

draft

TOWN OF ASHBY
COMMUNITY DEVELOPMENT
PLAN

NATURAL RESOURCE AND OPEN SPACE
PROTECTION

Ashby Planning Board

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NATURAL RESOURCE AND OPEN SPACE PROTECTION



Vision Elements

- A network of permanent open space connecting state, town, and privately protected land maintains excellent water quality and wildlife habitat, and provides recreational opportunities and scenic beauty. In this “green infrastructure”, pedestrian and equestrian trails link the Town Common with other parks and open spaces.
- Historic homes and community buildings are well preserved through the active efforts of Ashby’s Historical Society and appreciative townspeople and homeowners.
- Roadways are lined with mature trees and stone walls, framing passing views of meadows, orchards and farms, which evoke the town’s rural heritage, and demonstrating Ashby’s success in directing development to protect rural scenic character. The roads serving regional traffic also continue to reflect the Town’s rural identity.

Assets, Liabilities, Opportunities

Assets

- Low density
- Expansive backland
- Open fields, forested areas, ponds, acreage, quiet, small, beautiful, topography, scenery
- Agricultural heritage, remaining large parcels in private ownership
- Preserved, lively Town Common
- Active historical society
- Rural, New England feel
- Recreational trails and sites
- Many acres in chapter 61, 61A, and privately held woodlands
- Outstanding Resource Waters include Squannacook River and tributaries that flow to Fitchburg Reservoir

- Land trust
- Lands being acquired to protect open space
- Roadways lined with stone walls and mature trees
- Scenic Fitchburg Reservoir

Liabilities

- Some important open space parcels not permanently protected
- Residential development along road frontage becoming more predominant
- Development pressure from surrounding towns
- Potential contamination from old landfill
- Ashby does not have control over Ashby Reservoir and dam

Goals

- Plan to protect future drinking water supplies
- Protect water quality in streams and ponds
- Protect lands that support rare habitat and biodiversity and adjacent buffer areas
- Protect upland buffer areas to streams and ponds
- Create protected corridors for wildlife to link large open space and habitat areas
- Preserve rural scenic character
- Identify options for nature-based recreation that coincide with natural resources priorities
- Enhance public awareness about environmentally-sound private landscape practices
- Collaborate with other municipalities and agencies to achieve regional integration of open space protection and recreational opportunities

A. Current Conditions

This chapter is based on the 1999 Ashby Open Space and Recreation Plan, documents of the Nashua River Watershed Association, and discussions with the Working Group on Natural Resources and Open Space which included representatives of the Planning Board, Conservation Commission, the Nashua River Watershed Association, and the Ashby Land Trust.

Topography and Landscape Character

Ashby is located on the New Hampshire border at an average altitude of 1,000 feet rising on the upper slopes of Mount Watitic to 1,600 feet at the northwestern corner of the town. Ashby's nine hills are divided from one another by wetlands and narrow corridors of streams flowing northwest to southeast, except in the northwest corner of town. The center of town occupies flatter and more gently rolling terrain. Stone walls and a few hayfields, pastures, and old orchards testify to Ashby's agricultural past, but except for the immediate area around house lots, the town is overwhelmingly forested. Because of the Town's high elevation relative to neighboring communities, it contains the headwaters of two subwatersheds of the Nashua River and one subwatershed of the Merrimack River. The combination of limited development so far, significant amounts of protected open space, and extensive forest cover has kept the town's water resources exceptionally clean.

Ashby's soils are characteristic of the glacial till that covers most of the town. As is typical, these soils have high water tables, frequent wetlands, and low permeability. In addition, there are some stratified drift glacial deposits in Ashby whose sands and gravels have been exploited in gravel pits. A limited amount of alluvium mixtures of sand and gravel, a type of soil often associated with aquifers.

Water Resources

Streams and Watersheds

Most of Ashby lies within the Nashua River watershed. The Squannacook subwatershed drains from Trapfall, Willard, Locke and Pearl Hill Brooks east and southeastward; and the Falulah Brook subwatershed drains south. Except for Locke Brook, the headwaters of all of these brooks are in Ashby. The northwestern corner of Ashby includes South Brook, which drains north into New Hampshire to form the Souhegan River, a subwatershed of the Merrimack River. The streams in Ashby are in excellent condition, cooler and faster flowing than those of neighboring communities, because they rise and flow through relatively undeveloped land.

