboracensis*	Northern Waterthrush
Pinales	Cupressaceae	*Thuja occidentalis*	northern whitecedar
Passeriformes	Parulidae	*Setophaga aestiva*	Northern Yellow Warbler
Poales	Cyperaceae	*Carex utriculata*	Northwest Territory sedge
Sapindales	Sapindaceae	*Acer platanoides*	Norway maple
Boletales	Boletaceae	*Strobilomyces strobilaceus*	Old-man-of-the-woods
Passeriformes	Tyrannidae	*Contopus cooperi*	Olive-sided Flycatcher
Lepidoptera	Tortricidae	*Sparganothis unifasciana*	One-lined Sparganothis Moth
Bryales	Bryaceae	*Rhodobryum ontariense*	Ontario rhodobryum moss
Odonata	Coenagrionidae	*Enallagma signatum*	Orange Bluet
Asparagales	Asphodelaceae	*Hemerocallis fulva*	orange day-lily
Agaricales	Hygrophoraceae	*Humidicutis marginata*	orange gilled waxcap
Asterales	Asteraceae	*Pilosella aurantiaca*	orange hawkweed
Trentepohliales	Trentepohliaceae	*Trentepohlia aurea*	Orange Rock Hair
Passeriformes	Parulidae	*Leiothlypis celata*	Orange-crowned Warbler
Passeriformes	Icteridae	*Icterus spurius*	Orchard Oriole
Coleoptera	Scarabaeidae	*Exomala orientalis*	Oriental Beetle
Celastrales	Celastraceae	*Celastrus orbiculatus*	Oriental bittersweet
Saxifragales	Crassulaceae	*Hylotelephium telephium*	Orpine
Accipitriformes	Pandionidae	*Pandion haliaetus*	Osprey
Polypodiales	Onocleaceae	*Matteuccia struthiopteris*	ostrich fern

Hypnales	Pylaisiaceae	*Ptilium crista-castrensis*	Ostrich-plume Moss
Passeriformes	Parulidae	*Seiurus aurocapilla*	Ovenbird
Asterales	Asteraceae	*Leucanthemum vulgare*	oxeye daisy
Agaricales	Pleurotaceae	*Pleurotus ostreatus*	Oyster Mushroom
Boletales	Suillaceae	*Suillus spraguei*	Painted Suillus
Liliales	Melanthiaceae	*Trillium undulatum*	painted trillium
Testudines	Emydidae	*Chrysemys picta*	Painted Turtle
Lepidoptera	Geometridae	*Campaea perlata*	Pale Beauty
Hemiptera	Reduviidae	*Zelus luridus*	Pale Green Assassin Bug
Asparagales	Orchidaceae	*Platanthera flava*	pale green orchid
Ericales	Balsaminaceae	*Impatiens pallida*	pale jewelweed
Agaricales	Pleurotaceae	*Pleurotus pulmonarius*	pale oyster
Malpighiales	Hypericaceae	*Hypericum ellipticum*	pale St. John's-wort
Asterales	Asteraceae	*Helianthus decapetalus*	pale sunflower
Asterales	Asteraceae	*Helianthus strumosus*	pale-leaved woodland sunflower
Asterales	Campanulaceae	*Lobelia spicata spicata*	pale-spike lobelia
Passeriformes	Parulidae	*Setophaga palmarum*	Palm Warbler
Asterales	Asteraceae	*Hieracium paniculatum*	Panicled Hawkweed
Fagales	Betulaceae	*Betula papyrifera*	paper birch
Gentianales	Rubiaceae	*Mitchella repens*	partridgeberry
Charadriiformes	Scolopacidae	*Calidris melanotos*	Pectoral Sandpiper
Agaricales	Lycoperdaceae	*Lycoperdon marginatum*	Peeling Puffball
Peltigerales	Peltigeraceae	*Peltigera* spp.	pelt lichens
Brassicales	Brassicaceae	*Cardamine pensylvanica*	Pennsylvania Bittercress
Coleoptera	Carabidae	*Harpalus pensylvanicus*	Pennsylvania Dingy Ground Beetle
Poales	Cyperaceae	*Carex pensylvanica*	Pennsylvania sedge
Falconiformes	Falconidae	*Falco peregrinus*	Peregrine Falcon
Poales	Poaceae	*Agrostis perennans*	Perennial Bentgrass
Passeriformes	Vireonidae	*Vireo philadelphicus*	Philadelphia Vireo
Anura	Ranidae	*Lithobates palustris*	Pickerel Frog
Podicipediformes	Podicipedidae	*Podilymbus podiceps*	Pied-billed Grebe
Piciformes	Picidae	*Dryocopus pileatus*	Pileated Woodpecker
Mucorales		*Mucorales* [Order]	Pin Molds
Passeriformes	Fringillidae	*Pinicola enucleator*	Pine Grosbeak
Passeriformes	Fringillidae	*Spinus pinus*	Pine Siskin
Orthoptera	Acrididae	*Melanoplus punctulatus*	Pine tree Spur-throat Grasshopper
Passeriformes	Parulidae	*Setophaga pinus*	Pine Warbler
Hemiptera	Adelgidae	*Adelges abietis*	Pineapple-gall Adelgid
Malpighiales	Hypericaceae	*Hypericum gentianoides*	pineweed
Pertusariales	Icmadophilaceae	*Dibaeis baeomyces*	Pink Earth Lichen
Pezizales	Sarcoscyphaceae	*Microstoma floccosum*	Pink Fringed Faery Cup
Asparagales	Orchidaceae	*Cypripedium acaule*	pink lady's slipper
