

# LAND CONSERVATION PLAN FOR THE TOWN OF ATKINSON



**November, 2022**

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This document is for informational and planning purposes only. The Town of Atkinson does not intend this document to be used for regulatory purposes, and it does not constitute any commitment on the part of the Town or landowners to implement the recommendations contained herein.

# Acknowledgements

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**Photographs courtesy of the Members of the Commission, and Andrew Butler, PhD candidate at the University of New Hampshire**

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**The New England Grassroots Environmental Fund**



**The New Hampshire “Moose Plate”  
Conservation Grant Program**





In memory of Judy Wainwright, April 29, 1946 – June 8, 2022

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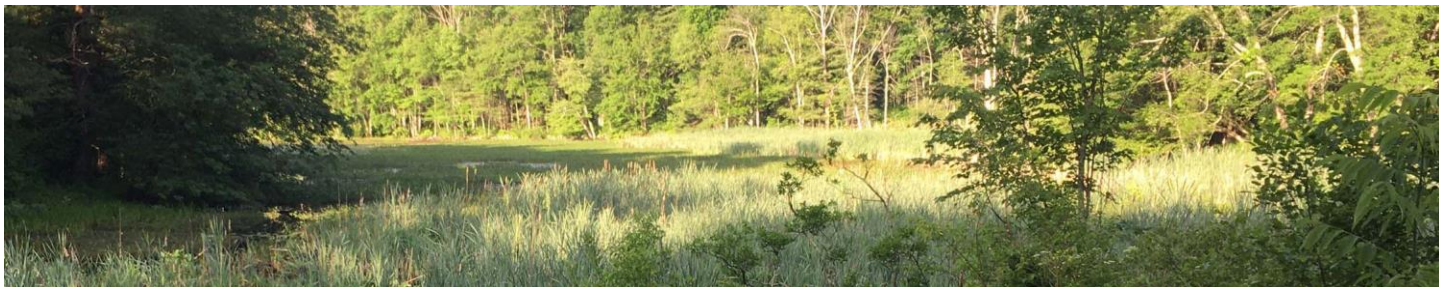
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# EXECUTIVE SUMMARY



## Welcome to the Town of Atkinson Land Conservation Plan

You are invited to explore the Land Conservation Plan data and maps and its recommendations for ongoing and future land and resource conservation

### OVERVIEW

The Land Conservation Plan is intended to serve as a guide for future land and natural resource protection and will be updated as new information and conservation issues arise over time.

Since it was formed in 1974, the Atkinson Conservation Commission has played a major role in maintaining the Town's rural character by preserving open spaces for wildlife habitat, watershed protection, scenic beauty, and passive recreation. This, in turn, has made Atkinson a desirable place to live, and has helped to raise property values.

*It is the Conservation Commission's hope that this Plan will assist the Town of Atkinson to focus on protecting those very special places in our town that are increasingly under threat from development.*

This Plan was envisioned by the Conservation Commission, who secured funding from a New Hampshire Moose Plate Conservation Grant to create this document. The Plan takes stock of past conservation

achievements, considers the ongoing reasons for protecting the highest priority environmental resources, analyzes the areas of town that are most valuable to protect amidst the realities of a dwindling availability of undeveloped land, and makes recommendations for ongoing and future conservation investments and initiatives.

The Plan starts by giving renewed voice to the reasons for continuing our efforts to further conserve open spaces, and explores the methods available for conservation beyond the very expensive tradition of land ownership. It then presents an inventory of the important conservation qualities we wish to preserve, and presents maps showing where these qualities exist in town. Finally, this plan gives recommendations on concrete steps we as a Town can take to shape our environmental future.

### PAST AND CURRENT CONDITIONS

Historically, land conservation was done by buying land with deeded conservation restrictions. To date, the Town has protected more than 580 acres by purchasing

and owning protected land, which represents roughly 8.7% of the buildable land in Atkinson.

At the same time, the Town has supported Innovative Land Use zoning that enables cluster developments that both preserve open space and require buffers that shield these relatively dense developments from public view. While not affording quite the same environmental value as Town-owned conservation land, nevertheless the preserved open space areas do help maintain the town’s rural character and protect its resources. To date, Atkinson’s 20 cluster developments have preserved more than 660 acres of dedicated open space, which represents roughly 9.8% of the buildable land in town.

**HISTORICAL LAND USE STATISTICS**

The table below reports major land use statistics from 1962 to 2015.

Land Use (acres)	1962	2005	2015
Forested	5,445	3,059	2,936
Residential	574	2,580	2,633
Industrial/Commercial	6	116	124
Active Agriculture	763	283	299

As shown by the data, residential development has increased by 2,059 acres or a 359 percent change while forested lands have decreased by 2,509 acres or a 46 percent change.

The conversion of natural landscapes to developed landscapes, including impervious surfaces and increased stormwater runoff pollution, can have significant impacts on the health and values of wildlife habitat, ecosystem services that humans rely upon, such as drinking waters sources, and the character of the community. This Plan aims to identify where strategic land conservation can help to mitigate impacts to natural resources and preserve Atkinson’s rural character.

**CHALLENGES**

While opportunities for further land conservation are decreasing, the cost of land is increasing, due both to its scarcity and Atkinson’s desirability as a place to live. This Land Conservation Plan is intended to consider these

realities of land conservation in Atkinson today and provide guidance to the Conservation Commission and other Town officials on where to direct conservation efforts, and how to spend the relatively modest Town land conservation fund.

**The Atkinson Land Conservation Plan acknowledges challenges and emerging issues that may impact future land and resource conservation efforts:**

- **Cost of Land Purchase**
- **Land Management and Stewardship**
- **Climate Change Impacts**
- **Wildlife Habitat Stressors**
- **Drought and Groundwater Recharge**

**CURRENT LAND DEVELOPMENT STATISTICS**

Below is a summary of the current status of developed, undeveloped and potential conservation land opportunities in Atkinson.

6,670 acres of land and 3,184 parcels
6,120 acres currently developed
<b>550 acres remain undeveloped (+ wetlands)</b>
<b>14 parcels &gt; 10 acres or more undeveloped</b>
<b>Current Condition = 90-95% developed lands</b>

**FUTURE DIRECTIONS**

The intention of this Plan is to enable the Town of Atkinson to focus on the **quality** of land conservation, not just the **quantity** of land that is protected. The data and maps contained in this Plan should be of continuing value to the Conservation Commission, Town staff and community members in their long range planning efforts and strategic investments in conservation.

The Conservation Commission welcomes participation by town staff and representatives, community members and landowners to continually update the Plan to ensure it remains a helpful resource filled with guidance, data, information, and inspiration.

**Submitted November 2022 by the  
Town of Atkinson Conservation Commission**



# SECTION 1

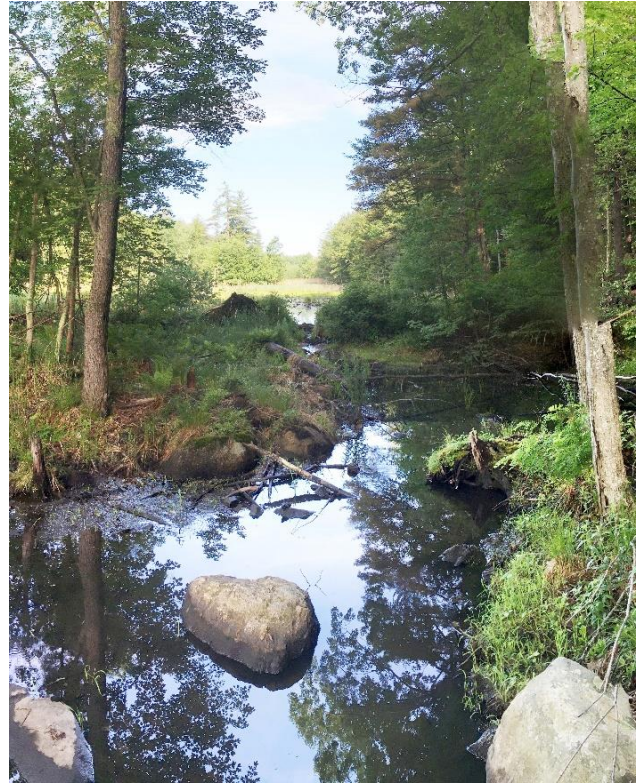
## Purpose of the Land Conservation Plan

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*“Conservation is an act of the heart and soul, an expression of values, and a commitment to the future”*

From *Conserving Your Land – Options for New Hampshire Landowners*, published by the New Hampshire Center for Land Conservation Assistance, 2005

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## 1.1 – Background

In 2020, the Atkinson Conservation Commission secured funding to prepare a land conservation plan for the town. This plan will be used as a tool and guidance document for the Conservation Commission and land use boards, elected officials, and the public to advance goals such as

- land conservation and acquiring sources of funding
- education of property owners about conservation options
- public outreach and education about the values of the natural environment, ecosystems, and natural resources
- refinement of zoning and land development regulations to be conservation minded
- inform decisions about budgets, infrastructure investments, and capital improvements
- Master Planning and other long-range planning activities
- Review of development applications
- Support for external funding and grant applications

In recent years, Atkinson has experienced rapid growth due to its central location to major employment centers and the metropolitan Boston region. Land values have also increased dramatically, pitting development profits against the town’s land conservation interests. In the last 10 years, a number of residential subdivisions have eliminated large parcels of high conservation value from the possibility of preservation. With only a handful of large parcels remaining, the Conservation Commission feels it is critical to prepare a strategic and prioritized Land Conservation Plan to focus the use of the town's relatively modest land conservation funds for maximum conservation benefit.

## 1.2 - Approach

The Land Conservation Plan is a science-based, consensus-driven approach to further protecting the town’s dwindling open spaces and natural resources. The Plan includes an inventory of our existing natural resources, a prioritization of the environmental qualities we seek to protect, an analysis of which parts of town should be a priority for permanent protection, and an action plan with strategies to focus our effort and leverage our Conservation Fund to protect them.

The Plan will serve as a guide for future open space planning and investment in land protection by the town. The maps and other data developed during the planning process and contained in the plan identify where land protection is most beneficial and identify where and how to implement various modes of protection.

### 1.3 – Conservation Goals

The Plan will help the Conservation Commission and the town to focus on protecting high-value lands such as wildlife and plant habitat, upland buffers surrounding high-value wetlands, water quality, scenic vistas, and other important natural resources. In doing so, the town will sustain the ecosystem services provided by its natural resource base, and maintain the rural character envisioned in Atkinson’s Natural Resources Inventory and Master Plan. The Land Conservation Plan can assist the Conservation Commission in pursuing its primary objectives to conserve land and natural resources, advance dialog with property owners about the values of conservation, build strong relationships with town citizens to engage them and provide knowledge, and continue working with town staff and elected officials on shared conservation objectives.

### 1.4 – Plan Elements and Applicability

Results of this plan include the following detailed information and tools that can inform a wide range of users, including property owners interested in conserving land, municipal decision makers, and town boards and commissions in the course of their work and duties.

The Plan’s Executive Summary provides an overview of results and current conditions. Below is a brief guide to the primary Plan components to help focus what is of most interest and to get started!



A list of criteria to use when considering conserving a parcel of land



Maps to identify potential land conservation projects to protect resources of high ecological value



A guide to inform zoning and other regulatory protections



Information to encourage public involvement through outreach and education



Maps of high value natural resources and other areas of high conservation value



Science-based data to inform the town’s decision makers in acquiring or otherwise protecting land for conservation purposes

# SECTION 2

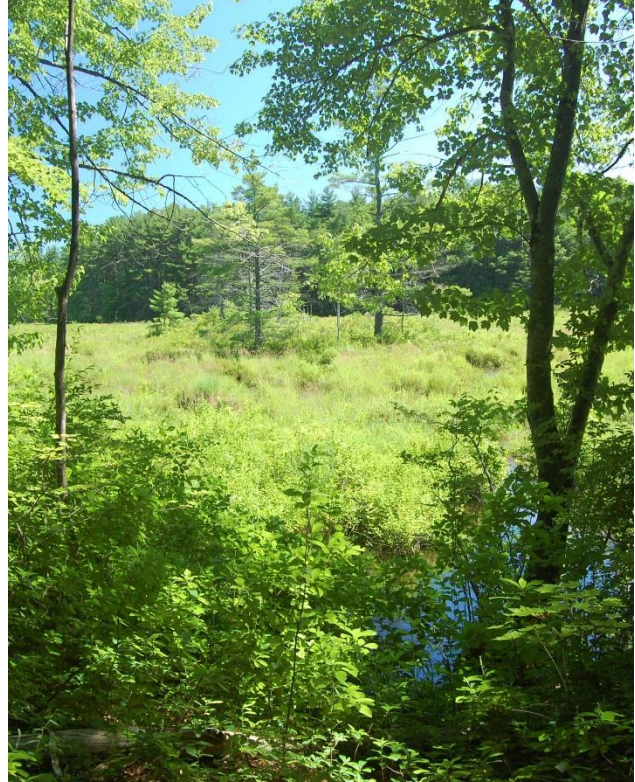
## Reasons for Conserving Land

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*“Land conservation offers landowners the opportunity to have an enduring impact on New Hampshire’s natural landscape, one that can benefit all of us, our children and our communities, and bring us all closer to the land”*

From Conserving Your Land – Options for New Hampshire Landowners, published by the New Hampshire Center for Land Conservation Assistance, 2005

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## 2.1 – Aesthetic and Environmental Reasons for Conserving Land

The people of Atkinson enjoy a landscape of natural resources shaped by many years of conservation action. Our protected forests, wetlands, and open spaces demonstrate the foresight of many conservation-minded individuals. As a town, we have consistently expressed a desire to permanently conserve and protect the natural resources which contribute to a lifestyle that makes Atkinson a very attractive place to live.