Lakes and Ponds

The major surface water bodies in Ashby are the Fitchburg Reservoir, the Ashby Compensating Reservoir, Upper Wright's Pond, Lower Wright's Pond and Little Watatic Pond. The water quality in the Ashby Reservoir and Little Watatic Pond is threatened by septic failure from former summer cottages that now have been winterized and Upper Wrights Pond is also being treated by the Rod & Gun Club. Because Ashby has no public water supply, a series of fire ponds have been created around town. These ponds also serve for recreation.

Water Supply and Aquifer Recharge Areas

The Town of Ashby has no public water supply or sewer system. The Town's aquifers have not been mapped, though it is known there is a large aquifer north of the Town Center under the Great Meadow wetland and Trapfall Brook. Therefore, a water budget cannot be calculated. Under these conditions, water taken out of an aquifer is generally recharged into the same aquifer. Residents report that wells do run dry and the Town Common has a working water pump available to residents.

Because in many parts of Ashby the depth to bedrock is shallow, contaminants can enter bedrock aquifers easily. Even with large lot zoning, increasingly contiguous development will, over the long term, threaten water quality with excessive nitrogen loads. This has already occurred in the Town Center, where residents are moving wells towards the street because septic systems in back yards are failing. The Ashby Reservoir and several other ponds were once summer cottage settlement. Winterizing and full-time residence in these small cottages on small lots is becoming more common, bringing the threat of excessive nutrients and eutrophication of

the ponds. Another threat to drinking water quality is pollution from animal pens as more Ashby residents keep horses on their property.

The Fitchburg Reservoir, the city's surface water supply, is located in the southwest corner of Ashby. The City owns land parcels surrounding the reservoir that are designed to protect the Zone A immediate drainage area around the reservoir and a portion of the Zone B drainage area within one-half mile of the upper boundary of the water source.

The Ashby Compensating Reservoir is not used for water supply. It was created when the purchase of the Fitchburg Reservoir put that body of water out of service for use in a mill. Ashby Reservoir water is no longer used for any but recreational purposes.

Impervious Surfaces

The developed areas in Ashby are almost completely limited to very shallow strips along roads. The majority of the rest of the town is forested, with some open fields. The amount of land covered by impervious surfaces – roads, driveways and parking lots as well as buildings – is therefore very low. Impervious surfaces are important because they keep rain and snow from percolating back into the ground. Stormwater flows quickly from impervious surfaces into streams, often causing turbidity, and carrying contaminants from cars as well as fertilizers and herbicides. Impervious surfaces and corresponding stormwater can cause flooding and changes in stream channels as well.

Estimating impervious surfaces using the methodology provided by the Executive Office of Environmental Affairs and the Charles River Watershed Association results in 3.3% total imperviousness and 0.6% effective imperviousness for the Town of Ashby as a whole. (Since development is limited and distributed equally throughout the town, the percentages were not calculated on a watershed basis.) Effective imperviousness takes into account the fact that some of the water runoff from impervious surfaces will go to permeable areas where it can percolate into the ground. Scientists have found that when impervious surfaces within a subwatershed increase over 10%, there can be significant effects on water quality, biodiversity and the stability of stream channels.¹

This very low level of effective imperviousness is one of the reasons that Ashby has very high water quality in its streams. It is important to keep in mind the potential impact of relatively small increases in impervious surfaces when planning for future development. Although conventional, large-lot zoning might seem the appropriate way to continue keeping impervious surfaces low, in fact it may result in a larger total amount of impervious surfaces than zoning strategies designed to cluster development and leave larger areas free of roads, driveways, and parking areas.

¹ "The Importance of Imperviousness," *Watershed Protection Techniques* 1(3): 100-111.

Wetlands

Wetlands in Ashby include cattail marshes, wet meadows and “quaking” bogs. Mapped wetlands constitute only 4 percent of the town’s land area, and all are protected under the Wetlands Protection Act. Wetlands play an important role in flood control, filtering of contaminants, and aquifer recharge. All of Ashby’s streams also have beaver populations working hard to create more wetlands and ponds. When this occurs close to

Flood Hazard Areas

Due to the high slopes of the town, there are few areas subject to flooding. Places where flooding does occur exist where there is level land along a stream. Two areas which are prone to flooding are the Great Meadow, between Mason Road, Foster Road and Main Street, and a large wet meadow downstream from Lower Wright’s Pond.

Habitat and Biodiversity Resources

“Landscape Ecology” is a relatively new scientific field that provides useful ways to understand how different parts of a town or region, built and unbuilt, are related to one another. In the framework of landscape ecology, a landscape is a mosaic of repeating land uses, spatial elements, or local ecosystems. The landscape mosaic is made up of natural systems and human land uses and is entirely composed on three types of elements:

- Patch – a relatively homogeneous area, such as a woodlot or a subdivision
- Corridor – a strip of land that differs from the land on both sides and links patches, such as a road or a stream
- Matrix – the background ecosystem or land use type in a landscape, such as suburban development or forest

Ashby’s human uses of the land are principally confined to the road corridors and shallow strips of developed frontage lots along the roads. There are many large patches of forest, smaller patches of pasture, fields, old orchards, and wetlands, and numerous stream corridors.