Ericales	Ericaceae	*Chimaphila umbellata*	pipsissewa

Pinales	Pinaceae	*Pinus rigida*	pitch pine
Poales	Cyperaceae	*Carex plantaginea*	plantainleaf sedge
Dicranales	Fissidentaceae	*Fissidens* spp.	pocket mosses
Poales	Cyperaceae	*Carex scoparia*	pointed broom sedge
Fabales	Fabaceae	*Hylodesmum glutinosum*	pointed-leaved tick-trefoil
Mycosphaerellales	Mycosphaerellaceae	*Cercosporella toxicodendri*	Poison Ivy Leaf Spot
Lepidoptera	Gracillariidae	*Cameraria guttifinitella*	Poison Ivy Leaf-miner Moth
Coleoptera	Coccinellidae	*Cycloneda munda*	Polished Lady Beetle
Lepidoptera	Saturniidae	*Antheraea polyphemus*	Polyphemus Moth
Hymenochaetales	Rigidoporaceae	*Rigidoporus populinus*	Poplar Bracket
Taphrinales	Taphrinaceae	*Taphrina populina*	Poplar Leaf Curl
Poales	Poaceae	*Danthonia spicata*	Poverty oatgrass
Odonata	Coenagrionidae	*Argia moesta*	Powdered Dancer
Passeriformes	Parulidae	*Setophaga discolor*	Prairie Warbler
Saxifragales	Grossulariaceae	*Ribes cynosbati*	prickly gooseberry
Lycopodiales	Lycopodiaceae	*Dendrolycopodium dendroideum*	prickly tree-clubmoss
Odonata	Corduliidae	*Epitheca princeps*	Prince Baskettail
Caryophyllales	Caryophyllaceae	*Sagina procumbens*	Procumbent Pearlwort
Diptera	Syrphidae	*Sphegina* spp.	Pufftails
Lamiales	Lentibulariaceae	*Utricularia purpurea*	Purple Bladderwort
Russulales	Russulaceae	*Russula atropurpurea*	Purple Brittlegill
Passeriformes	Fringillidae	*Haemorhous purpureus*	Purple Finch
Myrtales	Lythraceae	*Lythrum salicaria*	purple loosestrife
Poales	Poaceae	*Eragrostis pectinacea*	purple love grass
Ranunculales	Ranunculaceae	*Thalictrum dasycarpum*	purple meadow-rue
Rosales	Rosaceae	*Rubus odoratus*	purple-flowered raspberry
Apiales	Apiaceae	*Angelica atropurpurea*	purple-stemmed angelica
Asterales	Asteraceae	*Antennaria* spp.	pussytoes
Malpighiales	Salicaceae	*Populus tremuloides*	quaking aspen
Apiales	Apiaceae	*Daucus carota*	Queen Anne's lace
Fabales	Fabaceae	*Trifolium arvense*	rabbitfoot clover
Araneae	Lycosidae	*Rabidosa rabida*	Rabid Wolf Spider
Odonata	Corduliidae	*Dorocordulia libera*	Racket-tailed Emerald
Salmoniformes	Salmonidae	*Oncorhynchus mykiss*	Rainbow Trout
Ophioglossales	Ophioglossaceae	*Botrypus virginianus*	rattlesnake fern
Poales	Poaceae	*Glyceria canadensis*	rattlesnake mannagrass
Asterales	Asteraceae	*Nabalus* spp.	rattlesnake roots
Phallales	Phallaceae	*Phallus ravenelii*	Ravenel's stinkhorn
Ranunculales	Ranunculaceae	*Actaea rubra*	red baneberry
Fabales	Fabaceae	*Trifolium pratense*	Red Clover
Ranunculales	Ranunculaceae	*Aquilegia canadensis*	red columbine
Passeriformes	Fringillidae	*Loxia curvirostra*	Red Crossbill
Coleoptera	Cucujidae	*Cucujus clavipes*	Red Flat Bark Beetle

Sapindales	Sapindaceae	*Acer rubrum*	red maple
Coleoptera	Cerambycidae	*Tetraopes tetrophthalmus*	Red Milkweed Beetle
Charadriiformes	Scolopacidae	*Phalaropus fulicarius*	Red Phalarope
Pinales	Pinaceae	*Pinus resinosa*	red pine
Rosales	Rosaceae	*Rubus idaeus*	red raspberry
Caryophyllales	Caryophyllaceae	*Spergularia rubra*	Red Sand Spurrey
Pinales	Pinaceae	*Picea rubens*	red spruce
Liliales	Melanthiaceae	*Trillium erectum*	red trillium
Hemiptera	Cicadellidae	*Graphocephala coccinea*	Red-banded Leafhopper
Agaricales	Cortinariaceae	*Cortinarius armillatus*	red-banded webcap
Piciformes	Picidae	*Melanerpes carolinus*	Red-bellied Woodpecker
Dipsacales	Viburnaceae	*Sambucus racemosa*	red-berried elder
Anseriformes	Anatidae	*Mergus serrator*	Red-breasted Merganser
Passeriformes	Sittidae	*Sitta canadensis*	Red-breasted Nuthatch
Passeriformes	Vireonidae	*Vireo olivaceus*	Red-eyed Vireo
Ranunculales	Ranunculaceae	*Actaea pachypoda rubrocarpa*	Red-fruited white baneberry
Piciformes	Picidae	*Melanerpes erythrocephalus*	Red-headed Woodpecker
Orthoptera	Acrididae	*Melanoplus femurrubrum*	Red-legged Grasshopper
Coleoptera	Oedemeridae	*Ischnomera ruficollis*	Red-necked False Blister Beetle
Podicipediformes	Podicipedidae	*Podiceps grisegena*	Red-necked Grebe