These conserved lands protect wildlife and their habitats, protect water and air quality, and contribute to mitigating the impacts of climate change. Yet, like many towns in southern New Hampshire, Atkinson has experienced rapid growth due to its central location to major employment centers, transportation corridors, and the metropolitan Boston region. As a result, land values have also increased dramatically, pitting development profits against the town's land conservation interests.

Although Atkinson has done an admirable job in protecting its natural resources, we know that there are still significant resources that remain unprotected. Further changes in land use may have a significant impact on forests, farmland, drinking water, wildlife habitats, and other valuable resources in the future. Together with projected impacts of climate change, the importance of acting now to conserve our most valued open lands and natural resources is more important than ever.

As the townspeople have come to understand the importance and value of natural resources, so too has awareness of how land use can adversely affect those resources. While state and federal agencies have some role in protecting our natural resources, primary control and decision-making regarding land use and its impact on our environment is largely the responsibility of the Town of Atkinson.

Open space preservation serves multiple goals within a community. The benefits of preserving open space include:

- Wildlife and habitat protection
- Water quality, drinking water and local groundwater aquifer protection
- Scenic and aesthetic values
- Historic landscape and resource preservation
- Agricultural uses and farmland production
- Air quality protection
- Flood impact prevention
- Recreational uses and educational opportunities

The resulting landscape is a direct result and reflection of the community's support of open space preservation.

## 2.2 – Studies of the Economic Benefits of Conserving Land

The seminal study on the impact of land conservation on property taxes is the 2005 study conducted by the Trust for Public Land entitled *Managing Growth: The Impact of Conservation and Development on Property Taxes in New Hampshire, 2005*. (<https://www.tpl.org/media-room/report-nh-growth-management-released>). This study concluded that towns that have the most permanently protected land have slightly lower tax bills on average. It is not likely that land conservation alone is responsible for these tax benefits. However, land conservation is a tool that:

- helps maintain the rural character of a community,
- creates more centralized, dense development patterns,
- creates more efficient municipal service areas,
- provides multiple environmental and aesthetic benefits, and
- increases resiliency to climate change.

The Trust for Public Land found that, in the short term, land protection fully or partially exempting land from taxation often reduces the tax base and results in a tax increase for a finite period. In the long term, contrary to the common perception that development will bring lower taxes, property tax bills are generally higher in more developed towns than in rural, less developed towns. Further, findings also indicate that tax bills are not higher in the towns that have the most permanently protected land, regardless of the method and ownership used to conserve the land.

The study suggests that patterns of growth have an effect on both the livability and affordability of a town. Land conservation can be used as a tool in both protecting resources that contribute to quality of life (from drinking water protection to scenic beauty and recreation), as well as to help guide the path and location of municipal growth to those areas that are most appropriate and that are most cost-effective for towns to service.

In general, it is true that land increases in value when it is developed, thereby adding taxable value to a town's tax base. However, development usually requires town services, thereby increasing the budget. The study found that the tax bill on the typical house is, on average, higher in towns where:

- There are more residents, and/or
- There are more buildings.



The study concludes that, in the long term, contrary to the common perception that development will bring lower taxes, average property tax rates are generally higher in more developed towns than in rural towns, and towns with more development have higher tax bills.

In New Hampshire there are other studies that focus on the root causes of rising property taxes. Two such studies can be found here:

Property Tax: Understanding the Math, Dispelling the Myths (NH Municipal Association)  
<https://www.nhmunicipal.org/town-city-article/property-tax-understanding-math-dispelling-myths>

Equalization and the Real World (NH Municipal Association)  
<https://www.nhmunicipal.org/town-city-article/equalization-and-real-world>

The conclusions reached by these studies are highly dependent on the types of development that takes place in a town and the types of services a town is committed to providing to these developed properties. In the next section, we will take a look at Atkinson's tax rate as it compares with other towns in Rockingham County and the State of New Hampshire and explore how land conservation might impact our town's tax rate.

### **2.3 – Conservation's Impact on Atkinson's Tax Rate**

Atkinson has one of the lowest overall tax rates in the state. Taking a look at the tax rate data analysis in Appendix C, beginning on page C-2, the following conclusions can be made:

- Atkinson is 49<sup>th</sup> best out of all 234 New Hampshire municipalities.
- Of New Hampshire towns with a population between 6000 and 8000, Atkinson is 4<sup>th</sup> best out of 19 municipalities.
- Looking just at Rockingham County, Atkinson is 9<sup>th</sup> best out of 37 municipalities.
- Among the six Rockingham County towns with populations between 6000 and 8000, Atkinson is top dog.

As the Trust for Public Land study presented in Section 2.2 has pointed out, in addition to the potential impact of conserved land on a municipality's tax rate, there are many other factors that are not considered in this data, and these factors are likely to overshadow any potential impact of a town's conservation efforts. These factors include:

- Amount of commercial development.
- Percentage of various types of residential development, such as over-55, condominium or rental properties, single family, or workforce housing.
- Municipal provision of sewer and/or water.
- Municipal provision of curb-side trash and recycling.
- Whether a community has a paid or on-call/volunteer Fire Department.

In looking at both the county and state data, there are communities “above” Atkinson in tax rate ranking that have a large amount of conserved open space, but there are also communities that have relatively little open space. The conclusion of this Land Conservation Plan is that the tax rate of New Hampshire municipalities is driven mostly by the types of development and types of services offered by a community, and there appears to be no strong correlation, either positive or negative, with a municipality’s amount of conserved open space.

The best conclusion is that open space preservation does not appear to either help or hurt Atkinson’s tax rate. Most of Atkinson’s larger parcels of privately-owned open land are already in Current Use. This allows that open land to be assessed at a lower value, and the land does not bring in much tax revenue. Therefore, there is not a significant loss of tax revenue by purchasing the land for conservation purposes or obtaining a conservation easement on the land. On the other hand, open land does not require much in the way of Town services, so conserving the land does not cost us much either.

While there appears to be no statistical evidence to support the notion that Atkinson’s open space helps lower our tax rate, circumstantial evidence suggests that Atkinson’s rural character and robust conservation efforts contribute to making the town an attractive place in which to live, which, in turn, increases demand for housing in Atkinson and the price people are willing to pay to live here. This increase in our property values adds to Atkinson’s assessed tax base, which decreases our tax rate, since the tax rate equals the taxes people pay divided by the tax base.

## 2.4 – Excerpts and Recommendations from the 2015 Master Plan

RSA 674:2 enables a municipality to research and define a Master Plan to guide the future uses of the municipality’s land. RSA 674:2 states that:

The Master Plan shall include a *vision section* that contains a set of statements and land use principles which articulate the desires of the municipality’s citizens, and a *land use section* that translates these vision statements into physical terms.

The Town of Atkinson first established a Master Plan in 1980 and made updates to the Plan in 1998 and again in 2015. In planning for the future use of land within Atkinson, the 2015 update includes the following vision for the Town:

***Atkinson’s vision is to preserve our rural character, and our natural, historical, and cultural resources, while providing municipal and commercial services,***

***recreational facilities and housing options which support the needs of the community in a fiscally, socially and environmentally responsible manner.***

In translating this vision into physical terms, the 2015 update of the Master Plan includes the following goals for the Town:

**A. Preserve Open Space**

Open space consists of wildlife habitat, natural resources, scenic views, and forests. Open space preservation is supported in several ways by the town:

- Direct purchase of land and conservation easements
- Use of general funds as available and consideration of bonds to leverage federal, state and private funds
- Dedication of 100 percent of the Land Use Change Tax (LUCT) collected toward land conservation
- enabled by the zoning ordinance through rural cluster residential development zoning

**B. Preserve and Maintain the Town Forests**

The Atkinson Town Forest consists of numerous properties varying in size totaling approximately 514 acres [as of 2015]. The Town Forest properties are a registered tree farm. The Town routinely consults with professional foresters to maintain the health and viability of Town Forest properties through implementation of forest best management practices. Since 1985, the Conservation Commission has worked with a consulting forester to update the management plans for several properties in the Town Forest to keep them productive and aesthetically maintained.

**C. Protect Water Quality**

Protection of drinking water supplies, both groundwater and surface waters, is of high importance to the town and its residents. In 2012, areas of groundwater contamination were identified that affect a number of residential drinking water wells where chemicals have been detected above federal standards and acceptable levels for “an emerging contaminant”.

**D. Establish Buffers and Setbacks**

Development in close proximity to sensitive wetlands and surface waters can cause declined health of these systems if runoff and other pollutants are not sufficiently managed. Buffers and setbacks to streams and wetlands can help reduce or eliminate these impacts. Refer to Appendix C for a description of buffers and setbacks.

**E. Preserve Agricultural Land and Farms**

Maintaining the agricultural lands and farms is one way to preserve the town’s rural character and historical and cultural resources such as barns and outbuildings and sites of important local events. Agricultural lands and farms often provide aesthetic resources such as scenic vistas, wildlife habitat, meadows and forests.



## Community Support for Conservation

Perhaps the most important reason for preserving open space and protecting Atkinson’s natural resources is the fact that the residents of Atkinson have consistently expressed a desire to preserve open spaces. Here are some examples from the survey that was conducted as part of the 2015 Master Plan update:

**Table 2-1: Results of 2015 Master Plan Survey**

<b>Conservation-related results from the 2015 Master Plan Vision Survey</b>				
<b>Goals and Priorities for the Town of Atkinson</b>	<b>Low or Not a priority</b>	<b>Medium Priority</b>	<b>High or Very High priority</b>	<b>Total number of responses</b>
Preserve open spaces -- fields, forests, and farms	7.0%	20.1%	<b>72.4%</b>	532
Maintain Atkinson's rural character	3.2%	8.4%	<b>87.7%</b>	535
Protect lakes, rivers, and wetlands	4.1%	14.9%	<b>80.5%</b>	536
Establish streamside buffers to preserve water quality and wildlife habitat	9.4%	19.7%	<b>69.1%</b>	534
Minimize pollution	4.1%	13.9%	<b>80.9%</b>	532
Protect groundwater and drinking water supplies	4.3%	6.6%	<b>88.1%</b>	529

## 2.5 – State Laws Pertaining to Land, Open Space and Resource Preservation

[RSA 79-A:1 Declaration of Public Interest](#). – “It is hereby declared to be in the public interest to encourage the preservation of open space, thus providing a healthful and attractive outdoor environment for work and recreation of the state's citizens, maintaining the character of the state's landscape, and conserving the land, water, forest, agricultural and wildlife resources.”

[RSA Chapter 674, Local Land Use Planning and Regulatory Powers](#), is one of the primary enabling statutes for Planning Boards to enact land use regulation, and it gives them broad powers to do so. Among the various sections of RSA 674, the following are most relevant to land conservation.

[RSA 674:2 Master Plan; Purpose and Description](#) enables a Planning Board to establish a Master Plan, which guides all of the land use regulations for a municipality.

[RSA 674:21 Innovative Land Use Controls](#) details voluntary land use, planning and environmental protections that include model ordinances and regulations for municipalities to consider adopting.



## 2.6 Challenges and Emerging Issues

Since 2002, the United States has issued a comprehensive climate change assessment report every 4 years, led by the U.S. Global Change Research Program. The most recent climate change projections were published in 2018 in the [4<sup>th</sup> Annual Climate Assessment Report](#) published by U.S. Global Change Research Program and its many collaborators. The 5<sup>th</sup> Annual Climate Assessment is due for publication in 2023. Major findings for inland non-coastal communities from the 4<sup>th</sup> Annual Climate Assessment report for the Northeast Region are cited below [source from <https://nca2018.globalchange.gov/chapter/18/>]:

### Changing Seasons Affect Rural Ecosystems, Environments, and Economies

- The seasonality of the Northeast is central to the region’s sense of place and is an important driver of rural economies. Less distinct seasons with milder winter and earlier spring conditions are already altering ecosystems and environments in ways that adversely impact tourism, farming and food production, and forestry. The region’s rural industries and livelihoods are at risk from further changes to forests, wildlife, snowpack, and streamflow.

### Maintaining Urban Areas and Communities and Their Interconnectedness

- The Northeast’s urban centers and their interconnections are regional and national hubs for cultural and economic activity. Major negative impacts on critical infrastructure, urban economies, and nationally significant historic sites are already occurring and will become more common with a changing climate.

### Threats to Human Health

- Changing climate threatens the health and well-being of people in the Northeast through more extreme weather, warmer temperatures, degradation of air and water quality, and sea level rise. These environmental changes are expected to lead to health-related impacts and costs, including additional deaths, emergency room visits and hospitalizations, and a lower quality of life. Health impacts are expected to vary by location, age, current health, and other characteristics of individuals and communities.

### Adaptation to Climate Change Is Underway

- Communities in the Northeast are proactively planning and implementing actions to reduce risks posed by climate change. Using decision support tools to develop and apply adaptation strategies informs both the value of adopting solutions and the remaining challenges. Experience since the last assessment provides a foundation to advance future adaptation efforts.

**Table 2-2: Summary of climate change and its impacts, and mitigation benefits of land conservation.**

<b>Climate Change Factor</b>	<b>Climate Change Impact</b>	<b>Land Conservation Mitigation</b>
<b>Drought</b>	Drinking Water Supplies	Forest and vegetative cover help retain soil moisture, support groundwater recharge and protect water quality
	Agriculture, Forestry	Forest and vegetative cover help retain soil moisture and enrich the soil
<b>Increased Precipitation</b>	Flooding	Forest and vegetative cover particularly buffers to wetlands and surface waters absorb excess precipitation
<b>Stormwater Runoff</b>	Water Quality	Forest and vegetative cover particularly buffers to wetlands and surface waters absorb runoff and store excess nutrients in biomass
<b>Phenology*</b> (see reference below)	Biodiversity	Protection of sensitive habitats, life cycle conditions and natural areas; maintaining recreational resource uses
<b>Regional, State and National Supply and Transfer Ability</b>	Shared Economies, Resources and Services	Protect resources necessary to retain quality of life and essential services and resources

### What is the importance of Phenology?

Phenology influences the abundance and distribution of plants, animals and microorganisms, ecosystem services, food webs, and local and regional cycles of water and carbon. Phenology can be impacted by changes in temperature, precipitation and land alteration and development, and changes in seasonal conditions. Changes in phenological cycles like flowering, reproduction, and animal migration are among the most sensitive biological responses to climate change. Here in New England, many spring events are occurring earlier while fall events are occurring later than they have in the past. Changes in the coldest night temperatures as plants and animals are dormant have a significant impact on when natural cycles of reproduction and flowering begin and end.