Vegetation and Natural Communities

Ashby’s natural communities range from hardwood and pine forests, to red maple swamps, cattail marshes, wet meadows, and quaking bogs. There are few working farms left, but old orchards and fields are still evident. Many forested areas in Ashby are managed for cordwood and lumber.

Ashby’s forests are of the white pine-hemlock-northern hardwood forest type. Ashby may have been named for the abundance of white ash. Old growth oaks have been identified in a few areas and lady slippers are common in some pine and oak forests. Forest understory plants such as mountain laurel, green or striped maple, and hobblebush are common. Other vegetative

species found in town are thickets of laurel called “Laurel hells”, speckled alder and high bush blueberry.

As agriculture has declined in Ashby and throughout Massachusetts, old fields are increasingly being reclaimed by forest species. This means that open fields and grasslands have become relatively rare and the wildlife species for which this kind of habitat is essential are also less common. However, several properties in Ashby continue to be maintained for haying and grazing: Western Middlesex Stock Farm, the Crocker Farm on Jewell Hill, and the Perna property on South Road.

Wetland habitats are home to a wide diversity of wildlife and are essential resources for other animals whose primary habitat is elsewhere. Wetlands and stream corridors shelter animals avoiding human interactions as they move between forests or fields.

Fisheries and Wildlife

Ashby is home to a wide variety of wildlife. Among the smaller animals are several varieties of moles, voles, shrews, rabbits and squirrels. Larger animals include beaver, porcupines, coyote, otters, mink and muskrats. Moose and bears are also known to be seen in town. Amphibians range from salamanders to toads and frogs. There are also numerous birds, bats and insects which live throughout the varied habitats in Ashby.

Rare Species Habitat, Rare Natural Communities and Biodiversity

There are several areas in Ashby that are especially significant for wildlife habitat and that have been identified as focus areas for protection in a report prepared by the Massachusetts Audubon Society.² This purpose of this report was to identify a framework for the Nashua River Watershed that will provide reserve areas for wildlife and corridors or connectors that allow wildlife to travel safely between the reserve areas. The report identified three categories of habitat:

- Large Focus Areas (or habitat patches) have over 7,000 acres with a large amount of “interior” habitat, that is, lands with very few or no roads that have experienced very little human impact, provide habitat for species that are very sensitive to human contact, and provide a diversity of plant habitats.
- Medium-Sized Focus Areas have less interior habitat but still offer conditions for a broad range of plants and animals and natural communities.
- Small Focus Areas and Connectors provide habitat for smaller animals and allow animals to travel between the Large and Medium Focus Areas.

Large Patches of Habitat

Mount Watitic is the only Large Focus Area identified in the Mass Audubon report that includes part of Ashby. The Ashby Wildlife Management Area controlled by the state Department

² Jeffrey Collins, *Focus Areas for Wildlife Habitat Protection in the Nashua River Watershed*. (Lincoln, MA: Massachusetts Audubon Society, 2000).

of Fish and Wildlife is part of this area, which is over 10,000 acres in total size and extends into Ashburnham. Medium Sized Focus areas include Willard Brook State Forest and the Wright Ponds. The report suggested that protection of wet meadows south of the Wright Ponds and upland stream buffers should be a high priority. Since the Report was published, some of these areas have been protected by a conservation restriction that also links them with Fitchburg Reservoir.

Among the priorities of 1999 Open Space Plan were assuring the protection of Mount Watatic by the state and pursuing the acquisition of Western Middlesex Stock Farm and Blood Hill to help connect Mount Watitic, the State Forest and the Fitchburg Reservoir. The Stock Farm was sold to another private owner, but the other two goals were achieved.