Charadriiformes	Scolopacidae	*Phalaropus lobatus*	Red-necked Phalarope
Passeriformes	Fringillidae	*Acanthis flammea*	Redpoll
Accipitriformes	Accipitridae	*Buteo lineatus*	Red-shouldered Hawk
Lepidoptera	Nymphalidae	*Limenitis arthemis*	Red-spotted Admiral
Hypnales	Hylocomiaceae	*Pleurozium schreberi*	Red-stemmed Feather Moss
Accipitriformes	Accipitridae	*Buteo jamaicensis*	Red-tailed Hawk
Passeriformes	Icteridae	*Agelaius phoeniceus*	Red-winged Blackbird
Poales	Poaceae	*Phalaris arundinacea*	reed canary grass
Polyporales	Ischnodermataceae	*Ischnoderma resinosum*	Resinous Polypore
Coleoptera	Lycidae	*Calopteron reticulatum*	Reticulated Net-winged Beetle
Charadriiformes	Laridae	*Larus delawarensis*	Ring-billed Gull
Agaricales	Physalacriaceae	*Desarmillaria caespitosa*	Ringless Honey Mushroom
Squamata	Colubridae	*Diadophis punctatus*	Ringneck Snake
Anseriformes	Anatidae	*Aythya collaris*	Ring-necked Duck
Galliformes	Phasianidae	*Phasianus colchicus*	Ring-necked Pheasant
Fagales	Betulaceae	*Betula nigra*	river birch
Odonata	Calopterygidae	*Calopteryx aequabilis*	River Jewelwing
Vitales	Vitaceae	*Vitis riparia*	riverbank grape
Columbiformes	Columbidae	*Columba livia*	Rock Pigeon
Polypodiales	Polypodiaceae	*Polypodium virginianum*	rock polypody
Passeriformes	Cardinalidae	*Pheucticus ludovicianus*	Rose-breasted Grosbeak
Lepidoptera	Saturniidae	*Dryocampa rubicunda*	Rosy Maple Moth
Poales	Cyperaceae	*Carex rosea*	rosy sedge

Gentianales	Rubiaceae	*Galium asprellum*	rough bedstraw
Rosales	Rosaceae	*Potentilla norvegica*	rough cinquefoil
Accipitriformes	Accipitridae	*Buteo lagopus*	Rough-legged Hawk
Caryophyllales	Droseraceae	*Drosera rotundifolia*	round-leaved sundew
Malpighiales	Violaceae	*Viola rotundifolia*	Round-leaved Violet
Ranunculales	Ranunculaceae	*Hepatica americana*	round-lobed hepatica
Passeriformes	Regulidae	*Corthylio calendula*	Ruby-crowned Kinglet
Apodiformes	Trochilidae	*Archilochus colubris*	Ruby-throated Hummingbird
Anseriformes	Anatidae	*Oxyura jamaicensis*	Ruddy Duck
Galliformes	Phasianidae	*Bonasa umbellus*	Ruffed Grouse
Araneae	Philodromidae	*Philodromus* spp.	Running Crab Spiders
Poales	Juncaceae	*Juncus* spp.	Rushes
Jungermanniales	Cephaloziaceae	*Nowellia curvifolia*	Rustwort
Passeriformes	Icteridae	*Euphagus carolinus*	Rusty Blackbird
Helotiales	Erysiphaceae	*Erysiphe capreae*	sallow mildew
Poales	Cyperaceae	*Carex lurida*	sallow sedge
Diptera	Sarcophagidae	*Miltogramminae* [Family]	Satellite Flies
Passeriformes	Passerellidae	*Passerculus sandwichensis*	Savannah Sparrow
Solanales	Convolvulaceae	*Cuscuta gronovii*	Scaldweed
Gomphales	Gomphaceae	*Turbinellus floccosus*	Scaly Chanterelle
Pezizales	Sarcoscyphaceae	*Sarcoscypha austriaca*	Scarlet Elfcup
Passeriformes	Cardinalidae	*Piranga olivacea*	Scarlet Tanager
Odonata	Coenagrionidae	*Nehalennia irene*	Sedge Sprite
Charadriiformes	Charadriidae	*Charadrius semipalmatus*	Semipalmated Plover
Charadriiformes	Scolopacidae	*Calidris pusilla*	Semipalmated Sandpiper
Polypodiales	Onocleaceae	*Onoclea sensibilis*	sensitive fern
Lepidoptera	Noctuidae	*Papaipema inquaesita*	Sensitive Fern Borer Moth
Rosales	Rosaceae	*Amelanchier* spp.	serviceberries
Liliales	Colchicaceae	*Uvularia sessilifolia*	sessile bellwort
Odonata	Aeshnidae	*Aeshna umbrosa*	Shadow Darner
Asterales	Asteraceae	*Galinsoga quadriradiata*	shaggy soldier
Ranunculales	Ranunculaceae	*Hepatica acutiloba*	sharp-lobed hepatica
Accipitriformes	Accipitridae	*Accipiter striatus*	Sharp-shinned Hawk
Araneae	Linyphiidae	*Linyphiidae* [Family]	Sheetweb and Dwarf Weavers
Agaricales	Verrucosporaceae	*Lepiota clypeolaria*	Shield Dapperling
Hypnales	Neckeraceae	*Neckera pennata*	shingle moss
Lycopodiales	Lycopodiaceae	*Huperzia lucidula*	shining firmoss
Ericales	Ericaceae	*Pyrola elliptica*	shinleaf
Charadriiformes	Scolopacidae	*Limnodromus griseus*	Short-billed Dowitcher
Strigiformes	Strigidae	*Asio flammeus*	Short-eared Owl
Lamiales	Lamiaceae	*Scutellaria lateriflora*	side-flowering skullcap
