Planning for Change:
Growing a Greener Community

Ashland Open Space and Recreation Plan
March 2007

Town of Ashland, Massachusetts

This Open Space and Recreation Plan is dedicated
to all Ashland residents — past, present, and future.

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1 Plan Summary

Ashland residents care about the quality of life in their town and recognize the connection between the vitality of the community and the health of its environment. Rapid residential development is causing a loss of open space in Ashland requiring the town to be more proactive about planning to preserve its remaining green space. This 2007 Open Space and Recreation Plan outlines four broad goals to lead the town's efforts in ensuring a green future for town residents.

A. Preserve, protect, connect, and enhance Ashland's conservation and natural land resources.

Residents recognize that growth and development should not compromise the natural character and environmental quality of their community. The intent of the first goal is to protect lands for their natural resource and conservation qualities, increase the town's participation in protection of the local watershed, and advance more ecologically sound development practices as the town grows.

B. Provide, maintain, and improve diverse recreation opportunities that meet the needs of Ashland's growing population.

Ashland's active population appreciates the existing recreation amenities in town, but as the population grows, so will the demand for these facilities. Ashland needs more multi-purpose recreational facilities, an enhanced network of trails, and improved recreation amenities. Opportunities for residents to hike, play, exercise, or enjoy the outdoors should be easily accessible, diverse and kept in good order.

C. Preserve and improve the quality, character, and health of Ashland's community and environmental resources by remediating degraded lands, protecting com-

mon resources, and preserving the cultural heritage.

Open space preservation meets significant social and community needs of Ashland residents. Maintaining quality of life and the cultural character in town depends on strategic preservation efforts. Ashland can improve the environmental and cultural vigor of the community by preserving drinking water quality for Ashland residents, rehabilitating brownfields and degraded lands, and protecting sites of archeological and historical significance.

D. Build a strong constituency of open space and recreation advocates through education and collaborative partnerships.

Ashland can promote an appreciation of its existing open space, natural resources, and town character by teaching residents about the impact they have on the environment, the social and economic advantages of open space and recreation amenities, and what they can do as individuals and as members of the community to keep Ashland a great place to live.

Plan Foundation

This Open Space and Recreation Plan is a working document that provides Ashland with a comprehensive understanding of its open space and recreational resources. The Plan identifies opportunities and challenges facing the town as it works to meet the needs of a growing population, and outlines the necessary goals, objectives, and actions.

Through the process of creating this plan, the community established criteria that support local and regional goals. Central to the criteria are the following characteristics:

Natural and Conservation Lands

- Forest Lands
- Rivers and Streams
- Wetlands
- Rare Species Habitat
- Vernal Pools
- 1830s Forests
- Adjacent to Protected Open Space

Recreation Priorities

- Athletic Field Potential
- Trail Enhancement
- Underserved Areas

Lands of Community Interest

- Drinking Water Protection
- Brownfields
- Quarry Remediation
- Scenic Viewshed
- Unique Features

The criteria, along with environmental qualities, shaped the inventory of lands of open space and recreation interest. Priority lands identified through this inventory serve to enhance and connect the town's forests and parks with one another along river and stream corridors to create a healthy network of natural and open space for residents and wildlife. River and stream corridors are also critical to water quality and recreation.

The identified areas of focus include, but are not limited to, the following areas:

1. Indian Brook/Weston Nurseries
2. Ashland Fish and Game Club
3. United Church of Christ
4. Aggregate Industries Quarry
5. Warren Conference Center/Former 4H Club
6. Ashland High School
7. Route 126 Wetlands

Map 9, Five-Year Action Plan, illustrates these areas of focus.

This Open Space and Recreation Plan presents planning opportunities that are available currently. It establishes guidelines for government officials to consider as they make land use decisions.

2 Introduction

The Town of Ashland, led by the Open Space Committee with extensive collaboration and input from the community, other town committees, town officials, elected representatives and a graduate student team from the Conway School of Landscape Design, has created this Open Space and Recreation Plan (OSRP).

Statement of Purpose

The OSRP is an opportunity to protect open space, manage future land use, preserve the unique and historical character of the community, and manage aspects of growth and development that can profoundly affect the environment.

The importance of the OSRP to the town cannot be overstated. The OSRP will

- Help the town manage growth and development, while preserving, protecting and enhancing the environment
- Make recommendations regarding land use, the environment, historic preservation and development
- Serve as a public statement of the town's goals and as a blueprint to guide future policies and community efforts
- Help the town avoid costly development mistakes
- Assist the town in making land use decisions that keep the town affordable and do not stress the infrastructure and town services

The OSRP identifies the opportunities and challenges that Ashland faces in trying to meet its growing needs while outlining the goals, objectives and actions necessary to protect and enhance the town's open spaces and recreational amenities.

Technically, the OSRP is a way for the Town of Ashland to accomplish all of these goals. However, the OSRP is much more – it's a proactive way for the residents to safeguard those aspects of Ashland that are important to them. It's a proactive way

to protect the town's beautiful open spaces, native wildlife and vegetation, clean air, and valuable water resources. It's a way to preserve the town's historic buildings in their natural setting, the town's character and quality of life.

In the absence of planning, what is uniquely Ashland, the character of the town, the lifestyle of the residents, the quality of life and precious natural resources could be unintentionally or unknowingly altered or irreparably damaged in a short period of time, changing the future for the residents, their children and those who come after them.