Corridors and Connectors

Small Focus Areas and Connectors identified in the Mass Audubon Report are Falulah Brook, Trapfall Brook, including the 50-acre wetland (which is also state-identified Estimated and Priority Habitat for rare species), and Pearl Hill Brook. The Report suggests that the Trapfall Brook wetland and its adjacent uplands should be a protection priority. The principal priority in the Pearl Hill Brook area between Willard State Forest and Fitchburg is to seek a conservation restriction from a country club that is not located in Ashby. The Report also highlights the importance of the Squannacook River, mentioning the headwaters, which include Locke and Trapfall Brooks in Ashby as “some of the most forested, least developed in the watershed, leaving the main Squannacook a cold, clean stream that is frequently cited as prime habitat for native brook trout, and listed species of dragonflies, mussels, reptiles, and amphibians.”³

Among the top priorities of the 1999 Ashby Open Space and Recreation Plan was to make progress in protecting habitat corridors between the Town’s large blocks of protected open space. The Town of Ashby, the Ashby Land Trust, the Town of Ashburnham, and the Ashburnham Land Trust cooperated with the state to ensure the protection of Mount Watitic. In addition the Town and the Ashby Land Trust raised funds to protect Blood Hill, which is part of a planned connection between Mount Watitic and the protected Fitchburg Reservoir lands. Although there were preliminary discussions about a conservation restriction with the Shackleton School, whose property abuts Blood Hill, the school is reluctant to preclude opportunities to expand in the future. Protection of parts of several large properties that lie between the Fitchburg Reservoir lands and Willard Brook State Park would advance creation of a corridor linking these large habitat areas: Camp Middlesex, Camp Lapham, and a large private farm. Several large, privately-owned properties are located between the state Department of Fish & Wildlife land in the northwest corner of Ashby and the Great Swamp, but there are no discussions at present to secure conservation restrictions.

Wetlands, Water Bodies and Waterways

³ *Ibid.*, p. 23.

Water resources are rich habitat areas and waterways and their adjacent areas function as wildlife corridors. All of Ashby's waters within the Squannacook and Falulah Brook subwatersheds of the Nashua River Watershed – that is, all waters except for the South Souhegan subwatershed of the Merrimack River in northwest Ashby – have been designated Outstanding Resource Waters by the state. This is a designation made as part of the Massachusetts Surface Water Quality Standards (314 CMR 4:00). Outstanding Resource Waters are defined as “determined by their outstanding socio-economic, recreational, ecological and/or aesthetic values.” (314 CMR 4:04(3)) and include public water supplies. The purpose of the designation is to regulate discharges that might degrade the quality of these waters.

The headwaters of the Squannacook River are Ashby's Trapfall and Willard Brooks – clean, cold streams supporting Native Eastern Brook Trout and stocked trout. In Ashby, the headwaters of Falulah Brook descend from Jewell and Blood Hills to Fitchburg Reservoir and Falulah Brook runs from the reservoir into Fitchburg. Acquisition of Blood Hill has permanently protected a significant portion of the headwaters.

Vernal Pools

Ashby has 11 certified vernal pools, which means they are protected under the state Wetlands Protection Act. Vernal pools are wet depressions in the land that, by definition, are flooded only part of the year. Many rare and valuable species depend on vernal pools. Lacking fish populations and common wetlands vegetation, they support unique wildlife communities that have adapted to wet and dry cycles. Like wetlands in general, protection of vernal pools must often extend beyond the area defined in law, for many amphibians that breed in the pools may move hundreds of yards away during the course of their life cycle. Protecting the pool itself and a 100' buffer is not enough to ensure the survival of creatures like the spotted salamander, for example. Each pool must be examined in its context to determine the appropriate buffer size and management techniques that will ensure the continued survival of its inhabitants.

State biologists have analyzed aerial photographs to identify potential vernal pool sites. In Ashby there are 50 to 60 potential vernal pools of a size (100 feet wide) to be identifiable from aerial photos. Field investigation of these areas is necessary to establish the presence of recognized indicator species. Many smaller pools that could not be identified in the aerial photographs might be revealed by field studies.

Areas of Critical Environmental Concern

An ACEC (Area of Critical Environmental Concern) is an area designated by the Secretary of Environmental Affairs because of the significance of its environmental resources. ACEC designation requires greater environmental review of certain kinds of proposed development that meets thresholds for state jurisdiction. The Squannassit ACEC includes 2,930 acres of eastern Ashby. This ACEC totaling 36,480 acres extends west from Groton to Ashby and from New Hampshire south to Ayer. The land is connected by the Squannacook, Nashua and

Nissitissit Rivers. The Squannassit encompasses habitat that supports rare and endangered species. It is also noteworthy for its water resources, its variety of eco-regions and its regionally significant corridors.