Cornales	Cornaceae	*Cornus amomum*	silky dogwood
Malpighiales	Salicaceae	*Salix sericea*	silky willow

Sapindales	Sapindaceae	*Acer saccharinum*	silver maple
Lepidoptera	Nymphalidae	*Boloria myrina*	Silver-bordered Fritillary
Asterales	Asteraceae	*Solidago bicolor*	silverrod
Lepidoptera	Hesperiidae	*Epargyreus clarus*	Silver-spotted Skipper
Rosales	Rosaceae	*Potentilla argentea*	Silvery Cinquefoil
Polypodiales	Athyriaceae	*Deparia acrostichoides*	silvery glade fern
Agaricales	Cortinariaceae	*Cortinarius alboviolaceus*	Silvery-violet Cort
Araneae	Araneidae	*Araniella displicata*	Six-spotted Orbweaver
Coleoptera	Cicindelidae	*Cicindela sexguttata*	Six-spotted Tiger Beetle
Odonata	Coenagrionidae	*Enallagma geminatum*	Skimming Bluet
Saxifragales	Grossulariaceae	*Ribes glandulosum*	skunk currant
Lepidoptera	Erebidae	*Macrochilo absorptalis*	Slant-lined Owlet
Ephemeroptera	Isonychiidae	*Isonychia* spp.	Slate Drakes
Odonata	Libellulidae	*Libellula incesta*	Slaty Skimmer
Odonata	Lestidae	*Lestes rectangularis*	Slender Spreadwing
Rosales	Urticaceae	*Urtica gracilis*	slender stinging nettle
Perciformes	Cottidae	*Cottus cognatus*	Slimy Sculpin
Asparagales	Orchidaceae	*Platanthera clavellata*	small green wood orchid
Lepidoptera	Crambidae	*Anania hortulata*	Small Magpie
Ephemeroptera	Baetidae	*Baetidae* [Family]	Small Mayflies
Hymenoptera	Cynipidae	*Amphibolips quercusostensackenii*	Small Oak Apple Gall Wasp
Lamiales	Lentibulariaceae	*Utricularia radiata*	Small Swollen Bladderwort
Ranunculales	Ranunculaceae	*Ranunculus abortivus*	small-flowered buttercup
Centrarchiformes	Centrarchidae	*Micropterus dolomieu*	Smallmouth Bass
Lecideales	Lecideaceae	*Porpidia albocaerulescens*	Smokey-eyed Boulder Lichen
Polyporales	Phanerochaetaceae	*Bjerkandera adusta*	Smoky polypore
Fagales	Betulaceae	*Alnus serrulata*	smooth alder
Rosales	Rosaceae	*Rubus canadensis*	Smooth Blackberry
Poales	Poaceae	*Bromus inermis*	Smooth Brome
Liliales	Smilacaceae	*Smilax herbacea*	smooth carrionflower
Stylommatophora	Agriolimacidae	*Deroceras* spp.	Smooth Land Slugs
Umbilicariales	Umbilicariaceae	*Umbilicaria mammulata*	Smooth Rock Tripe
Rhynchobdellida	Glossiphoniidae	*Placobdella parasitica*	Smooth Turtle Leech
Malpighiales	Violaceae	*Viola eriocarpa*	Smooth Yellow Violet
Polytrichales	Polytrichaceae	*Atrichum* spp.	Smoothcap Mosses
Marchantiales	Conocephalaceae	*Conocephalum salebrosum*	Snakewort
Passeriformes	Calcariidae	*Plectrophenax nivalis*	Snow Bunting
Anseriformes	Anatidae	*Anser caerulescens*	Snow Goose
Lepidoptera	Geometridae	*Scopula inductata*	Soft-lined Wave
Charadriiformes	Scolopacidae	*Tringa solitaria*	Solitary Sandpiper
Asparagales	Asparagaceae	*Maianthemum racemosum*	Solomon's plume
Passeriformes	Passerellidae	*Melospiza melodia*	Song Sparrow
Rosales	Rosaceae	*Prunus cerasus*	Sour Cherry

Odonata	Aeshnidae	*Rhionaeschna mutata*	Spatterdock Darner
Trypetheliales	Trypetheliaceae	*Viridothelium virens*	Speckled Blister Lichen
Odonata	Coenagrionidae	*Nehalennia gracilis*	Sphagnum Sprite
Polypodiales	Dryopteridaceae	*Dryopteris carthusiana*	spinulose wood fern
Odonata	Corduliidae	*Epitheca spinigera*	Spiny Baskettail
Asterales	Asteraceae	*Eutrochium maculatum*	spotted Joe-Pye weed
Caudata	Ambystomatidae	*Ambystoma maculatum*	Spotted Salamander
Charadriiformes	Scolopacidae	*Actitis macularius*	Spotted Sandpiper
Odonata	Lestidae	*Lestes congener*	Spotted Spreadwing
Lepidoptera	Thyrididae	*Thyris maculata*	Spotted Thyris Moth
Gentianales	Apocynaceae	*Apocynum androsaemifolium*	spreading dogbane
Pucciniales	Pucciniaceae	*Puccinia mariae-wilsoniae*	spring beauty rust
Anura	Hylidae	*Pseudacris crucifer*	Spring Peeper
Ranunculales	Papaveraceae	*Dicentra canadensis*	squirrel corn
Diptera	Muscidae	*Stomoxys calcitrans*	Stable Fly
Sapindales	Anacardiaceae	*Rhus typhina*	staghorn sumac
Lycopodiales	Lycopodiaceae	*Lycopodium clavatum*	stag's-horn clubmoss