## Climate Change Impacts to Phenology

Recognizing that not all species respond to environmental conditions at the same rate, time or type of response can lead to changes in the food web, limiting the supply of resources needed for successful propagation and maturation. How plants and animals respond can help resource managers predict whether their populations will grow or shrink or migrate, making phenology a [leading indicator](#) of climate change impacts. Climate change considerations of phenology include:

- Management of invasive species and forest pests
- Predictions of human health-related events (allergies, ticks, insect related transmissions)
- Optimization of when to plant, fertilize, and harvest crops
- Understanding the timing of ecosystem processes (food web, temperature conditions, water availability)
- Assessment of the vulnerability of species, populations, and ecological communities to local climate change impacts

[source from: <https://www.usanpn.org/about/why-phenology>]

## Drought

Drought has far reaching impacts across the natural and human landscapes where reliance on water and natural hydrologic processes are critical to thrive. Towns can take steps to limit the impacts from drought by adopting common sense controls on the use of water and when and how water is used. Some of these approaches are described below.

- Townwide water conservation program aimed at public outreach and education and phased reduction of water usage during drought such as limiting use of groundwater during drought for lawn watering and non-food production activities.
- Encourage and facilitate the capture and reuse of rainwater and clean household water for indoor plant watering, outdoor landscaping and household cleaning.
- Create public announcements on social media, newsletters and email about drought conditions and how to best management water use during these periods.
- Distribute lawn signs with messaging about water use and conservation.

For more information about drought conditions and response guidance in New Hampshire, visit <https://www.des.nh.gov/climate-and-sustainability/storms-and-emergencies/drought>

## **Land Use and Development**

Conversion of natural open space and landscapes to developed conditions can result in large scale disruption of natural processes. Alteration of natural hydrology, ecosystem functions, and loss of migration pathways and habitat can result. Water quality protection – both in a developed condition and natural condition – must factor in human sources of point source and non-point sources of water pollution and reduce them to the maximum extent practicable.

Competing land use issues such as increasing housing and overall community growth are often at odds with land and resource conservation goals. That is one reason why this Land Conservation Plan is vital to guiding future land use decisions and conservation efforts.

Alteration of natural hydrology and drainage patterns resulting from development can to some degree be mitigated by ensuring proper land use regulations are adopted and are fully enforced for all land development applications.

# SECTION 3

## Methods for Conserving Land

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*“Forests are the lungs of our land,  
purifying the air and giving fresh  
strength to our people.”*

– Franklin D. Roosevelt, 32<sup>nd</sup> US President

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New Hampshire municipalities have a variety of methods, partners, and funding sources available for land and resource conservation. This section describes the available options and explores the advantages, disadvantages, and opportunities of each.

### 3.1 - Land Ownership

When people think of conserving land, the first thing they usually think of is the town owning the land. Land acquisition is the most secure way of preserving land as the town has ownership and thus complete control over how the land is managed and used. Acquiring land can be done in one of several ways:

- purchasing the land at fair market value, commonly referred to as a “fee simple” transaction,
- purchasing the land at less than fair market value, commonly known as a “bargain sale,” or
- having the land be donated to the town.

A fee simple transaction is the most lucrative to the landowner, but the most expensive option for the town. On the other hand, because there may be income or estate tax advantages to the landowner for either a bargain sale or outright donation, the landowner could potentially benefit just as much from one of the less-than-full-price transfer options mentioned above.

Another consideration for the town when it owns land outright is the loss of property tax revenue, although in most cases this loss is relatively small since most larger parcels of open land in Atkinson are already taxed at the reduced Current Use tax rate under NH RSA 79-A (see <http://www.gencourt.state.nh.us/rsa/html/V/79-A/79-A-mrg.htm> ).

As specified in RSA 36-A:4, conserved land that is owned by the town is under the administration and control of the Conservation Commission, which establishes policies and guidelines for how the land is managed and used. In most cases, the town’s conservation land is open to the public with some restrictions such as prohibiting motorized vehicles. The Atkinson Conservation Commission periodically updates its written *Policies and Guidelines for the Use of Conservation Land*, which is shown in Appendix 4A at the end of this section, and is available on the Town’s web site.

### 3.2 - Protection of Town-Owned Conservation Land

Town ownership of land does not necessarily protect it in perpetuity as “conservation land” unless one or more of the following methods are used.

1. After acquisition, pass a warrant article at Town Meeting making the land part of the Town Forest pursuant to RSA 31:112, and designate the management of the forest to be under the administration and control of the Conservation Commission. As of the end of 2021, Atkinson owns 589.5 acres of conservation land, of which 531 acres have been voted as Town Forest. This is the lowest ranked method for protecting land because future Town Meetings could vote to remove a parcel from Town Forest designation.
2. Have the seller include wording in the deed that says the land is acquired as authorized by NH RSA 36-A:4 and/or stating that the land is to be under the administration and control of the Atkinson Conservation Commission. Such deed language cannot be changed by the Selectmen, or by voters at Town Meeting. While the Conservation Commission may be pressured to allow a parcel of conservation land to be sold, traded, or used for other municipal purposes, the Commission does not have the latitude to “allow” use of deeded conservation land that is inconsistent with RSA 36-A, the enabling legislation that defines the roles, responsibilities, and powers of Conservation Commissions.
3. Many times when outside funding is involved in a land acquisition, the funding organization may have included land use restrictions as a condition of granting the funding, and these conditions are not always reflected in the deed. It is important to keep good records that document the funder’s wishes. A good example of this in Atkinson is a federal program called the Land and Water Conservation Fund (LWCF), which helped fund a number of parcels of conservation land in town, and which maintains oversight of that lands’ use as conservation land. Section 5 of this Plan documents these parcels. ← need to do this
4. In cases where land was either gifted to the Town or sold to the Town below market value (a “Bargain Sale”), if it can be documented that the land owner’s intent was that the land be used only for conservation purposes then a “charitable trust” is established. In these cases, the Charitable Trust division of the NH Attorney General’s office could intervene to prevent selling or repurposing the land. Again, good record keeping is essential for documenting such conditions.
5. Having the seller include wording in the deed (a “deed restriction”) that conveys the land under certain specific conditions, for example that it be left as open land in perpetuity, or that usage of all or a portion of the land is restricted to certain uses such as forestry, wildlife habitat, or passive recreation.

6. Convey a separate “conservation easement” deed that is held by a qualified third-party conservation organization such as a qualified land trust or government agency. This is the most permanent form of protection because it preserves the land *and* removes responsibility for long-term stewardship of the land from the town, and it relieves the Conservation Commission and Selectmen from spending time and effort defending the land’s status as “conservation” land.

In Atkinson, most of the conservation land owned by the Town is protected by the second and/or third of these methods, and in many cases some of the other methods apply as well.

The fifth protection method, having the seller include deed restrictions stating that the land is to be, for example, “left in conservation” in perpetuity, is one of the more permanent methods for protecting land. Such deeds usually contain language that would allow the seller or his/her heirs to “re-enter” the land – essentially repossess it – if the land’s use ever were to be changed.

Deed restrictions may be enforceable by: a) the landowner who created them; b) his or her heirs; or c) other named parties. However, deed restrictions that are not monitored and enforced by an independent land trust or which do not refer specifically to any protection-enabling legal statute, must rely on accurate record keeping on the part of the town. Therefore, enforcement of the deed restrictions over time can become impractical and legally problematic, and such restrictions can be forgotten after a while and inadvertently undone.

By far, the best way to ensure that land is left protected forever is to have a qualified third-party organization, such as the Southeast Land Trust, or the Society for the Protection of New Hampshire Forests (the “Forest Society”), own a “conservation easement” that clearly establishes what can and cannot be done on the land, and can assign management and monitoring of the land to this third party. More details about such easements will be found later in this section. In Atkinson today, there are only two parcels of Town-owned conservation land that have third-party conservation easements. These are the Caroline Orr Town Forest, and a 20-acre portion of the Sawyer Town Forest.

### 3.3 - Conservation Easements

As with any land protection method, easements on privately-owned land are always initiated at the request of the landowner, and RSA 36-A is very clear that the Town cannot impose an easement on an unwilling landowner.

As indicated above, the best way to protect land in perpetuity is through the use of a deeded conservation easement. This is a permanent, legally binding agreement between a landowner (the “grantor”) and the easement holder (the “grantee”) that restricts use of the land in order to protect its significant natural features. It is authorized by New Hampshire [RSA 477:45-47](#). Like any other land deed, it is recorded in the Registry of Deeds and is legally binding forever.

There are three varieties of conservation easements that matter to the Town of Atkinson. These are:

1. The Atkinson Conservation Commission, on behalf of the Town, can hold and manage a conservation easement on privately owned land,
2. A qualified third-party conservation organization (such as the Southeast Land Trust or the Forest Society) can hold an easement on either privately-owned or Town-owned land, and
3. The Conservation Commission can hold an easement on privately-owned land, with a 3rd party owning an “executory interest” in the easement in the event that the primary easement holder (the Conservation Commission in this case) fails to enforce the easement’s provisions.

Conservation easements of all varieties can be purchased by the town (either at market value or as a bargain sale) or can be donated. Even at market value, an easement costs less than purchasing the land outright, since the landowner continues to own the land and use it as permitted by the easement. And, unlike the Town owning the land, the landowner continues to be responsible for maintaining the land and paying property taxes on it.

For the landowner, a conservation easement may give them the peace of mind that the natural resources on the property are permanently protected, while allowing them to continue to enjoy the benefits of property ownership, and perhaps generate income, for example, from forestry or agriculture. A conservation easement removes financial value from the land by eliminating its development potential, which may make it easier to pass land on to the next generation of family members, or may help to achieve certain financial objectives, whether through income tax or inheritance tax savings and/or cash, in the case when the easement is sold.



Depending on the terms of the easement, the land may or may not be open to public access, and/or may have certain types of access prohibited, such as motorized vehicles or hunting.

In Atkinson today, the Conservation Commission holds conservation easements on five parcels of privately-owned land totaling just over 31 acres. One of these easements grants an executory interest to the Forest Society. These easements were all donated by generous landowners and are described in detail in Appendix B of this plan.

In summary, easements are a good deal for the Town because they cost less, and the landowner remains responsible for maintaining the land and paying taxes on it. Easements are permanent. Pursuant to RSA 477:45-47, “the burden of an easement runs with the land and is enforceable against all future owners and tenants in perpetuity.”

One downside of easements is that the easement holder (either the Town or third party) needs to monitor the land for compliance with the easement, and has a fiduciary responsibility to enforce the easement if a future landowner or abutter violates its terms. Contrary to popular belief, the easement holder has no latitude in deciding what can and cannot be done with the land, so having a land trust or other qualified organization hold the easement rather than the Town does not “give up” control of the land.

The responsibility to monitor and enforce an easement could incur some expense for the easement holder, and land trusts typically set aside funds for this purpose in an endowment-like fund. These on-going expenses are referred to as “stewardship expenses,” and setting aside funds to provide for these future costs is part of most third-party easement deals.

An optional provision in New Hampshire law (NH RSA 36-A:4-a I (b)) allows a Conservation Commission to expend funds to assist a qualified third-party organization to establish a conservation easement on privately-owned land within the Town, thus relieving the Town from the long-term obligation of monitoring and enforcement. Use of this provision requires approval at a Town Meeting, which was granted by Atkinson voters in 2021 (see TM 2021-18). The text of this RSA can be found here:

[www.gencourt.state.nh.us/rsa/html/III/36-A/36-A-4-a.htm](http://www.gencourt.state.nh.us/rsa/html/III/36-A/36-A-4-a.htm)

### 3.4 - Cluster Subdivision Dedicated Open Space

Atkinson Zoning Ordinance Article VI, Rural Cluster Residential Development, has several options for conserving land and resources, including incentives for preserving scenic vistas, providing for inclusionary housing, and conserving environmentally significant land.

The idea behind cluster subdivisions is that the developer is permitted to reduce lot size, frontage, setbacks, and other zoning requirements, in exchange for leaving a large part of the land undeveloped. While the exact formula is quite complicated, typically in excess of 50% of the land remains undeveloped and referred to as “Dedicated Open Space.” The open space is most often not open to public and remains under the ownership and management of a homeowners’ association, whose management of the land is governed by the terms of the legal instruments approved by the Planning Board. The advantage for the developer is that the infrastructure, such as roads and utilities, service a much smaller portion of the parcel and thus material costs are greatly reduced. The advantage for the Town is that significant areas of the land remain protected from further development.

The New Hampshire Association of Conservation Commissions does not generally recognize land that is set aside to meet a zoning requirement – such as Dedicated Open Space of cluster subdivisions – as “conservation” land. Land that is set aside in this way rarely is chosen with any environmental goal in mind, such as preserving wildlife habitat and migration corridors, or preserving an upland buffer to a valuable wetland. Very often the Dedicated Open Space is fragmented and/or not contiguous with other conservation lands, or zoning allows the Dedicated Open Space to be used for recreational purposes which has diminished value as a natural resource such as wildlife habitat or watershed protection.

On the other hand, land that is set aside as part of a cluster subdivision is permanently protected from further development, much the same way as land that has a conservation easement on it. So, a local conservation benefit is realized in the end.

In Atkinson, the most commonly used Cluster Subdivision option in recent years has been the Scenic Vista Cluster Subdivision. Atkinson zoning does contain a section aimed specifically at conserving environmentally significant land. To date, Section 640, Residential Conservation Developments, has not been used by a developer.