Estimated and Priority Habitat

Ashby has two areas that are both Estimated and Priority Habitat of Rare Species and only area designated only as Priority Habitat. Priority Habitat Areas show where the Natural Heritage & Endangered Species Program (NHESP) estimates the existence of habitat for state-listed rare species. These estimates are made on the basis of species population records, habitat requirements and landscape information. Priority habitats are not protected by law, but the rare species that may use these habitats are protected. Estimated Habitat areas are designated by the NHESP where state-listed rare species have been *documented* within the last 25 years in wetlands resources defined under the Wetlands Protection Act. Proponents of projects that come before the Conservation Commission that would affect this habitat must notify the NHESP which will then determine if alteration of the area would have an adverse effect on rare species. The two areas of combined Estimated and Priority Habitat in Ashby are around the Fitchburg Reservoir and the Great Meadow and its environs off Mason Road. In the far northwestern corner of Ashby on the slopes of Mount Watatic is an additional Priority Habitat area.

BioMap Core Habitat and Supporting Habitat

The NHESP developed the state BioMap to identify areas in Massachusetts where the biodiversity of the state is most in need of protection. The map focuses especially on state-listed rare species and on natural communities of plants and animals that exemplify the biodiversity of the state. The BioMap is divided into two categories: Core Habitat and Supporting Natural Landscape. Core Habitat shows the areas where rare species habitat and natural communities are most viable and likely to persist. These are the largest areas with a minimum of human intrusion and impact. Supporting Habitat provides buffers for Core Habitat, corridors and connections between Core Habitat areas, and undeveloped areas that provide habitat for common Massachusetts species.

In Ashby, four areas have been designated as Core Habitat on the BioMap:

- The area including Great Meadow, Trapfall Brook and adjacent areas between Foster Road and Turnpike Road.
- The wetlands and stream areas of Locke Brook and its tributaries between Locke Road and Heywood Road and continuing to the southeast between Davis and Wheeler Roads.
- The wetlands and drainage area of a Locke Brook tributary north of Davis Road on the southeastern slopes of Juniper Hill.
- The shores of the Fitchburg Reservoir.

With the exception of the lands around Fitchburg Reservoir, these areas are not protected except to the extent that wetlands and streams are protected by the Wetlands Protection Act and the Rivers Protection Act.

Perhaps as much as an additional 40 percent of Ashby land [percent to be calculated from map coverages] is identified as Supporting Natural Landscape on the BioMap:

- The northwest corner of town including the protected lands around Mount Watatic.
- The western part of town generally south of Whitney Road and east of Piper Road to the Fitchburg Reservoir and the border with Fitchburg, including most of the Fitchburg Water Department protected open space.
- South of Rindge and Scott Roads and then north and east of the Ashby Reservoir and South Road, and south and east of Route 119, including most of Willard Brook State Forest.
- Between Wheeler and Foster Roads and a portion of the adjacent area west of Route 31.

Rare Species

The NHESP keeps records of observations of rare species. The agency does not send staff to survey towns and depends to a great degree on observations submitted by the public or others. The fact that the most recent observation date is quite old in some cases does not mean that the species no longer exists. However, state wetlands and endangered species regulations only consider species with observation dates less than 25 years old when ruling on project reviews. Forms to report observations are available on the agency’s web site.

Taxonomic Group	Scientific Name	Common Name	State Rank	Federal Rank	Most Recent Observation
Fish	Notropis bifrenatus	Bridle Shiner	SC		1974
Reptile	Clemmys insculpta	Wood Turtle	SC		1993
Bird	Gavia immer	Common Loon	SC		2000
Dragonfly/Damselfly	Gomphus descriptus	Harpoon Clubtail	E		1940
Dragonfly/Damselfly	Ophiogomphus aspersus	Brook Snaketail	SC		1941
Vascular Plant	Scheuchzeria palustris	Pod-Grass	E		1882
Vascular Plant	Viola adunca	Sand Violet	E		1914

E = Endangered
T = Threatened
SC = Special Concern

The long-tailed or rock shrew (*Sorex dispar*), a species of Special Concern, is believed to inhabit parts of Mount Watatic, but the NHESP records do not indicate a confirmed report.

Environmental Challenges

Most of the environmental challenges that Ashby faces result from a growing potential to pollute surface and groundwater as the town changes. Individual property owners often do not notice the cumulative impacts of incremental housing development, year-round occupation of former vacation homes, an increasing horse population, and careless land management practices. Ashby continues to feel like a rural place, but the Town's natural resources are not infinitely resilient and many individual actions can together stress the environment significant. In addition to septic contamination mentioned earlier, erosion from logging and off-road vehicle use, pollution from road salt and unsafe disposal of hazardous materials such as motor oil can have damaging effects. On a different scale, the Ashby landfill must be monitored to ensure that polluted leachate does not contaminate surrounding wetlands and nearby Trapfall Brook. These wetlands and Trapfall Brook include some of the most important wildlife habitat in Ashby, and are located over an aquifer that supplies water to neighboring Townsend.