Hypnales	Hylocomiaceae	*Hylocomium splendens*	stairstep moss
Pezizales	Sarcoscyphaceae	*Sarcoscypha occidentalis*	stalked scarlet cup
Rosales	Rosaceae	*Spiraea tomentosa*	Steeplebush
Araneae	Lycosidae	*Pardosa lapidicina*	Stone Spider
Poales	Poaceae	*Cinna arundinacea*	stout wood reed
Poales	Cyperaceae	*Cyperus strigosus*	straw-colored flatsedge
Odonata	Coenagrionidae	*Enallagma exsulans*	Stream Bluet
Odonata	Macromiidae	*Macromia transversa*	Stream Cruiser
Araneae	Dolomedidae	*Dolomedes scriptus*	Striped Fishing Spider
Sapindales	Sapindaceae	*Acer pensylvanicum*	striped maple
Ericales	Ericaceae	*Chimaphila maculata*	striped wintergreen
Sapindales	Sapindaceae	*Acer saccharum*	sugar maple
Coleoptera	Cerambycidae	*Glycobius speciosus*	Sugar Maple Borer
Rosales	Rosaceae	*Potentilla recta*	sulphur cinquefoil
Lecanorales	Psilolechiaceae	*Psilolechia lucida*	Sulphur Dust Lichen
Lepidoptera	Geometridae	*Hesperumia sulphuraria*	Sulphur Moth
Lepidoptera	Gracillariidae	*Caloptilia rhoifoliella*	Sumac Leaf Blotch Miner Moth
Odonata	Calopterygidae	*Calopteryx amata*	Superb Jewelwing
Anseriformes	Anatidae	*Melanitta perspicillata*	Surf Scoter
Passeriformes	Turdidae	*Catharus ustulatus*	Swainson's Thrush
Asterales	Asteraceae	*Symphyotrichum puniceum*	swamp aster
Ericales	Primulaceae	*Lysimachia terrestris*	swamp candles
Rosales	Rosaceae	*Rubus hispidus*	swamp dewberry
Coleoptera	Chrysomelidae	*Labidomera clivicollis*	Swamp Milkweed Leaf Beetle
Rosales	Rosaceae	*Rosa palustris*	swamp rose
Saxifragales	Saxifragaceae	*Micranthes pensylvanica*	Swamp Saxifrage

Passeriformes	Passerellidae	*Melospiza georgiana*	Swamp Sparrow
Odonata	Lestidae	*Lestes vigilax*	Swamp Spreadwing
Poales	Cyperaceae	*Carex swanii*	Swan's sedge
Fagales	Betulaceae	*Betula lenta*	sweet birch
Lamiales	Lamiaceae	*Lycopus virginicus*	sweet bugleweed
Asterales	Asteraceae	*Pseudognaphalium obtusifolium*	sweet everlasting
Malpighiales	Violaceae	*Viola blanda*	sweet white violet
Fagales	Myricaceae	*Comptonia peregrina*	sweet-fern
Caryophyllales	Caryophyllaceae	*Dianthus barbatus*	Sweet-William
Odonata	Macromiidae	*Macromia illinoiensis*	Swift River Cruiser
Lepidoptera	Nepticulidae	*Ectoedemia platanella*	Sycamore Leaf Blotch Miner
Asterales	Asteraceae	*Lactuca biennis*	tall blue lettuce
Rosales	Rosaceae	*Agrimonia gryposepala*	tall hairy agrimony
Ranunculales	Ranunculaceae	*Thalictrum pubescens*	tall meadow-rue
Asterales	Asteraceae	*Tanacetum vulgare*	tansy
Passeriformes	Parulidae	*Leiothlypis peregrina*	Tennessee Warbler
Coleoptera	Lycidae	*Caenia dimidiata*	Terminal Net-winged Beetle
Perciformes	Percidae	*Etheostoma olmstedi*	Tessellated Darter
Vitales	Vitaceae	*Parthenocissus inserta*	thicket creeper
Poales	Cyperaceae	*Carex cephaloidea*	thin-leaved sedge
Ranunculales	Ranunculaceae	*Coptis trifolia*	threeleaf goldthread
Asparagales	Asparagaceae	*Maianthemum trifolium*	three-leaved false Solomon’s seal
Gentianales	Rubiaceae	*Galium trifidum*	three-petal bedstraw
Poales	Cyperaceae	*Carex trisperma*	threeseeded sedge
Poales	Cyperaceae	*Dulichium arundinaceum*	Three-way Sedge
Lamiales	Plantaginaceae	*Veronica serpyllifolia*	thyme-leaved speedwell
Lepidoptera	Papilionidae	*Pterourus* spp.	Tiger Swallowtails and Allies
Poales	Poaceae	*Phleum* spp.	Timothies
Polyporales	Polyporaceae	*Fomes excavatus*	Tinder Polypore
Ericales	Ericaceae	*Epigaea repens*	trailing arbutus
Passeriformes	Hirundinidae	*Tachycineta bicolor*	Tree Swallow
Hypnales	Neckeraceae	*Pseudanomodon attenuatus*	tree-skirt moss
Hymenoptera	Formicidae	*Camponotus* spp.	True Carpenter Ants
Passeriformes	Paridae	*Baeolophus bicolor*	Tufted Titmouse
Fabales	Fabaceae	*Vicia cracca*	tufted vetch
Cathartiformes	Cathartidae	*Cathartes aura*	Turkey Vulture
Polyporales	Polyporaceae	*Trametes versicolor*	turkey-tail
Odonata	Libellulidae	*Libellula pulchella*	Twelve-spotted Skimmer
Hemiptera	Membracidae	*Stictocephala diceros*	Two-horned Treehopper
Saxifragales	Saxifragaceae	*Mitella diphylla*	twoleaf miterwort