### 3.5 - Zoning and Regulatory Protections

One method of protecting the Town’s environment can be through the adoption zoning ordinances and land development regulations that protect our natural resources.

In addition to some of the dedicated open space created by cluster subdivisions, two common regulatory methods for protecting wetlands are **buffers** and **setbacks**. A detailed overview of buffers and setbacks can be found in Appendix C.

Examples of Atkinson’s current zoning requirements for buffers and setbacks that contribute to conserving the Town’s natural resources include:

- a 100-foot setback of structures that produce human or animal waste and septic systems from wetlands,
- a 150-foot natural vegetative buffer around the Town’s 8 prime wetlands, and
- buffers adjacent to dedicated open space created through cluster zoning developments.

#### **Setbacks**

There are advantages and disadvantages to each of these requirements. The 100-foot setback from wetlands for structures and septic systems is easy to administer since these setbacks are approved through the Planning Board review and approval process under the zoning ordinance and/or Site Plan Review and Subdivision Regulations, and building permits are required for these activities. However, the “one size fits all” nature of these setbacks and ordinances have been criticized as being unreasonable since some wetlands are more valuable than others. In response to this, the Conservation Commission reviews wetland setback variance applications and advises the Zoning Board of Adjustment in making decisions whether or not to grant relief from wetland setback zoning requirements.

#### **Buffers**

Several years ago, there was an attempt to implement a multi-tiered wetland setback ordinance that failed to be approved by the voters. Among the objections was the difficulty in formally defining the tiered wetland definitions. Also, there was a concern that having lower setbacks for some wetlands would result in less protection than is currently afforded to them.

A drawback to relying on setbacks alone for wetland protection is that other development activities are allowed within the 100-foot setback, such as roads, driveways, parking areas, and

stormwater management structures, thus rendering any conservation value nonexistent or minimal at best.

Other than prime wetlands, described below, Atkinson has no vegetative buffer zoning requirements around wetlands. Such vegetative buffers, while being of more value to the environment, are problematic to enforce once a development project is approved and all site construction inspections are completed. No permits are needed to clear natural vegetation on a parcel-by-parcel basis, making enforcement very difficult.

### **Prime Wetland Buffers**

Natural vegetative buffers of 150 feet are required by town zoning around Atkinson's eight prime wetlands, but there are exceptions for "grandfathered" parcels, as described below. Maps showing the location of these prime wetlands can be found in Appendix B of this plan.

Both the Town and the State require Prime Wetland buffers, and when jurisdictions overlap the more restrictive rule applies. Here is a summary of the prime wetland buffer rules.

- Town zoning requires a 150-foot natural vegetative buffer around all eight Prime Wetlands, but this does not apply to parcels that were already developed prior to the adoption of the ordinance in 2010. The ordinance states that the rule "does not prohibit the rebuilding or redevelopment of any portion of a residential lot which had already been improved or developed, and regularly maintained, as of the effective date" of the ordinance. Since the vast majority of Atkinson homes were developed prior to this date, this rule does not prohibit homeowners from clearing additional vegetation from within the Town's 150-foot prime wetland buffer.
- The State of New Hampshire required a 100-foot buffer around Prime Wetlands that were approved by Town voters and accepted by the Department of Environmental Services prior to 2012 when the law was changed. Therefore, this 100-foot rule applies to only seven of our prime wetlands. The eighth one, the Wright Farm Pond Prime Wetland, which was approved at Town Meeting in 2013, does not have a state-mandated 100-foot buffer. On the other hand, for the other seven prime wetlands, this buffer rule applies to all parcels regardless of when they were developed.

More information about Atkinson's prime wetlands, and the process that was followed to define and approve them, can be found in the [Atkinson Prime Wetland Study](#), available on from the town's website.

In summary, while effective zoning is good and costs the Town essentially nothing, it is also one of the least permanent methods for conserving land since zoning can always be changed by a vote at Town Meeting.

### 3.6 - State Wetland and Development Permits

Acting at the state level through both the Department of Environmental Services (DES) and New Hampshire Fish and Game, each agency play an important role in safeguarding the Town's natural resources. Some examples include:

- DES regulates wetlands and requires a permit for any activity that impacts a wetland.
- DES requires a 100-foot natural vegetative buffer around most Prime Wetlands, as described above.
- DES is responsible for issuing Alteration of Terrain (AoT) permits which protect surface waters, drinking water supplies and groundwater from the impacts of development. An AoT permit is required whenever a project proposes to disturb more than 100,000 sq. ft. of contiguous terrain (50,000 sq. ft., if any portion of the project is within a protected shoreland), or disturbs an area having a grade of 25 percent or greater within 50 feet of any surface water. Although the primary responsibility of an AoT permit is to safeguard water resources, NH Fish and Game keeps data on endangered and threatened wildlife habitats and wildlife corridors, and advises DES on Alteration of Terrain permit applications that may impact these resources as well.
- For development of smaller sites, the AoT "Permit By Rule" is applied to protect water resources. (NH Code Admin Env-Wq 1503.03)
- The Shoreland Water Quality Protection Act (SWQPA – RSA 483-B) regulates structure development and terrain alteration around the shores of lakes, ponds and impoundments greater than 10 acres, including Big Island Pond, year-round flowing streams and river of fourth order or higher, state designated rivers and river segments, and coastal waters.

The Conservation Commission is responsible for reviewing and commenting on DES wetland permits, and is the only body of town government authorized to intervene (request more time) in this permitting process.

On the other hand, AoT permits and applications for development that fall within the purview of the SWQPA are considered only at the State level, and much of this work is done without

input from or visibility to the local Conservation Commission. However, Planning Boards are sometimes notified of these permit applications.

### **3.7 - Property Tax Relief Programs: Current Use and Conservation Restriction**

While not exactly a method for the long-term protection of open land, the Current Use property tax assessment provisions of NH RSA 79-A allow owners of large parcels of undeveloped land greater than 10 acres to have their land assessed at a much lower value than what it might be worth in the open market, and thus enable owners to keep their land rather than be forced to sell it because of high property taxes. Current Use is a powerful tool to facilitate preservation of active farms and forest lands.

To quote from the law itself: “It is hereby declared to be in the public interest to encourage the preservation of open space, thus providing a healthful and attractive outdoor environment for work and recreation of the state's citizens, maintaining the character of the state's landscape, and conserving the land, water, forest, agricultural, and wildlife resources. It is further declared to be in the public interest to prevent the loss of open space due to property taxation at values incompatible with open space usage. Open space land imposes few if any costs on local government and is therefore an economic benefit to its citizens.”

Current Use does not provide permanent protection. However, if land in Current Use is sold for development, there is a Land Use Change Tax of 10% of its newly assessed value. Currently in Atkinson, 99% of the Land Use Change Tax proceeds are placed in the Town’s Conservation Fund as a way to partially offset the loss of the natural benefits of the land that has been developed by funding land conservation purchases and other efforts.

The Conservation Restriction Assessment program is a parallel program to Current Use. Authorized by NH RSA 79-B, this program requires municipal officials to assess qualifying, easement-protected land at reduced values based on the specific restrictions of the easement, and applies the same per-acre values as used for Current Use. This alternative program can provide an important additional tax incentive for landowners to conserve small but significant conservation tracts, for example, a small parcel with extensive undeveloped shoreline.

### 3.8 – Examples of Methods for Conserving Land

To illustrate some of the conservation methods described in this section, below are some examples of previous projects and the conservation attributes they protect. The following short scenarios explain some of the most common ways and reasons by which land is acquired and/or protected for the purposes of wildlife conservation and natural resource protection.

#### **Sawmill Swamp Parcels**

Over the course of several decades, much of the land comprising the two major portions of Sawmill Swamp has been acquired by the Town. Beginning in 1985, a major portion of the west side of the Swamp was acquired from the Feuer family with the assistance of Federal land conservation funds. Since then, various smaller parcels within the swamp ecosystem have been acquired through donations, tax sale, a land swap, or outright purchase.

The common thread running through all these transactions was that the land was either unusable or was valued so low that the acquisition price (if any) was very manageable. However, the Conservation Commission recognized these parcels for their high ecological value, and so moved to acquire them. Multiple endangered species of plants and animals had been identified as living in the Sawmill Swamp complex. The function of the swamp in providing groundwater recharge was especially valuable to a town which, at the time, obtained all its drinking water from locally drilled wells. So, protection of this ecosystem became, and has continued to be, one of the Commission's top priorities for protection and preservation.

The same reasoning has applied to many other parcels in Town over the years, and the Town was able to acquire and protect many ecologically valuable parcels for very little money. However, today, with the price of land and homes at an all-time high, we are seeing parcels developed that only ten years ago may have been considered "too wet" to build on. Modern planning and construction practices have made it easier for developers to build right up to the maximum limits allowed by zoning, and the potential profits have made the costs of these efforts just one more budget line item in the normal course of a project. Suffice to say, there will probably not be any more "bargain sales" or gifts of "unbuildable" land in the future.

#### **Sawyer Town Forest (Sawyer/Bonin/Cirome Parcels)**

The Sawyer Town Forest on Sawyer Avenue is the largest contiguous Town Forest in Atkinson. It consists of managed forest and field land, containing a variety of cover types and habitats. A

recreational trail system leads through a scenic upland pine and hardwood forest which contains trees of up to 2½ feet diameter. The county champion white ash, over 5 feet in diameter, is located off one of the trails. The trails pass by a successional grassland that is maintained (mowed regularly) for wildlife, as well as several seasonal streams and forested wetlands.

This property was assembled in the late 1970's and early 1980's by purchasing land from three different owners, using funds made available in the Land and Water Conservation Fund, a fund established and overseen by the U.S. Bureau of Outdoor Recreation. The first purchase occurred in 1977, when the Town voted to accept \$43,000 from the BOR, which was used to purchase a 48-acre parcel on Sawyer Avenue from Ralph and Ruth Sawyer. Terms of the BOR grant required conservation restrictions to be placed on the deed, and the property was officially designated as Town Forest in 1979.

At the same time, the Town obtained \$10,000 in Federal Revenue Sharing Funds, and added together with a matching \$10,000 from the Town's Greenbelt Fund, was able to purchase an additional 20 acre parcel from the Sawyers. At that time, the parcel contained a horse-riding rink, managed by the 4-H Club, so it was designated as recreational land, but no conservation restrictions were placed on it.

In subsequent years, two additional parcels were obtained: 58 acres from Arthur Bonin in 1980, and 14 acres from the Cirome family in 1983. Both projects were again funded entirely by a grant from the BOR's Land and Water Conservation Fund, which necessitated conservation deed restrictions. Both parcels were subsequently classified as Town Forest.

In 2007, the protection of the entire Sawyer Town Forest complex was completed when the Town voted to place conservation restrictions and a Town Forest designation on the 20-acre recreational parcel, in return for allowing the Recreation Commission to build playing fields on another parcel of Town-owned conservation land on East Road, which was obtained in a bargain sale from Philip Busby, and is known today as Collins Park.

The key takeaway about the Sawyer Town Forest is that most of the property is "high and dry", and could easily have been developed for other uses. However, the generosity and foresight of the individuals who owned the land, and their willingness to sell the land at a price that would enable it to be protected for posterity, is what enabled this beautiful forest ecosystem to survive to this day, where it can now be enjoyed by all.



**Caroline Orr Town Forest (Trinity House Camp Parcel)**

The Caroline Orr Town Forest has a history that is unique in all of Atkinson, originally created in the early 1950's as a summer "outdoors-oriented" camp for young girls from the Trinity Neighborhood House in East Boston. The camp's director, Caroline "Orrie" Orr, developed programs in nature, arts and crafts, music, dancing and reading. She led hikes and outings, inspiring youth who might otherwise never see nature to appreciate it. After she died in 1982, the Trinity House decided to close the camp and sell the property, but still wanted to maintain the property in its natural state, as a tribute to Orrie and all the campers who had come before.

At the same time, the State of New Hampshire had just developed the initial version of the Land Conservation Investment Program (LCIP), which appropriated \$20 Million for the purpose of purchasing conservation land or the interests in land at both the state and local levels. On the local level, matching monies were provided up to an amount equal to the Town's contribution. The Conservation Commission worked with the Society for the Protection of New Hampshire Forests (SPNHF) to work out a deal whereby the Town could use a bargain sale of the back property as "matching funds" and obtain the land essentially for free. As a requirement of the deal, very strict conservation restrictions were placed on the deed, including the prohibition of any and all structures on the property. The property is monitored for compliance with these restrictions on an annual basis by the State of New Hampshire.

Other transactions at the same time allowed the Town to purchase the former camp buildings and the front five-acre parcel (now the Atkinson Community Center) at a bargain price, and a few house lots on Robie Lane were subdivided from the property and sold, with the profits going to Trinity House.

When the Town obtained title to the backland, it was renamed the Caroline Orr Town Forest, with the designated purposes of wildlife protection, education, and passive recreation. Since then, the existing trail system has been maintained and upgraded, along with the large open field that supports a variety of wild flora and fauna. The property contains a variety of cover types and habitats, including forested wetlands, ponds, seasonal streams, and vernal pools. Its proximity to the Atkinson Community Center makes it a very popular and easy way to experience a walk in the woods. The Commission has conducted a variety of educational programs on the site, including tree and bird identification walks.

The process to obtain and develop the Caroline Orr Town Forest is another excellent example of a generous owner working with a matching funds program to protect and preserve land that they cared about. This project was unique at the time as it involved matching funds from the

State, not the Federal government, but many of the principles were the same: matching funds (or a bargain sale) were required, the property had to be designated for a specific purpose (conservation), and the restrictions were required to be recorded in the property deed.

### **Cogswell Farm (Kachanian Parcel)**

This is an example of how special zoning can precipitate the protection of a valuable natural attribute, without requiring deed restrictions or an actual change in property ownership. In this case, a valuable scenic vista and semi-wet marsh just south of the Atkinson Town Center was preserved and protected when this large parcel was developed using the Town's then recently enacted Scenic Vista and Pronounced Landscape Regulation (Zoning Section 505).