Open Space

Approximately 26 percent of Ashby's land area is permanently or temporarily protected open space. In addition, there are several important properties with open space interest that are owned by nonprofit organizations, as well as a large amount of land in natural vegetation belonging to residents.

Open Space Parcels	
Permanently Protected	Acres
Commonwealth of Massachusetts	2,095.20
City of Fitchburg	555.9
Town of Ashby	179.2
Conservation Restrictions (full parcel)	147.4
Conservation Restrictions (partial parcel) approx.	10
<i>Total</i>	<i>2,987.70</i>
Temporarily Protected	
Chapter 61	721.6
Chapter 61A	224.1
Chapter 61B	70.1
<i>Total</i>	<i>1,015.80</i>
Lands Owned by Non-Profits	
Camp Middlesex	75.2
Camp Lapham	88.61
Shackleton School	70
All Others	23.41
<i>Total</i>	<i>257.22</i>
<i>Source: Town of Ashby</i>	

Permanently Protected Lands

Almost 3,000 acres or 20% of Ashby is permanently protected open space. The Commonwealth owns more than 2,000 acres of permanently protected land in Ashby in Willard Brook State Park and the Ashby Wildlife Management Area. The City of Fitchburg owns 556 acres of water supply protection lands. The remainder is owned by the Town. In addition there are over 150 acres under Conservation Restrictions.

Temporarily Protected Lands and Working Landscapes

Few of Ashby's orchards and farms remain and none are the primary source of income for their owners. Tax abatements offered by the state for lands in forestry, agricultural or

recreational uses under the programs known as Chapter 61, 61A and 61B respectively provide for temporary protection of open space. If lands in these programs are put on the market, the town has the first right of refusal, and sale to private parties entails repayment of some of the taxes abated under the program. More than 1,000 acres in Ashby are enrolled in the Chapter 61 programs, 70 percent in the forestry program. There are 26 property owners in all the Chapter 61 programs and the largest holding by any one owner is 246 acres.

Haying and forestry are the main resource-based economic activities, though one orchard is identified among the Chapter 61A agricultural properties. Residents value these landscapes for their rural scenic value. Lyman Fields on South Road have been protected with a Conservation Restriction. Generational turnover, as farm and orchard operators retire, threatens many of Ashby's rural properties with subdivision and development. The Western Middlesex Stock Farm has pastures and barns with potential for a substantial equestrian center, but is not operated as such at present. It is not uncommon for residents with smaller properties to keep horses for private use. Other less scenic rural uses of land such as sand and gravel pits are also no longer in operation.

Existing and Potential Greenway Trails

Except for trails in Willard Brook State Forest and the Ashby Wildlife Management Area, no formal trail system exists in Ashby. Wapack Trail starts in Ashby at the foot of Mount Watitic and runs to the summit of North Pack Monadnock in Peterborough, NH. Some trails exist on old cart roads and logging roads. Many trails pass through private property, and private landowners reserve the right to restrict access to trails on their land.

Scenic Resources and Unique Environments

Ashby's nine hills provide scenic views – as far as Boston in the case of Blood Hill or Caton Hill. Mount Watatic is shared with residents of surrounding communities. Fields and old orchards at the Middlesex Stock Farm, the Perna property, and a handful of other old farms add variety to the predominantly forested landscape. The town's historic and cultural resources include stone bridges, Native American archeological sites, and the historic Town Center with its iconic village green, Grange Hall, churches and burial ground. Many large barns are thought to add to the rural character of the town and are honored in an annual barn tour hosted by the Historical Society.

B. Recommendations

Ashby has a formidable "green infrastructure" of natural communities, streams and ponds, and interconnected open space, not only in lands that are officially protected but in the private back lands of so many town residents. Because this rich environment seems so abundant, it is sometimes difficult for people to realize that it is not infinitely resilient. Both longtime residents and new arrivals can misjudge the extent to which their private actions and

land management practices can have damaging cumulative effects on the town's resources and scenic character. Ashby's opportunity today is to be foresighted and plan ahead to protect its most important resources. As development pressure becomes more intense, it is imperative that the town understand where the most critical resources are located, which lands need to be permanently protected as key elements of the network of green resources, and how to employ new strategies and tools to make sure that new growth is directed and shaped in ways that protect the town's green infrastructure. At the same time, residents must become more aware of how their own private land management practices can be improved to assure the continuing health of the town's environment. For a town like Ashby, this is not only an environmental imperative but an economic one. After the decline of traditional rural economies, nature-based recreation can offer new opportunities.