Brassicales	Brassicaceae	*Cardamine diphylla*	Two-leaved Toothwort
Coleoptera	Cantharidae	*Atalantycha bilineata*	Two-lined Leatherwing
Orthoptera	Acrididae	*Melanoplus bivittatus*	Two-striped Grasshopper

Odonata	Corduliidae	*Helocordulia uhleri*	Uhler's Sundragon
Oxalidales	Oxalidaceae	*Oxalis stricta*	upright yellow woodsorrel
Passeriformes	Turdidae	*Catharus fuscescens*	Veery
Odonata	Coenagrionidae	*Enallagma vernale*	Vernal Bluet
Passeriformes	Passerellidae	*Pooecetes gramineus*	Vesper Sparrow
Marchantiales	Ricciaceae	*Riccia huebeneriana*	Violet Crystalwort
Hymenoptera	Tenthredinidae	*Nefusa ambigua*	Violet Leafmining Sawfly
Pucciniales	Pucciniaceae	*Puccinia violae*	Violet Rust
Vitales	Vitaceae	*Parthenocissus quinquefolia*	Virginia creeper
Lepidoptera	Sesiidae	*Albuna fraxini*	Virginia Creeper Clearwing
Didelphimorphia	Didelphidae	*Didelphis virginiana*	Virginia Opossum
Gruiformes	Rallidae	*Rallus limicola*	Virginia Rail
Saxifragales	Saxifragaceae	*Micranthes virginiensis*	Virginia saxifrage
Rosales	Rosaceae	*Fragaria virginiana*	Virginia strawberry
Boraginales	Boraginaceae	*Hydrophyllum virginianum*	Virginia waterleaf
Ranunculales	Ranunculaceae	*Clematis virginiana*	virgin's-bower
Asterales	Asteraceae	*Mycelis muralis*	Wall Lettuce
Porellales	Porellaceae	*Porella platyphylla*	Wall Scalewort
Odonata	Libellulidae	*Pantala flavescens*	Wandering Glider
Passeriformes	Vireonidae	*Vireo gilvus*	Warbling Vireo
Boraginales	Boraginaceae	*Myosotis scorpioides*	water forget-me-not
Apiales	Apiaceae	*Cicuta maculata*	water hemlock
Apiales	Apiaceae	*Sium suave*	water parsnip
Lamiales	Plantaginaceae	*Callitriche* spp.	Water Starworts
Caryophyllales	Polygonaceae	*Persicaria hydropiper*	waterpepper
Poales	Poaceae	*Avenella flexuosa*	wavy hair-grass
Bryales	Mniaceae	*Plagiomnium ciliare*	Wavy-leaf Moss
Dicranales	Dicranaceae	*Dicranum polysetum*	Waxyleaf Moss
Poales	Cyperaceae	*Schoenoplectiella purshiana*	Weak-stalked Bulrush
Hemiptera	Coreidae	*Leptoglossus occidentalis*	Western Conifer Seed Bug
Hymenoptera	Apidae	*Apis mellifera*	Western Honey Bee
Sapindales	Anacardiaceae	*Toxicodendron rydbergii*	western poison ivy
Lamiales	Oleaceae	*Fraxinus americana*	white ash
Rosales	Rosaceae	*Geum canadense*	white avens
Ranunculales	Ranunculaceae	*Actaea pachypoda*	white baneberry
Caryophyllales	Caryophyllaceae	*Silene latifolia*	white campion
Fabales	Fabaceae	*Trifolium repens*	white clover
Agaricales	Agaricaceae	*Leucocoprinus leucothites*	White Dapperling
Poales	Poaceae	*Leersia virginica*	white grass
Rosales	Rosaceae	*Spiraea alba*	white meadowsweet
Fagales	Fagaceae	*Quercus alba*	white oak
Pucciniales	Coleosporiaceae	*Cronartium ribicola*	white pine blister rust
Asterales	Asteraceae	*Ageratina altissima*	white snakeroot

Cypriniformes	Catostomidae	*Catostomus commersonii*	White Sucker
Lamiales	Plantaginaceae	*Chelone glabra*	white turtlehead
Asterales	Asteraceae	*Eurybia divaricata*	White Wood Aster
Passeriformes	Sittidae	*Sitta carolinensis*	White-breasted Nuthatch
Passeriformes	Passerellidae	*Zonotrichia leucophrys*	White-crowned Sparrow
Lepidoptera	Erebidae	*Orgyia leucostigma*	White-marked Tussock Moth
Charadriiformes	Scolopacidae	*Calidris fuscicollis*	White-rumped Sandpiper
Lepidoptera	Crambidae	*Anania funebris*	White-spotted Sable
Coleoptera	Cerambycidae	*Monochamus scutellatus*	White-spotted Sawyer
Artiodactyla	Cervidae	*Odocoileus virginianus*	White-tailed Deer
Passeriformes	Passerellidae	*Zonotrichia albicollis*	White-throated Sparrow
Passeriformes	Fringillidae	*Loxia leucoptera*	White-winged Crossbill
Anseriformes	Anatidae	*Melanitta deglandi*	White-winged Scoter
Asterales	Asteraceae	*Oclemena acuminata*	whorled wood aster
Asparagales	Amaryllidaceae	*Allium tricoccum*	wide leek
Odonata	Libellulidae	*Libellula luctuosa*	Widow Skimmer
Lamiales	Lamiaceae	*Monarda fistulosa*	wild bergamot
Cucurbitales	Cucurbitaceae	*Echinocystis lobata*	wild cucumber