The parcel consists of a large meadow that is wet part of the year, and a forested area that provides an "edge" habitat to wildlife and a scenic backdrop as one travels along Main Street (NH Route 121) just south of the Town Center. While it may have been possible to lay out streets and house lots in this entire open space, the developer was able to obtain increased building density by locating all of the buildings in the forested area, behind a buffer of deciduous and evergreen trees. The resulting open space and forested buffer, combined with the classic Georgian-style building and white steeple of the Atkinson Congregational Church at the north end of the parcel, makes for a quintessential rural New England vista.

Of course, it may have been preferable to fully preserve the forested area by not building in it at all, but the owner was totally within their rights to develop the land as they saw fit. In this case, the asking price for the land at the time was far too steep for a full preservation effort, and so use of the Scenic Vista ordinance was regarded as the next best thing. Working with the Planning Board, the developer paid careful attention to the forested buffer, thus protecting this scenic vista which was so valuable to the residents who passed it every day on their travels, and the way it continued to maintain the rural character that so many of the townspeople held dear, allowed the project to quickly gain approval.

# SECTION 4

## Conservation Attributes in the Town of Atkinson

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*“We have the choice to use the gift of our lives to make the world a better place – or not bother.”*

– Jane Goodall, world expert on chimpanzees

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**Maps 1 – 14 referred to in the above sections**



## 4.1 – What is a Conservation Attribute?

A “conservation attribute” is a natural resource or other quality that is worth protecting.

Examples include:

- Buffers around wetlands to help maintain the quality of those wetlands,
- Wildlife habitat areas that provide shelter, food, water, and sufficient area to support wildlife of various types,
- Corridors of open space that allow wildlife to move about without crossing roads or encountering other human obstacles,
- Open areas that protect the quality of groundwater and promote rainwater infiltration,
- Forested areas that help to reduce the carbon in our atmosphere, and
- Opportunities for environmental education and passive recreation.

Many conservation attributes can be documented in the form of maps, and this is the primary focus on this section of the Land Conservation Plan.

However, there are some attributes that cannot be mapped, and these must also be considered when thinking about a land conservation project. These include:

- Scenic vistas and rural character,
- Historical importance,
- Vernal pools, which cannot easily be detected from the aerial photographs that most of our maps are based on, and
- Willingness of landowners to conserve their land for future generations of Atkinson residents.

This last attribute, the “willing landowner,” is perhaps the most important conservation attribute because landowners are essential to any conservation project. The Conservation Commission is not empowered to proactively “go after” a person’s land, nor do we want to. On the other hand, when a landowner indicates an interest in leaving a legacy in the form of open land, our role is to explore the options for conserving their land, as discussed in Section 3 of this Plan, and use the maps and other considerations presented here to determine the priority of spending our efforts and the Town’s money to conserve that land.

## 4.2 – An Introduction to the Maps

There are 14 maps presented in this section of the Plan. They are based on available Global Information System (GIS) data that is maintained in the University of New Hampshire GRANIT database, and the maps presented here were produced by Rob Pruyne at the Rockingham Planning Commission.

These maps give a good, high-level picture of what attributes exist in various parts of town, but should not be looked at in detail or used as a survey plan when considering a construction project. Data presented in the maps is sometimes incomplete or out of date, and should always be supplemented by current, on-the-ground investigation.

Nevertheless, the maps presented here do paint a reasonably good, high-level picture of what environmental qualities exist in Atkinson, and are a good starting point for considering future land conservation projects.

## 4.3 – A Description of the Maps

The maps described below may be found at the end of this section of the Plan.

### Map 1 – Land Use 2015

The first map is a Land Use map from 2015 – this is one of the maps that was part of the 2015 update to the Town of Atkinson Master Plan, and this map is likely to be updated again this year. This map was created by digitizing a 2015 aerial photograph (which is shown as Map 10 below), and visually analyzing the uses of the land that can be seen in the photograph.

Looking at the legend for this map, you will see that the land use in Atkinson is broken down into many categories. From looking at the table contained in the map, you will note that in 2015 the largest land use was Forested Land with 2,936 acres, followed close behind by Residential use, with 2,633 acres. Open Wetlands with 381 acres, and Active Agriculture with 266 acres, were a distant 3<sup>rd</sup> and 4<sup>th</sup> largest land uses, respectively.

Looking back at the map, you can see the Forested land as light green, Residential land as light yellow, with Open Wetlands indicated by light blue markings, and Active Agricultural land as olive green, with other land uses indicated by other colors.

This map does not contain information that would be useful in setting priorities for future conservation efforts, but it does give a good snapshot of land uses as of 2015.

The table below is taken from the more general table that appears on Map 1, and summarizes major land use statistics from 1962 to 2015.

Land Use (acres)	1962	2005	2015
Forested	5,445	3,059	2,936
Residential	574	2,580	2,633
Industrial/Commercial	6	116	124
Active Agriculture	763	283	299

As shown by the data, residential development has increased by 2,059 acres or a 359 percent change while forested lands have decreased by 2,509 acres or a 46 percent change.

The conversion of natural landscapes to developed landscapes, including impervious surfaces and increased stormwater runoff pollution, can have significant impacts on the health and values of wildlife habitat, ecosystem services that humans rely upon, such as drinking waters sources, and the character of the community. This Plan aims to identify where strategic land conservation can help to mitigate impacts to natural resources and preserve Atkinson’s rural character.

## Map 2 – Topography

The next map is a topographical map of the town, with 10-foot elevations shown as dark gray contours, and 2-foot elevations shown as light gray contours. This map was produced from elevation contour data derived from a 2011 Coastal New Hampshire LIDAR study (LIDAR is a technology that uses special aircraft-mounted lasers to measure elevations.)

The electronic version of this report allows the viewer to zoom in on all the maps, including this one, and see the 2-foot contours more clearly.

Also, as with all the maps in this report, this map is intended for visual use and comparison with other GIS maps only, and should not be relied upon for any other technical application such as subdivision planning. Nevertheless, it is an interesting map that was not previously familiar to the members of the Conservation Commission.

## Map 3 – Soils (NRCS, 1994)

The third map contains high-level data about the underlying soil types found in Atkinson. Looking at the legend, you see that there are five broad categories of soils found in the town, each with its own qualities. These five soil types are:

- Canton-Hollis-Chatfield (NH012)
- Canton-Montauk-Paxton (NH014)
- Canton-Scituate-Montauk (NH036)
- Hinckley-Windsor-Canton (NH001)
- Paxton-Woodbridge-Hollis (NH033)

The data behind this map was derived from a broad-based inventory of underlying soils which was published by the US Department of Agriculture in 1994, and is not likely to have changed much in the last 30 years.

The reason for the variation in soil types along fairly pronounced lines can be attributed to the glacial deposits that were left here after the last ice age.

#### **Map 4 – Agricultural Soils**

The fourth map is a map of agricultural soils, which represents the soils near the surface of the ground as opposed to the underlying soils depicted in the previous map.

Looking at the legend for this map, we see that the underlying soil types from Map 3 are shown again on this map without shading, with agricultural soils data shown using solid colors.

There are three categories of agricultural soils shown on the map: soils of state-wide importance are shown in green, soils of local importance in purple, and other areas with good farming soils in blue.

The data behind this map suggest that all the shaded areas are good for farming, and certain areas are of local and State-wide importance.

#### **Map 5 – Surface Water, Watersheds, FEMA Flood Hazard Areas**

Map 5 contains three categories of data:

- Surface waters, including ponds, streams, and intermittent streams,
- Watersheds – indicating where precipitation in that area flows to, and
- FEMA flood hazard areas.



Looking at the legend for this map, we first see that flood hazard areas are represented by cross-hatched markings, watersheds are indicated by colored areas, streams are solid lines, and intermittent or seasonal streams are indicated by dashed lines.

Looking back at the map, we see the four watershed areas. Starting from the upper left, there are:

- the Arlington Mill Reservoir watershed in light green,
- the Lower Spicket River watershed in purple,
- the Lower Merrimack River watershed in light blue, and
- the Little River watershed in beige.

For FEMA flood hazard areas denoted by red cross hatching, you will note that Atkinson is fortunate to not have many such hazard areas, and those that we do have are in wetland areas where homes and other structures do not exist.

For the data behind this map, the flood hazard data came from the FEMA National Flood Insurance Program, and the watershed data came from the NH DES Water Resources Division.

### **Map 6 – Groundwater and Aquifers**

Map 6 contains data about our groundwater resources.

Looking at the legend for this map, we see that it depicts the locations of public water supply wells and wellhead protection areas, shown as purple circles with little blue circles indicating the well locations. Stratified drift aquifers are shown as solid colors, and the map also shows the locations of potential sources of groundwater contamination, shown as orange circles with an X.

Looking back at the map, we see the town has quite a number of public water supply wells operated by the Hampstead Area Water Company and other community suppliers.

The Town has two areas of stratified drift aquifers on the east and west boundaries of the town. Unlike wells that are drilled into bedrock, these areas are particularly good sources of drinking water because they contain large sub-terranean deposits of sand and gravel from which water can accumulate and be easily extracted.

The public water supply data was obtained from NH DES, and was last updated in 2017, the stratified drift aquifer data came from the Complex Systems Research Center at UNH, and the

potential contamination site data came from NH DES, and was based on reports from well operators and other reports submitted to DES. This data was last updated in 2019.

### **Map 7 – Wetlands**

Map 7 gives an overview of the wetland areas in Atkinson.

Looking at the legend, we see that wetlands, or “hydric soils,” are shown in green, and prime wetlands are outlined in orange.

Prime wetlands were delineated in a Prime Wetland Study conducted in 2002, and have been approved by the Town for special protections, both through our zoning, and through State regulations which are administered by NH DES.

Looking back at the map, you can see the general locations of wetlands and Prime Wetlands in Atkinson.

For this plan, we chose to define wetlands by soil type, namely “poorly drained” and “very poorly drained” soils, in order to be consistent with how our zoning defines them.

The soils data behind this map was based on field work conducted by the USDA Natural Resource Conservation Service, which was completed in 1985. It is generally believed that soil types do not change much over time.

Please note that this map is a good example of an earlier point, that while these maps give a general indication of our Conservation Attributes, they should never be considered as surveys of current conditions.

### **Map 8 – Open Space**

This next map gives an overview of the Open Space in town, including town-owned conservation land, cluster development open space, and conservation easements of various sorts.

Looking at the legend for this map, you can see that there is a lot of information displayed here, for which the narrative here will not go into detail.

In general, town-owned conservation land is shown in green, and cluster development open space is shown in the “salmon” color. Easements are indicated by polka dots – green dots for

easements held by the Town, and red dots for easements held by others, such as the Southeast Land Trust. Municipal land, such as Town Hall, is shown in light purple, and undesignated town-owned land that is not under conservation protection is shown as gray on the map.

Since open space information the GRANIT database was found to be significantly out of date, the information shown in this map was completely researched and updated by members of the Conservation Commission, and represents both a search of the town's tax records and a search of the Rockingham County Registry of Deeds. The Conservation Commission maintains a local database of deeds and plans that substantiate the information shown on this map.

As of the writing of this Plan report, this data has not yet been updated in the GRANIT database.

### **Map 9 – Wildlife Habitat Features**

Map 9 shows information about wildlife habitat in Atkinson, and contains data from two separate studies.

Looking at the legend, data from a 2014 study of the Merrimack River watershed area is shown by cross-hatching, olive green being more important than blue. This data includes both habitat considerations, along with water quality and recreational considerations, and thus is broader than just habitat.

The solid colors on the map are based on data from the more familiar Wildlife Action Plan, compiled by NH Fish and Game, and reflects data that was last updated in 2020.

Looking back at the map, you will see that there is some overlap between these two studies, which is to be expected, but that the Merrimack Valley study covers a broader area since it includes other considerations beside just habitat.

### **Map 10 – Aerial Photo (USGS / NH DOT 2015)**

Map 10 shows a GIS-based aerial photograph of the town. It was produced by the US Geological Service (USGS) and NH Department of Transportation (NH DoT) in 2015. This is the photograph that was used to delineate the Land Use map (Map 1) and the Impervious Surfaces map (Map 11), among others.

As part of the Commission’s research into conservation areas in town, a more recent aerial photograph was produced, and is included in Appendix B, Map J of this plan. While not GIS-based, this photograph contains virtually the same accuracy as the GIS photograph, is more detailed, and contains tax map lines. This aerial photograph was made in September of 2020, is based on Google Earth, and has been corrected for angular distortions so that the tax map lines closely align with streets and structures.

### **Map 11 – Impervious Surfaces (UNH Complex systems, 2015)**

Map 11 shows the impervious surfaces in Atkinson as of 2015 – things such as roads, driveways, parking lots, and roofs.

Looking at the map, the light gray areas are impervious surfaces such as driveways, parking lots, or roofs, and the black lines are roads.

Impervious surfaces are significant because they block rainwater from replenishing our groundwater resources. For this reason, the town’s Subdivision Regulations, that are administered by the Planning Board, take special care to require stormwater retention areas for run-off from impervious surfaces to allow rainwater to replenish our drinking water supply, instead of flowing down stream into the ocean.

### **Map 12 – Unfragmented Blocks**

Map 12 shows unfragmented blocks of land in Atkinson, and is a map that was not previously familiar to the Commission.

Unfragmented blocks are areas that are mostly wooded, and have no street crossings that would impede the migration of wildlife. Atkinson is fortunate to have significant unfragmented blocks because of the many cul-de-sacks in town, which are a byproduct of our zoning.

As you can see, these unobstructed blocks cross town boundaries, since critters do not care about boundaries or property lines. The different colors in this map represent the various sizes of these blocks.

Such unobstructed swaths of land are an important natural resource, and are one of our priorities when considering future conservation projects.