Plan to protect future drinking water supplies

Ashby has been able to continue to depend upon private wells for drinking water. The need for a public water supply is probably not imminent. However, the Town is not going to be able to preserve all open land and it will face new development pressures. As the Town establishes new policies and new zoning to protect open space and preserve rural character, it is important that the potential need for water resources be kept in mind. Despite the tradition of private wells in Ashby, the Town also has a tradition of thinking about water supply as a community – the town water pump on the common. Ashby should begin to take steps to understand its future drinking water supply as a community.

- *Seek assistance to monitor private well water quality and quantity by sponsoring free water testing days.* The Town could work with the Nashua River Watershed Association or state agencies to encourage residents to test their water. Keeping records of the results and of water supply problems, such as the location and number of wells running dry, will help residents begin to understand local water supplies better.
- *Create a multi-year plan to raise funds for a public water supply feasibility study.* The Town should approach a water supply study in the same way it would approach capital expenditures. It can research the necessary scope and likely cost of such a study, as well as the potential for state grants, and then plan to raise the money over several years to fund the project. The work should include mapping of aquifers as well as a study of the potential of using Ashby Reservoir for public water supply, particularly given the development and roads currently on its shores.

Protect water quality in streams and ponds

Ashby's streams are Outstanding Resource Waters because development is still limited and much of the land remains forested. To make sure that these streams remain "Outstanding," the Town and the Ashby Land Trust should seek conservation restrictions on sensitive upland buffer areas and provide information to landowners about best management practices around streams. This is particularly important for residents who keep horses or other livestock.

The Nashua River Watershed Association and the Trust for Public Land have developed a Source Water Stewardship Program that can provide assistance to Ashby in identifying lands most in need of protection for water quality and can provide organizational help and materials on best management practices.⁴

Protect lands that support biodiversity and wildlife habitat

- *Promote protection of areas identified as rare species habitat ad BioMap Core Habitat.* Except for wetlands and stream corridors, most of the land identified on the BioMap as Core Habitat is not permanently protected. The Town and/or the Ashby Land Trust should inform landowners about the special habitat value of their property and provide information on conservation restrictions and best management practices for those lands. The Land Trust should identify areas where conservation restrictions are most needed and approach landowners about donating or selling development rights in those areas. The Trust has approached some landowners in other parts of town to make them aware of land preservation options, but not in the Core Habitat area.
- *Promote identification and certification of vernal pools.* In many communities, vernal pool certification has become an activity for school science classes. Information and forms are available on the website of the state's Natural Heritage and Endangered Species Program. The Conservation Commission could work with the schools and with other community groups to promote certification of vernal pools.
- *Promote best management practices in BioMap Supporting Natural Landscape Areas.* Supporting Natural Landscape areas require appropriate management to keep their biodiversity value. State agencies and nonprofit organizations have materials on best practices to enhance the wildlife value of land that can be distributed to landowners along with information on the habitat value of their land.
- *Create protected corridors for wildlife.* Taking into account the areas that are identified as having special wildlife habitat value on Map 4: Land Use Suitability the Town and/or the Ashby Land Trust should pursue conservation restrictions on land that will create

⁴ See for example, "Nashua River Watershed Source Water Stewardship Exchange Team Report"(July 2003), available at http://www.nashuariverwatershed.org/releases/sws_rpt.html

protected corridors for wildlife, particularly corridors between existing large patches of protected open space, in upland areas along streams, and making connections to ponds.

Preserve rural scenic character as well as natural resources and habitat

- *Establish new zoning for residential development.* Ashby still has the opportunity to avoid suburbanization. If the town continues with its present regime of one and two-acre zoning, the suburban visual character that is already beginning to appear, as frontage lots are developed along the roads, will overtake much more of the town. This will be accompanied by increasing fragmentation of open space as roads, driveways, septic fields and lawns surround the new houses. In order to avoid this future, the town should establish conservation subdivision zoning. All development sites of at least 4 acres should be considered to require development that is sensitive to environmental and scenic resources, including wildlife corridors and impacts on water quality and quantity. By establishing conservation subdivision zoning as mandatory, by-right zoning for all residential development sites over 4 acres, development will be sited so that environmental and scenic resources will be preserved. More detailed information on conservation subdivision development is provided in the chapter on Housing in this plan.
- *Identify and designate scenic roads.* Scenic road designation requires a public hearing by the Planning Board before trees and stone walls within the right of way of a designated road can be demolished.