Lamiales	Lamiaceae	*Mentha canadensis*	wild mint
Apiales	Araliaceae	*Aralia nudicaulis*	wild sarsaparilla
Galliformes	Phasianidae	*Meleagris gallopavo*	Wild Turkey
Passeriformes	Tyrannidae	*Empidonax traillii*	Willow Flycatcher
Diptera	Cecidomyiidae	*Rabdophaga strobiloides*	Willow Pinecone Gall Midge
Hymenoptera	Tenthredinidae	*Nematus* spp.	Willow Sawflies
Charadriiformes	Scolopacidae	*Gallinago delicata*	Wilson's Snipe
Passeriformes	Parulidae	*Cardellina pusilla*	Wilson's Warbler
Celastrales	Celastraceae	*Euonymus alatus*	winged euonymus
Coleoptera	Lampyridae	*Photinus corruscus*	Winter Firefly
Passeriformes	Troglodytidae	*Troglodytes hiemalis*	Winter Wren
Aquifoliales	Aquifoliaceae	*Ilex verticillata*	winterberry holly
Brassicales	Brassicaceae	*Barbarea* spp.	wintercresses
Hemiptera	Aphididae	*Hormaphis hamamelidis*	Witch-hazel Cone Gall Aphid
Lepidoptera	Gracillariidae	*Cameraria hamameliella*	Witchhazel Leafminer
Ranunculales	Ranunculaceae	*Anemonoides quinquefolia*	wood anemone
Anseriformes	Anatidae	*Aix sponsa*	Wood Duck
Anura	Ranidae	*Lithobates sylvaticus*	Wood Frog
Rosales	Urticaceae	*Laportea canadensis*	wood nettle
Passeriformes	Turdidae	*Hylocichla mustelina*	Wood Thrush
Hymenoptera	Formicidae	*Formica* spp.	Wood, Mound, and Field Ants
Rosales	Rosaceae	*Fragaria vesca*	woodland strawberry
Asterales	Asteraceae	*Helianthus divaricatus*	woodland sunflower
Poales	Juncaceae	*Luzula* spp.	woodrushes
Hymenochaetales	Hymenochaetaceae	*Onnia tomentosa*	Woolly Velvet Polypore

Polyporales	Meruliaceae	*Phlebia radiata*	Wrinkled Crust
Fagales	Betulaceae	*Betula alleghaniensis*	yellow birch
Siluriformes	Ictaluridae	*Ameiurus natalis*	Yellow Bullhead
Poales	Poaceae	*Setaria pumila*	yellow foxtail
Araneae	Araneidae	*Argiope aurantia*	Yellow Garden Spider
Poales	Cyperaceae	*Cyperus esculentus*	yellow nutsedge
Perciformes	Percidae	*Perca flavescens*	Yellow Perch
Lecanorales	Parmeliaceae	*Usnocetraria oakesiana*	Yellow Ribbon Lichen
Liliales	Liliaceae	*Erythronium americanum*	yellow trout lily
Passeriformes	Tyrannidae	*Empidonax flaviventris*	Yellow-bellied Flycatcher
Piciformes	Picidae	*Sphyrapicus varius*	Yellow-bellied Sapsucker
Cuculiformes	Cuculidae	*Coccyzus americanus*	Yellow-billed Cuckoo
Agaricales	Hygrophoraceae	*Hygrophorus flavodiscus*	yellow-centered waxy cap
Hymenoptera	Sphecidae	*Sceliphron caementarium*	Yellow-legged Mud-dauber Wasp
Passeriformes	Parulidae	*Setophaga coronata*	Yellow-rumped Warbler
Passeriformes	Vireonidae	*Vireo flavifrons*	Yellow-throated Vireo
Lecanorales	Stereocaulaceae	*Lepraria neglecta*	Zoned Dust Lichen
Araneae	Agelenidae	*Coras* spp.	
Araneae	Dictynidae	*Emblyna* spp.	
Opiliones	Caddidae	*Caddo agilis*	
Julida	Julidae	*Julidae* [Family]	
Coleoptera	Cerambycidae	*Gaurotes cyanipennis*	
Coleoptera	Curculionidae	*Scolytus* spp.	
Coleoptera	Erotylidae	*Aporotritoma pulchra*	
Coleoptera	Tenebrionidae	*Isomira* spp.	
Diptera	Agromyzidae	*Agromyza vockerothi*	
Diptera	Agromyzidae	*Aulagromyza* spp.	
Diptera	Agromyzidae	*Calycomyza flavinotum*	
Diptera	Agromyzidae	*Cerodontha* spp.	
Diptera	Agromyzidae	*Liriomyza galiivora*	
Diptera	Agromyzidae	*Liriomyza smilacinae*	
Diptera	Agromyzidae	*Phytomyza davisii*	
Diptera	Bibionidae	*Bibio* spp.	
Diptera	Cecidomyiidae	*Dasineura salicifoliae*	
Diptera	Cecidomyiidae	*Meunieriella* spp.	
Diptera	Cecidomyiidae	*Sackenomyia commota*	
Diptera	Conopidae	*Physocephala* spp.	
Diptera	Hybotidae	*Tachydromiinae* [Family]	
Diptera	Limoniidae	*Molophilus* spp.	
Diptera	Limoniidae	*Prionolabis rufibasis*	
Diptera	Muscidae	*Eudasyphora cyanicolor*	
Diptera	Scathophagidae	*Leptopa vittata*	
Diptera	Tachinidae	*Hystricia abrupta*	

Diptera	Tipulidae	*Ctenophora nubecula*	
Diptera	Tipulidae	*Tipula dorsimacula*	
Ephemeroptera	Heptageniidae	*Maccaffertium vicarium*	
Hemiptera	Cicadellidae	*Erasmoneura atra* [complex]	
Hemiptera	Coreidae	*Acanthocephala terminalis*	
Hemiptera	Tingidae	*Corythucha* spp.	