### **Map 13 – Forest Resource Potential**

Map 13 looks at the land’s ability to produce timber and other forest products, and it is based on an analysis of soils data.

Looking at the legend for this map, there are three broad categories of soils data presented here.

The bright green areas contain soils that are well suited for hardwood production, such as oak and maple.

The light olive-green areas are more sandy than the first category, and, although not ideal, can also sustain hardwood production.

The dark olive-green areas contain soils that are less fertile and dryer than the first two areas, and are well suited for softwoods, especially white pine.

As a side note, the Conservation Commission’s periodic timber harvests are not driven by the revenue potential from timber sales. While our selective timber harvests are done to improve the health and diversity of our forests, the revenue from timber sales helps to offset the cost of planning and carrying out a harvest, and any small excess in revenue is placed in the Forest Maintenance Fund, which we use to care for other aspects of our forests, such as invasive plant control.

### **Map 14 – Connecting the Coast (TNC, SELT, 2019)**

And finally, we get to the last map in this section of the Land Conservation Plan.

In 2019, The Nature Conservancy and the Southeast Land Trust published a study of the coastal area of New Hampshire – including Atkinson – that, based on aerial photographs and other GIS data, predicts the likelihood of Wildlife Corridors and what they call “Prioritized Blocks,” which are areas where good wildlife habitat is likely to exist.

Looking at the legend, we see that the wildlife corridors are shown as light blue, and the prioritized blocks as beige.

As with the other maps in this Plan, the information presented here needs to be verified by on-the-ground observations and other research. But it is a good indicator that conditions are right for wildlife habitat and migration.

## 4.4 – How to Use These Maps

Information contained in the 14 maps presented in this section will be used when evaluating and prioritizing future conservation projects. The following discussion gives examples of the resources to be considered, and of how the information from the maps can be used in the decision-making process.

### **Drinking Water Protection** – both quality and quantity

- How important is the parcel to protecting sources of drinking water, both private wells and public sources?
- Is the parcel part of a NH DES drinking water protection zone around a public source of drinking water?
- Does the parcel provide an important groundwater recharging function?
- Does the parcel provide a natural upland buffer for a stream, pond, or wetland?
- Is the parcel above a high-yield aquifer?

### **Flood Control**

- Is the parcel in a 100-year floodplain?
- Does the parcel provide flood storage, acting as a “sink” for flood waters, which would otherwise be diverted to other undesired areas (such as a neighborhood) if the parcel were to be developed?
- Is the parcel in an area where an increase in impervious surfaces could exacerbate a flooding issue?

### **Agricultural Land**

- Is the parcel currently being used for farming?
- Are the soils in this parcel highly ranked farmland soils by the USDA Natural Resources Conservation Service?

Farms contribute to the community’s character and scenic views, contribute to the local economy, and are frequently an important source for locally grown agricultural products. It is in the best interest of the town’s character and soil stability to keep farms in active agricultural use.

### **Passive Recreation and Hunting**

- Does the parcel have the potential to be used by the public for passive outdoor recreation such as hiking, snowshoeing, or bird watching?
- Is the parcel adjacent to conservation lands that are already used for passive outdoor recreation?
- Does the parcel lend itself to hunting – is it large enough and contain habitat that is conducive for hunting, and/or is it contiguous with parcels that are currently open to hunting?

### **Wildlife Habitat**

- What value does the parcel have to preserving wildlife habitat on the area?
- Is the parcel adjacent to conserved land that has high habitat value?
- Does the parcel provide an important wildlife corridor between other habitat areas that would otherwise become fragmented by roads, structures, or other impervious surfaces if the parcel were to be developed?
- Does the parcel provide an upland buffer of undisturbed natural vegetative cover adjacent to a pond, stream, or wetland?
- Does the parcel abut or otherwise protect Prime Wetlands?
- Does the parcel contribute to species diversity in the area?
- Does the parcel either directly provide, or indirectly protect, habitat for one or more animal or plant species listed by the NH Natural Heritage Bureau as rare, threatened, or endangered
- Has the parcel been identified in the 2020 NH Fish and Game Wildlife Action Plan, the 2014 Land Conservation Plan for the Merrimack River Watershed of New Hampshire and Massachusetts, or the 2019 Connecting the Coast Plan?

### **Forest Management**

- Does the parcel have the potential to be managed as a Town Forest? Such land could provide revenue for the Forest Maintenance Fund. At the same time, management as a Town Forest would help to insure the health of the forest, the age and species diversity of its trees, and the quality and diversity of its wildlife habitat.

### **Educational Opportunities**

- Does the parcel have the potential to be used in environmental education programs, both through our schools and community youth programs such as Troop 9, and through

Continuing Education programs for adults through organizations such as the Kimball Library?

### Scenic Vistas

- Does the parcel have any importance for maintaining a scenic vista?

Scenic vistas in Atkinson include views of forest, open spaces, and land development patterns established over hundreds of years of settlement. Valued vistas include the tree-lined canopy along the Robert Frost/Old Stagecoach Scenic Byway, commonly known as NH Route 121/Main Street.





# SECTION 5

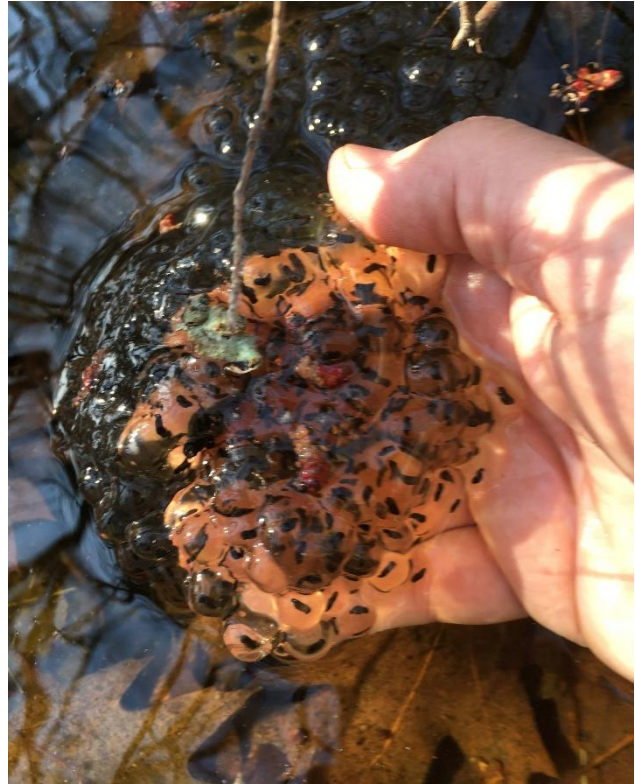
## Analysis of Conservation Priorities and Opportunities

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*“We do not inherit the Earth from our ancestors. We borrow it from our children.”*

– Native American Proverb

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### In this section:

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### Map 15 – The Co-Occurrence Map



## 5.1 – Conservation Priorities for the Town of Atkinson

Section 4 of this Plan presented 14 Conservation Attribute Maps for the Town of Atkinson. These maps were based on available GIS data, and give a good high-level picture of Atkinson’s natural resources.

However, not all these maps contain information that can be used to differentiate the conservation values in various parts of town. Therefore, the following discussion explains which maps were included in the prioritization process, and why.

### Map 1: Land Use 2015

Map1 shows a good snapshot of how our land was used in 2015, but it does not contain information that could guide our prioritization of future conservation projects. Therefore, it was not used in the prioritization process.

### Map 2: Topography

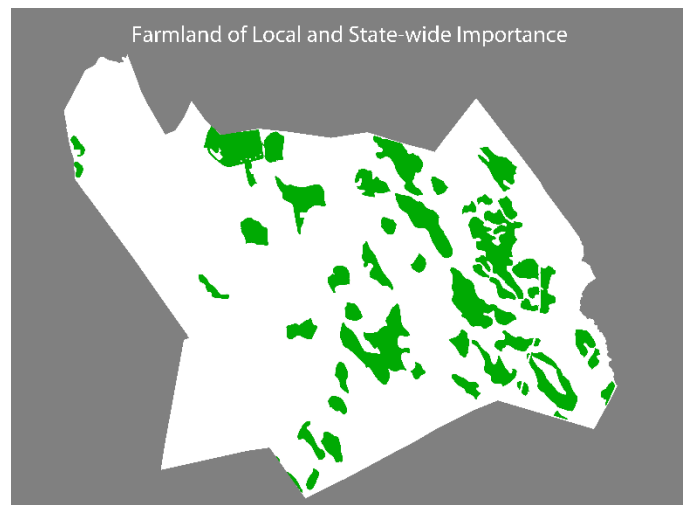
While Map 2 contains useful information about the contours of the Town’s land, this information is not of much use in setting priorities, and was not used in the prioritization process.

### Map 3: Soils (NRCS 1994)

Likewise, Map 3 does not contain information that would be useful in differentiating the conservation value of various parts of town, and therefore was not used in the prioritization process.

### Map 4: Agricultural Soils

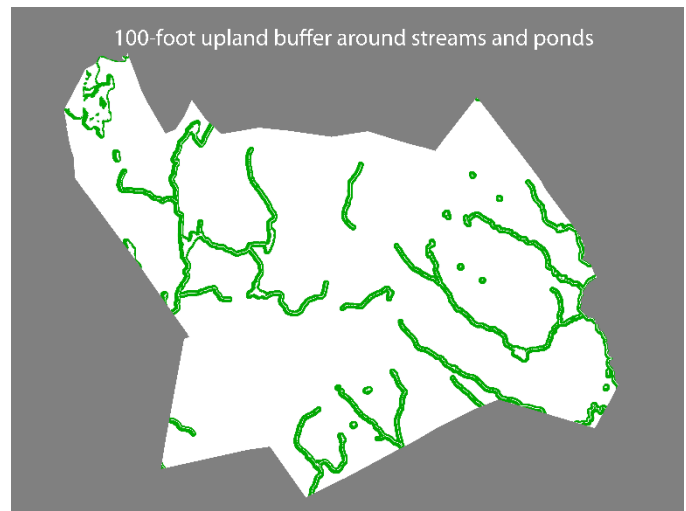
Map 4 depicts agricultural soils of local and statewide importance. Agricultural soils are of interest in setting priorities for conservation projects, because farms are valued for their scenic and environmental qualities and help to preserve the rural character of the Town. Since most of Atkinson has soils that are well suited for farming, in order to be selective in



setting priorities we have included in the prioritization process only the soils of local and state-wide importance.

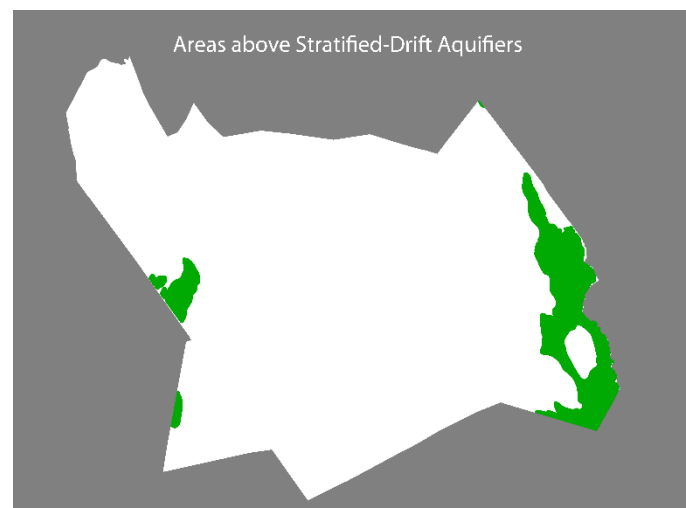
### **Map 5: Surface Water, Watersheds, and FEMA Flood Hazard Areas**

Map 5 combines several surface water, watershed and flood hazard areas. Knowing the various watersheds in Town does not help in setting conservation priorities, so these were not used in the prioritization process. Furthermore, Atkinson’s FEMA flood hazard areas are situated in wetlands which are already protected by State regulations and local zoning, so these hazard areas are not helpful in setting priorities. However, ponds and streams are worthy of protection, and we have selected a 100-foot upland buffer around these surface waters as priority areas when considering future conservation projects.



### **Map 6 – Groundwater and Aquifers**

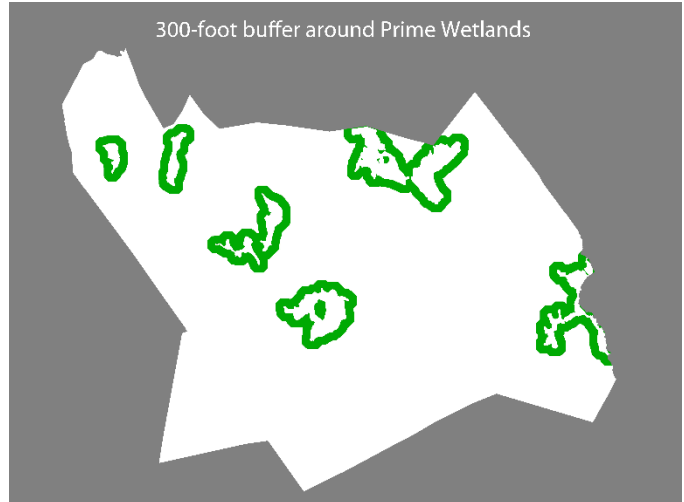
Map 6 depicts groundwater aquifers composed of shallow surficial sand and gravel deposits. The wellhead protection areas around public wells are too numerous and widespread to provide much differentiation in setting priorities, and, furthermore, individual private wells are important for protection as well. Therefore, the wellhead protection areas were not included in our prioritization process. And while potential sources of groundwater contamination may be important in



considering protections for drinking water supplies, in general they do not influence decisions concerning protections for wildlife habitat, wetland and surface waters, or opportunities for passive recreation or environmental education, so these were not included in the prioritization process either. However, stratified-drift aquifers are important sources of drinking water that deserve consideration when contemplating future conservation projects, so areas above these aquifers were included in our prioritization process.