Identify options for nature-based recreation that coincide with natural resources priorities

In the survey that accompanied the 1999 Open Space Plan, Ashby residents expressed particular interest in more opportunities for nature-based recreation, such as hiking and cross-country skiing trails and public access to lakes and ponds. Although there are private trails used by hikers and equestrians, landowners are often reluctant to publicize trails, even if they are willing to allow responsible use by people “in the know.”

The Conservation Commission could create a Trails Committee to identify options within lands that have conservation restrictions, such as Blood Hill, and also to identify the potential for creating greenways with low-impact trails in the high-value habitat areas such as the Trapfall Brook area. Areas that have been identified by the state as having special habitat and open space value would be more likely to attract potential funding from outside sources. Because these would be low-impact trails, the most important cost would be in designing and laying out the

trails in the most sensitive manner. In many communities Boy Scouts have been very active in constructing trails and creating trail maps.

C. Natural Resources and Open Space Maps

Map 3: Existing Conditions: Natural Resources shows existing natural resources, particularly water and wildlife habitat resources, and protected open space.

Map 4: Land Use Suitability shows three categories of parcels according to existing zoning: built out parcels; vacant parcels that have been identified as developable or potentially developable by the assessor; and parcels that have a house or buildings on them, but include enough open land to be capable of subdivision. These parcels were then overlaid with protected environmental resources: permanently protected open space, wetlands, certified vernal pools, Fitchburg Reservoir buffer zones, and streams and ponds. Additional overlays show environmentally sensitive lands, some of which are subject to regulation under the Wetlands Protection Act or Rivers Protection Act and others which indicate areas that have been identified as especially important habitat areas. Implementation of the Recommendations should be guided by this map, which shows the areas where a concentration of natural resources should be the location of protection strategies.

Natural Resources and Open Space Action Plan			Priority H=High M=Medium L=Low	Time Line S= 2 yrs M= 2-5 yrs L=5+ yrs	Responsibility
Goal	Policy	Action			
Plan to protect future drinking water supplies	Monitor private well water quality and quantity	Sponsor free water testing days with assistance of NRWA or others and keep records of well problems	H	S-M	Board of Health
	Create a multi-year plan to raise funds for a public water supply feasibility study	Create a multi-year plan to raise funds for an aquifer mapping project	H	S-M	Board of Selectmen
		Study the potential of Ashby Reservoir for public water supply	M	M	Board of Selectmen
Protect water quality in streams and ponds	Protect upland buffer areas to streams and ponds	Identify and prioritize streams for upland protection	H	S	Conservation Commission (CC)
		Seek conservation restrictions and provide information on best practices	H	S-M	Ashby Land Trust
	Work with the Nashua River Watershed Assoc on the Source Water Stewardship Program	Designate a town resident to work with the NRWA	M	S	CC; Land Trust
Protect lands that support wildlife habitat and biodiversity	Promote protection of areas identified as rare species habitat and BioMap Core Habitat	Inform landowners of the special habitat value of their lands and provide information on conservation restrictions and best practices	H	S	CC, using available materials
	Promote identification and certification of vernal pools	Organize community organizations (schools, scouts, churches) to certify vernal pools	M	S-M	CC to contact community groups and provide information
	Promote best practices in BioMap Supporting Landscape Areas	Inform landowners of the special habitat value of their lands and provide information on best practices	M	S-M	CC, using available materials
Create protected corridors for wildlife	Give priority to conservation actions that link large open space and habitat areas	Identify and prioritize areas for conservation restrictions	M	S-M	CC: Land Trust

		Work with large landowners in identified corridor areas	M	S-L	Land Trust
Preserve rural scenic character as well as natural resources and habitat		Amend zoning to promote clustering of new housing with protection of priority open space and avoidance of homogeneous roadside development	H	S	Planning Board and Town Meeting
		Identify and designate scenic roads	M	M	Planning Board and Town Meeting
Provide more recreational opportunities for residents	Plan trail and greenway creation in light of natural resource priorities	Identify nature-based recreation options	M	M	CC – Open Space Committee; volunteers
		Create a Trails Subcommittee	M	M	CC
		Seek assistance from Boy Scouts and other groups	M	M	Trails Committee
Enhance public awareness about environmentally-sound private landscape practices	Make public education materials available to residents	Collect existing materials from government and nonprofit sources and make available in town hall, the library, at town meeting, at town activities, etc.	M	M	Conservation Commission; volunteers;
Collaborate with other municipalities and agencies to achieve regional integration of open space protection and recreational opportunities		Keep aware of regional open space activities through MRPC, NRWA, Land Trust Alliance and other contacts	Ongoing	Ongoing	CC; Land Trust