Hymenoptera	Chalcididae	*Conura nigricornis*[complex]	
Hymenoptera	Ichneumonidae	*Coelichneumon* spp.	
Hymenoptera	Ichneumonidae	*Rhyssella* spp.	
Hymenoptera	Xyelidae	*Xyela* spp.	
Lepidoptera	Erebidae	*Haploa* spp.	
Lepidoptera	Erebidae	*Zanclognatha* spp.	
Lepidoptera	Geometridae	*Eupithecia cimicifugata*	
Lepidoptera	Geometridae	*Hydrelia* spp.	
Lepidoptera	Geometridae	*Hydriomena* spp.	
Lepidoptera	Geometridae	*Operophtera* spp.	
Lepidoptera	Geometridae	*Probole* spp.	
Lepidoptera	Gracillariidae	*Leucospilapteryx venustella*	
Lepidoptera	Gracillariidae	*Macrosaccus morrisella*	
Lepidoptera	Heliozelidae	*Antispila* spp.	
Lepidoptera	Nepticulidae	*Stigmella prunifoliella*	
Lepidoptera	Nepticulidae	*Stigmella rhoifoliella*	
Lepidoptera	Nepticulidae	*Stigmella lemniscella* [complex]	
Lepidoptera	Pyralidae	*Pococera* spp.	
Lepidoptera	Tortricidae	*Eucosmini* [Tribe]	
Lepidoptera	Tortricidae	*Olethreutini* [Tribe]	
Neuroptera	Chrysopidae	*Chrysopa oculata*	
Plecoptera	Perlidae	*Perlinae* [Family]	
Psocodea		*Psocomorpha* [Suborder]	
Albuginales	Albuginaceae	*Albugo hesleri*	
Mycosphaerellales	Mycosphaerellaceae	*Mycosphaerella impatientis*	
Mycosphaerellales	Mycosphaerellaceae	*Septoria* spp.	
Mycosphaerellales	Schizothyriaceae	*Schizothyrium gaultheriae*	
Peltigerales	Collemataceae	*Collemataceae* [Family]	
Teloschistales	Teloschistaceae	*Xanthomendoza* spp.	
Trapeliales	Trapeliaceae	*Trapeliopsis* spp.	
Helotiales	Chlorociboriaceae	*Chlorociboria* spp.	
Helotiales	Erysiphaceae	*Erysiphe ornata*	
Helotiales	Erysiphaceae	*Golovinomyces asterum asterum*	
Pezizales	Discinaceae	*Gyromitra* spp.	
Pezizales	Pezizaceae	*Chromelosporium* spp.	
Hypocreales	Hypocreaceae	*Trichoderma sulphureum*	
Taphrinales	Taphrinaceae	*Taphrina virginica*	

Agaricales	Marasmiaceae	*Marasmius nigrodiscus*	
Polyporales	Phaeolaceae	*Phaeolus* spp.	
Polyporales	Polyporaceae	*Daedaleopsis* spp.	
Polyporales	Polyporaceae	*Ganoderma megaloma*	
Polyporales	Polyporaceae	*Trametes pubescens*	
Atractiellales	Phleogenaceae	*Helicogloea compressa*	
Dacrymycetales	Dacrymycetaceae	*Dacrymyces* spp.	
Pucciniales	Phragmidiaceae	*Phragmidiaceae* [Family]	
Pucciniales	Pucciniaceae	*Uromyces halstedii*	
Bryales	Mniaceae	*Rhizomnium* spp.	
Hypnales	Brachytheciaceae	*Bryhnia* spp.	
Ptilidiales	Ptilidiaceae	*Ptilidium* spp.	
Physarales	Physaraceae	*Physarum cinereum*	

APPENDIX C: HABITAT BLOCK SIZE REQUIREMENTS FOR WILDLIFE

1-19 Acres	20-99 Acres	100-499 Acres	500-2,500 Acres	>2,500 Acres
raccoon	raccoon	raccoon	raccoon	raccoon
	hare	hare	hare	hare
				coyote
small rodent	small rodent	small rodent	small rodent	small rodent
	porcupine	porcupine	porcupine	porcupine
				bobcat
cottontail	cottontail	cottontail	cottontail	cottontail
	beaver	beaver	beaver	beaver
				black bear
squirrel	squirrel	squirrel	squirrel	squirrel
	weasel	weasel	weasel	weasel
		mink	mink	mink
				fisher
	woodchuck	woodchuck	woodchuck	woodchuck
		deer	deer	deer
muskrat	muskrat	muskrat	muskrat	muskrat
			moose	moose
red fox	red fox	red fox	red fox	red fox
songbirds	songbirds	songbirds	songbirds	songbirds
		sharp-shinned hawk	sharp-shinned hawk	sharp-shinned hawk
			bald eagle	bald eagle
skunk	skunk	skunk	skunk	skunk
		Cooper's hawk	Cooper's hawk	Cooper's hawk
		harrier	harrier	harrier
		broad-winged hawk	broad-winged hawk	broad-winged hawk
			goshawk	goshawk
		kestrel	kestrel	kestrel
			red-tailed hawk	red-tailed hawk
		great-horned owl	great-horned owl	great-horned owl
			raven	raven
		barred owl	barred owl	barred owl
		osprey	osprey	osprey
		turkey vulture	turkey vulture	turkey vulture
		turkey	turkey	turkey
most reptiles	most reptiles	reptiles	reptiles	reptiles
	garter snake	garter snake	garter snake	garter snake
	ring-necked snake	ring-necked snake	ring-necked snake	ring-necked snake
most amphibians	most amphibians	most amphibians	amphibians	amphibians
		wood frog	wood frog	wood frog