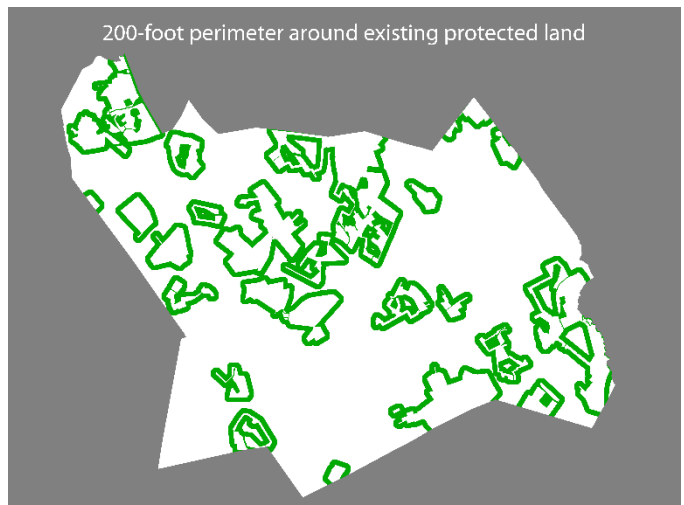
### Map 7 – Wetlands

Map 7 depicts the distribution of large wetland complexes designated as Prime Wetlands at the local and state levels. While the protection of areas in and around wetlands is always an important consideration when evaluating a conservation opportunity, most of Atkinson’s wetlands are too numerous and widespread to allow us to significantly differentiate various areas of the Town. Furthermore, as mentioned in Section 4, the exact location of wetlands must always be checked by qualified soil or wetland scientists, and the wetlands depicted in available GIS data does not always tell the complete story of what currently exists. However, the location and value of the Town’s prime wetlands is well documented by the 2002 Prime Wetland Study, and these areas are recognized as important ecological areas. Since the conservation commission has a long-standing policy of not buying “swamp land,” and since the best way to protect a wetland is to conserve the area around it, we have chosen to include a 300-foot area around the Town’s prime wetlands to be part of the prioritization process.



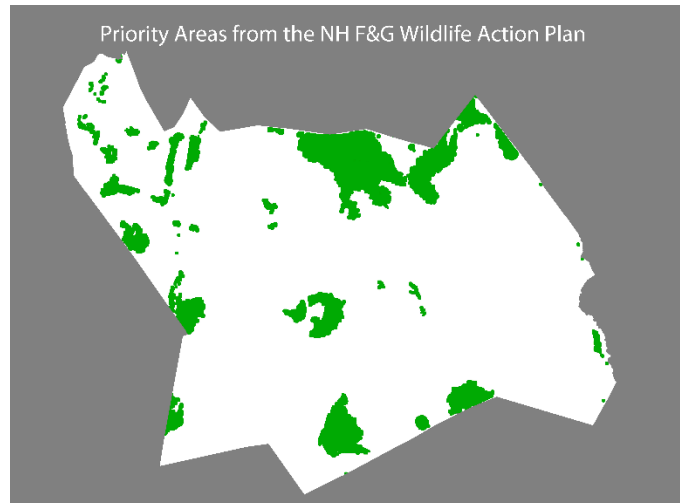
### Map 8: Open Space

Map 8 depicts the location of open space lands. Continuity of protected open space is a high priority for conservation-related organizations, including the Atkinson Conservation Commission. In Atkinson, protected open space includes the town-owned conservation land shown in green on Map 8, the dedicated open space for cluster developments shown in salmon on Map 8, and privately-owned land that is protected by conservation easements, shown as white with either blue or red dots on Map 8. Since this open space land is already protected, and since our priority is to protect land that abuts existing open space, we have included a 200-foot area around existing protected open space as a priority in our study.



### Map 9 – Wildlife Habitat Features

Map 9 depicts the occurrence of sensitive, rare and threatened wildlife and plant habitats. As mentioned in Section 4, Map 9 contains data from two separate wildlife studies. Since the cross-hatched data from the Merrimack Conservation Plan includes water quality and recreational considerations in addition to wildlife habitat potential, and since much of the cross-hatched areas are in parts of town that are mostly developed, we chose not to include those areas in our prioritization process.



On the other hand, the more recent Wildlife Action Plan conducted by NH Fish and Game paints a more realistic picture of the important wildlife areas in Atkinson, so we did include those areas in our prioritization process.

### Map 10 – Aerial Photograph

While of historical interest, the 2015 aerial photograph of the Town does not contain information that would help with prioritizing potential conservation projects.

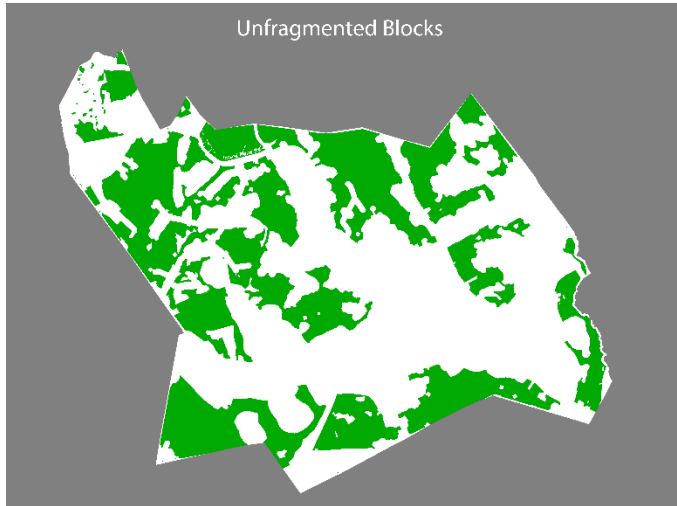
### Map 11 – Impervious Surfaces

While the impervious surface map of Atkinson gives a good historical snapshot of conditions in 2015, it does not help with setting priorities for conservation projects. However, this map could be useful when evaluating the need for buffers to development project applications.



### Map 12: Unfragmented Blocks

Map 12 depicts large unfragmented blocks of land. As mentioned earlier, preserving unfragmented open areas where wildlife can travel without encountering roads or other human impediments is one of the top conservation goals for the Town. Therefore, the unfragmented blocks shown on Map 12 were included in the prioritization process.



### Map 13: Forest Resource Potential

While maintaining healthy forests is important to the Town, the soils-based Forest Resource Potential areas shown on Map 14 are too numerous and widespread to provide much differentiation between various areas of town, and were not included in the prioritization process.

### Map 14: Wildlife Corridors and Blocks

While the data behind the wildlife corridors and blocks shown on Map 14 may be somewhat redundant with the data used to produce the Wildlife Action Plan priority areas shown on Map 9, we consider the preservation of wildlife and their habitat to be important enough that we have chosen to include the wildlife corridors and blocks from the Nature Conservancy and Southeast Land Trust study shown on Map 14.







## 5.2 – Co-Occurrence Mapping - Analysis of Conservation Priorities

The Co-Occurrence map was produced using the 8 priority maps identified in Section 5.1. These eight selected priority maps give a good “first impression” of the location of conservation attributes that are important to the Town. Obviously, the more attributes that occur in an area of town, the more environmentally important that land is, and the higher priority it should receive when considering future conservation projects.

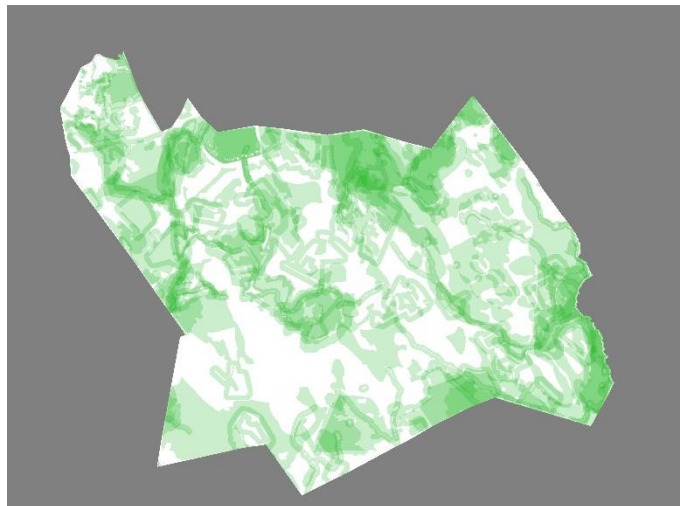
To visually display these priorities, we have created a “Co-Occurrence Map,” with priorities indicated by colors, cooler colors, such as green and yellow, indicating lower numbers of co-occurring attributes, and warmer colors, such as orange and red, indicating a higher number of co-occurring attributes. The following narrative gives a brief description of how the final Co-Occurrence Map was produced.

### Co-Occurrence Mapping Process

First, the eight priority maps from Section 5.1 were combined into one file, with each of the 8 maps placed in its own layer. That produced the rather uninteresting map shown here, in which the green areas indicate the presence of one or more conservation attributes.

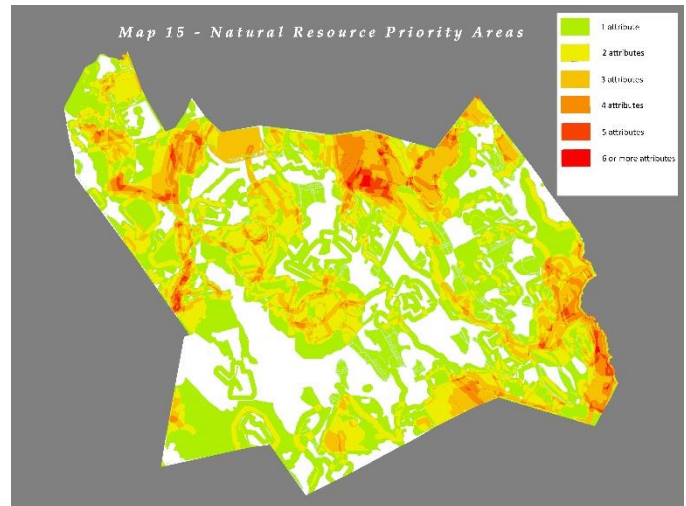


Next, each of the green layers was made semitransparent, so that, visually, the darker the green appears at a location, the more attributes are present there. This produced the map shown here.

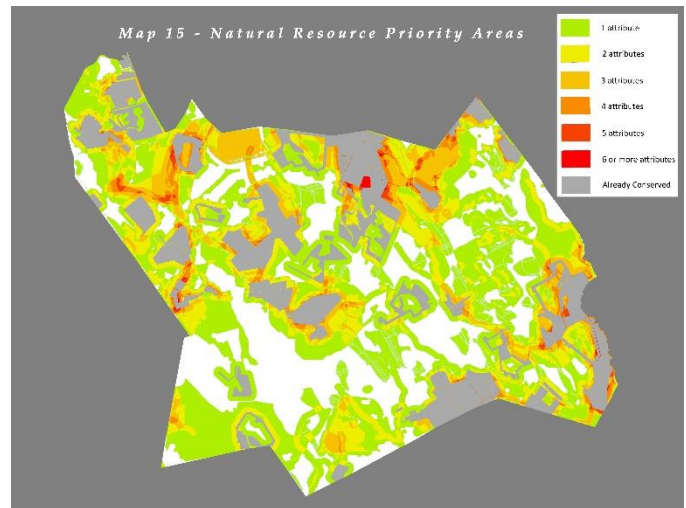


## Section 5 – Analysis of Conservation Priorities and Opportunities

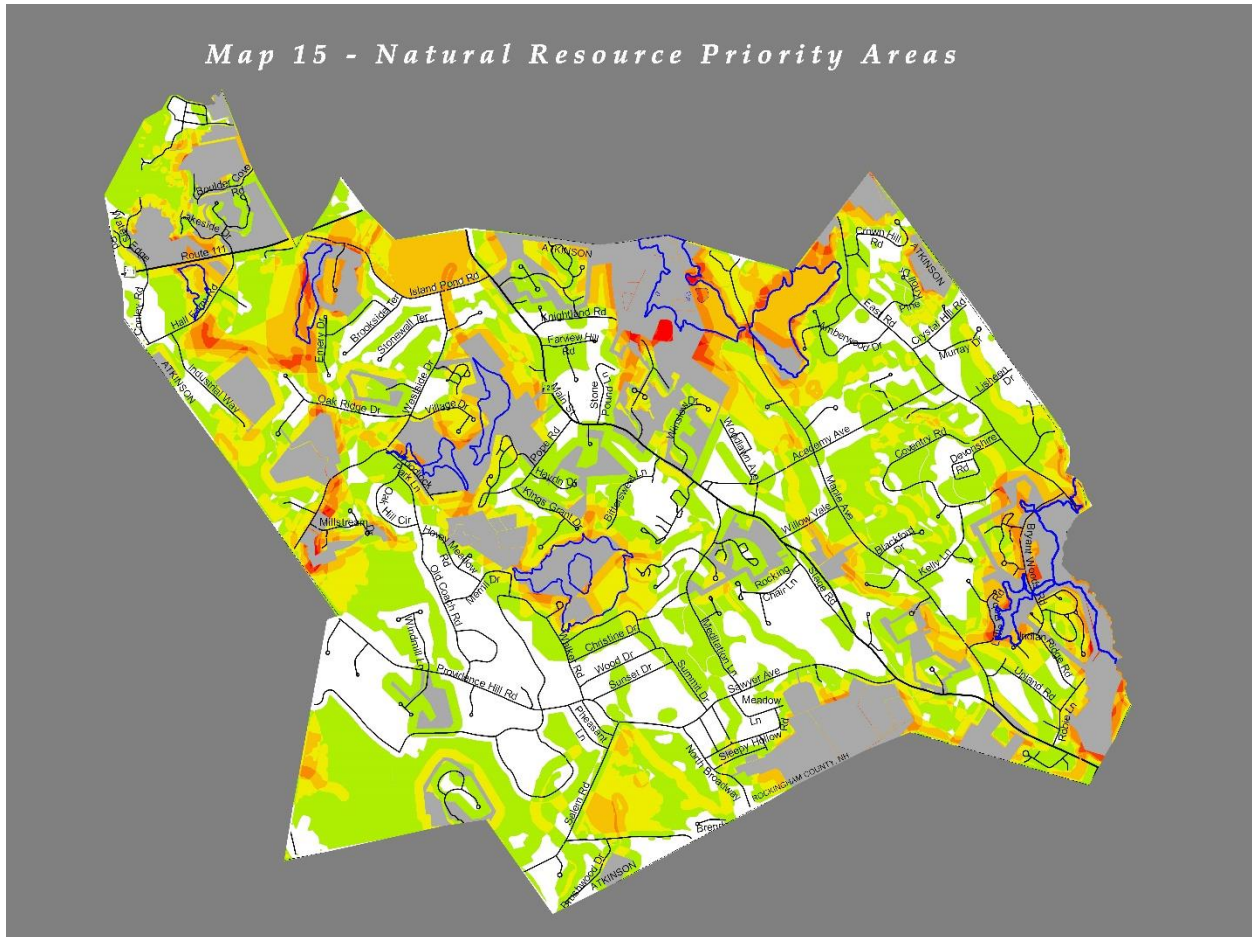
Since it is difficult for the human eye to perceive slight changes in the shades of green, each of the different shades of green was then assigned a color on the spectrum from “cool” to “warm.”



Next, since there is no need to prioritize lands that are already protected (Town-owned conservation land, cluster development open space, or private lands with conservation easements), these lands were “grayed out” on the map, as shown here.



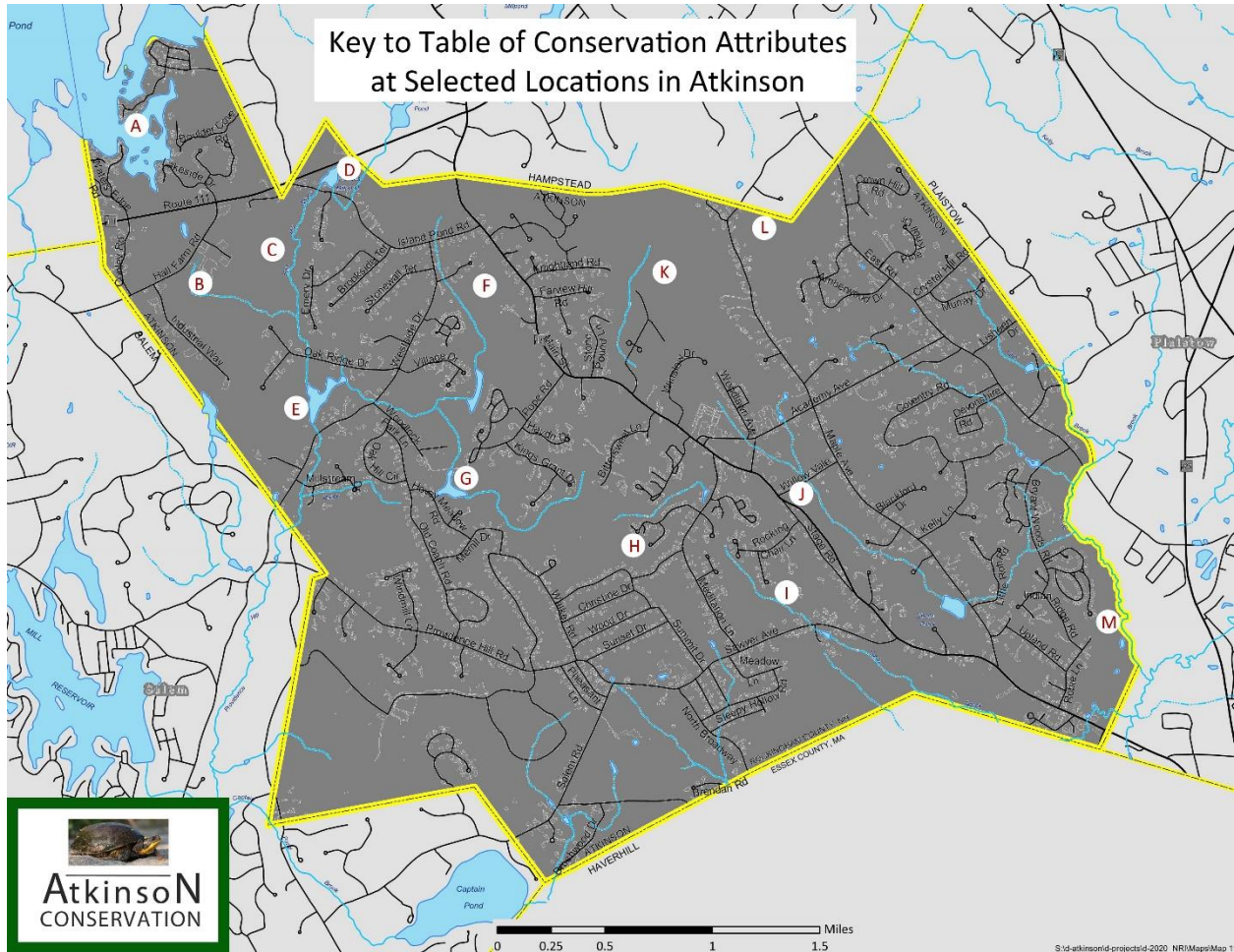
Finally, to help orient users of the map, two additional layers were added, one showing the roads in town in black, and one showing the locations of the prime wetlands, in blue, as shown here. This is the co-occurrence map, *Map 15: Natural Resource Priority Areas*, which can be found in more detail at the end of this section.





### 5.3 – Examples of How to Use These Maps

Using the electronic version of the maps presented in Sections 4 and 5 and local knowledge, it is fairly easy to evaluate and list the conservation attributes at various places in town. Members of the Commission used the electronic form of the maps in Section 4 to identify the conservation attributes at each of those points shown on the map below. The result of this investigation is shown in Table 5.1 on the following page.



**Table 5.1 - Examples of how to use the Conservation Attribute Maps (Maps 1 - 14)**

Conservation Attributes located within selected areas of Atkinson	Area Name - see map key													
	A - Shoreland along Island Pond See Note 1	B - Uplands abutting wetlands on both sides of Hall Farm road	C - Uplands near Hog Hill Brook	D - Upland near Hodges Mill Pond	E - Uplands along Providence Hill Brook south of Oak Ridge Drive	F - Uplands between Westside Drive and Main Street	G - Upland north of Merrill Drive See Note 2	H - Upland north of Summit Drive See Note 3	I - Upland along Foote Brook on either side of Sawyer Avenue	J - Willow Vale and Stage Road	K - Upland near Sawmill Swamp, between Koghtland Road and Maple Avenue	L - Upland around prime wetlands between Maple Avenue and Amberwood Drive	M - Shoreland along Bryant Brook See Note 4	
Map 4 - Contains Agricultural Soils					X	X			X	X	X	X	X	X
Map 5 - Protects Surface Waters	X	X	X	X	X			X	X					
Map 6 - Above a Stratified Drift Aquifer		X												
Map 6 - Wellhead Protection Area	X		X		X									
Map 7 - Upland protecting a Prime Wetland			X											
Map 7 - Contains Hydric Soils (wetlands)		X	X	X	X	X	X	X	X	X	X	X	X	X
Map 8 - Within 200' of protected land	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Map 9 - Contains valuable Wildlife Habitat	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Map 12 - Part of an Unfragmented Block	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Map 13 - Contains Productive Forest Soils	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Map 14 - Part of a Wildlife Corridor	X	X	X	X	X	X	X	X	X	X	X	X	X	X

- Note 1 -** This area is already conserved or developed, and there are no opportunities for further conservation
- Note 2 -** This area is the Chadwick Town Forest, and is already protected
- Note 3 -** This area is already developed (it is part of the Centerview Hollow cluster development)
- Note 4 -** This area is the Caroline Orr Town Forest, and is already protected

## 5.4 – Why These Maps Are Important

When considering opportunities for future conservation projects, the Atkinson Conservation Commission will use these maps as a starting point for understanding the conservation priority of a parcel of land. This “proactive conservation methodology” enables the town to be prepared for opportunities for land conservation when they arise.

It is important to note that the maps in Sections 4 and 5 do not contain tax map property boundaries, because it is not the intention of this commission to “target” a landowner’s property. After a landowner initiates a dialog with us, it is possible to use tax map boundaries in our analysis, but this level of analysis is done only after a willing landowner initiates the conversation with the Conservation Commission.

Also, as stated in Section 4, it is important to remember that these maps are just part of the decision process in considering a conservation project or investment. While they are a good first impression of the value of an area of town, there are other factors that are not mapped, such as scenic vistas, features of historical importance, vernal pools, and willing landowners.

Nevertheless, when applying for grants to help fund a conservation project, this Land Conservation Plan and the data and maps it contains will give Atkinson a strong advantage in competing for grant funding, because we will be able to justify, with objective data, the priority we place on conserving the land in question.

The Conservation Commission also intends to use this Plan to improve the public’s familiarity and appreciation of Atkinson’s natural areas and to encourage landowners to consider conservation of their land.





# SECTION 6

## Recommendations and Conclusions

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*“Unless someone like you cares a whole awful lot, nothing is going to get better. It’s not.”*

– Dr. Seuss, author of children’s books

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### In this section:

6.1 - Recommendations

6.2 - Conclusions

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## 6.1 – Recommendations

The Land Conservation Plan provides a science-based, consensus driven approach for protecting open space and natural resources. The Conservation Commission envisions using this Plan in the following ways, and offers the following recommendations to advance important conservation measures for the benefit of the town and its citizens. Each recommendation lends itself to development of an implementation plan and general guidance on how that will be realized.

### **Open Space Plan Use**

**RP1.** Present the plan to the land use boards, selectboard, other committees and town staff.

**RP2.** Engage the Planning Board and Master Plan update committee on the plan contents and uses.

**RP3.** Audit Zoning Ordinance and Land Use Regulations to strengthen requirements designed to protect natural resources.

**RP3.** Coordinate with the town administrator on EPA MS4 Stormwater Permit requirements. See resources here <https://www.epa.gov/npdes-permits/new-hampshire-small-ms4-general-permit>

**RP4.** Meet with the Planning Board and Board of Selectmen annually to review and update the Plan.

### **Land and Resource Conservation**

**RL1.** Advocate for the town to continue to fund the town’s Conservation Fund from the Land Use Change Tax revenues at 100%.

**RL2.** Work with volunteers, landowners, and adjacent towns to monitor and maintain conserved land and open space.

**RL3.** Partner with surrounding towns and land conservation organizations to protect priority areas that extend beyond Atkinson’s borders.

**RL4.** Monitor grant funding opportunities for land conservation using data and maps in the Plan to support funding requests.

### **Community Outreach**

**RCO1.** Present the plan at public meetings and other community venues. These efforts can highlight the importance of natural resources found throughout the community, how they improve our quality of life, and how undeveloped land provides resilience to a changing climate.

**RCO2.** Work with owners of properties that possess important conservation and/or recreational value to inform them about measures they can take to protect and manage these sites and the Town’s priorities for conservation.

**RCO3.** Make the plan accessible on the town’s website and social media outlets.

**RCO4.** Prepare an annual calendar of public outreach events focused on relevant local issues.

**RCO5.** Prepare a public and community outreach implementation plan.

**RCO6.** Prepare a communications kit for community and other outreach including digital copies of informational materials, printed maps, and a fact sheet with contact information.

### **Climate Change and Emerging Issues**

**RCC1.** Assist the Water Resource Committee to provide information to the town and landowners about water management during drought conditions and how to facilitate groundwater recharge and water harvesting.

**RCC2.** Work with the Atkinson Water Resource Committee to establish a Water Conservation Outreach Plan to create a framework for water conservation strategies and measures relating to drinking water resources and water quality.

**RCC3.** Coordinate with surrounding towns on local and regional water resource issues.

**RCC4.** Work with landowners to control the spread of invasive species and their introduction.

**RCC5.** Consider conservation-based protections for flora and wildlife and their habitats using the best available data and science.

## 6.2 – Conclusions

Atkinson benefits from a wide variety of natural lands and resources which will continue to thrive under proactive conservation measures and proper stewardship. The Land Conservation Plan is a blueprint for land and resource conservation, providing both the big picture view of the community and site-specific information about current resources.

*The Land Conservation Plan is a blueprint for land conservation, providing both the big picture view of the community and site-specific information about resources.*

The Conservation Commission, and we hope many others, will use this Plan to guide conservation actions in the coming years. The Plan provides an inventory of land conservation priorities along with an map based inventory of natural resources throughout Atkinson.

The Plan contents, data and maps provide a solid foundation for current and future decision making, community outreach and engagement with property owners, and management decisions for conservation lands. The data and maps also provide valuable information for other municipal actions including annual budgets, appropriation of funds, and other municipal functions such as compliance with the EPA MS4 Stormwater Permit, and informing the Planning Board and Zoning Board of Adjustment on application reviews.

### Opportunities

There are many opportunities to use the Plan to inform future actions and expand upon current activities that will serve to protect conservation lands and natural resources. Future land conservation and resource conservation focus areas and action items may include:

- Facilitate broad based multi-media engagement in the community about the LCP uses and benefits, and land and resource conservation opportunities and methods.
- Support applications for state, regional and federal funding to implement recommendations.
- Utilize the LCP to protect the high value of community character present today.
- Improve management of open space lands and their resources through sound best management practices.
- Foster stewardship to encourage land conservation among property owners.
- Expand the focus of land conservation initiatives to include agricultural lands, scenic vistas, buffers to sensitive resources, and protection of surface water and groundwater/drinking water resources.
- Respond to emerging issues such as climate change impacts including drought.
- Identify nonpoint sources of pollution and groundwater contamination.
- Improve coordination between the Conservation Commission and land use boards and state permitting agencies on development applications.