We, the residents of Ashland, are responsible for protecting all the assets of the town. Our stewardship, while we live in town, will ultimately determine whether or not we collectively make Ashland a better place to live and leave it a better place for future generations. The OSRP will be our touchstone.

Planning Process and Public Participation

Ashland's Open Space Committee was established by the Ashland Board of Selectmen to foster conservation, recreation and open space planning in Ashland, and to provide opportunities for residents to enjoy the natural environment.

Ashland's population and residential infrastructure are growing rapidly. Subdivisions and condominiums are rapidly replacing woodlands and other open spaces. The OSRP was developed in response to the

The still waters of Ashland Reservoir offer a retreat from the hectic pace of everyday life.

environmental and developmental challenges facing the town.

The Open Space committee worked diligently on the OSRP and submitted a partial draft in June 2003 to the state's Executive Office of Environmental Affairs – Division of Conservation Services to demonstrate the town's commitment to the OSRP. However, the committee also continued to maintain trails, certify vernal pools, sponsor nature and archaeological walks, participate in community events to increase visibility (e.g., Riverfest, Earth Day, Ashland Day, Rediscover Ashland Day) and conducted public education activities regarding conservation land options, preservation of water resources, maintaining the Community Preservation Act surcharge, and the impact of the potential sale of Weston Nurseries land in Hopkinton on Ashland's sole source of drinking water.

As a result, the committee decided it needed assistance to complete the OSRP and engaged a graduate student team from the Conway School of Landscape Design with funding provided by the Community Preservation Act. The Conway team worked in collaboration with Ashland's Open Space Committee and involved hundreds of residents, facilitated public meetings, conducted an online survey, conducted research and analyzed data and GIS information to complete the OSRP.

Throughout the planning process, the Open Space Committee went to extraordinary efforts to engage and inform the residents of Ashland, elected officials, appointed committees and commissions, and town staff.

- The Open Space Committee created its own website to keep the public informed about the planning process, invite input and post all activities, including monthly meetings, public forums and surveys.
- Six public forums were conducted between December 2002 and June 2006 to solicit input from the public as the plan progressed.
- Two townwide Open Space and Recreation Surveys were conducted, including a special survey distributed to students in the Ashland public schools, a paper survey and an online survey to facilitate responses.
- A draft of the OSRP was prominently displayed at the public library for four weeks to solicit public comment.
- Members of the Open Space Committee made formal presentations at meetings of the Board of Selectmen, Planning Board, Conservation Commission, Comprehensive Plan Committee, and Town Meeting.
- Activities of the Open Space Committee regarding the OSRP were publicized in all local newspapers and on local cable access television as well as the annual Rediscover Ashland Day and Ashland Day celebrations.
- The Open Space Committee distributed email updates to individuals who signed up to receive them.

The public was truly involved in the creation of the OSRP and repeatedly demonstrated energy, excitement and commitment to its purpose.

3 Community Setting

Ashland is part of the bustling Metrowest region of eastern Massachusetts. The town is situated in southwestern Middlesex County, roughly halfway between Worcester and Boston. Five towns surround Ashland: Southborough and Framingham to the north, Sherborn to the east, Holliston to the south, and Hopkinton to the south and west. Compared to its neighbors, Ashland sits in the middle in terms of population and median household income, according to the Metropolitan Area Planning Council data from March 2004. The statistics that make Ashland stand out are associated with its recent growth.

Regional Context

The entire Metrowest region has been growing along major highways (Routes 90, 95, and 495) and smaller, but still busy state highways such as 9, 126, and 135. These and other roads, as well as the rails of the Massachusetts Bay Transportation Authority, allow people to move through the area. Ashland's proximity and access to surrounding metropolitan areas have made it an attractive location for a commuter population. However, as close as the town is to major urban areas, it still retains wooded hillsides, large tracts of open space, and open water bodies. These and other traits, such as a reputable public school system, have made Ashland a desirable place to live, according to two community surveys conducted during the preparation of this Plan.

Ashland is connected to the region as its history, natural lands, waters, economy, wildlife, pollution, and people cross municipal borders. By water alone, Ashland is connected to several dozen other cities and towns in Massachusetts. Most of Ashland is located within the SuAsCo Watershed. SuAsCo is a contraction of the names of the Sudbury, Assabet, and Concord Rivers, which play a shared role in the region (Map 3.1, Watersheds).

Locally the town is within six sub-drainages, those of the Upper Sudbury River, Indian Brook, Cold Spring Brook, Sudbury

Reservoir, Lake Cochituate, and Brackett Reservoir. The southeastern portion (less than one-half square mile) of Ashland is located within the headwaters (the upper reaches of a river system, near its source) of the Charles River Watershed (Map 3.2, Water Resources).

Other resource-based connections that cross the Ashland town line include the Hopkinton State Park, Hopkinton Reservoir, and Waushakum Pond. Ashland State Park, although completely within town, draws visitors from out of town. The Bay Circuit Trail traverses portions of Ashland and runs north and west into Framingham and Southborough and east into Sherborn. This trail and other broader green connections unite Ashland and its neighbors by providing recreational opportunities, natural resource protection and wildlife connections that traverse political boundaries.

Residents of Ashland are actively participating in planning for its future and that of the larger region. The town works with the Metropolitan Area Planning Council, as a member of its Metrowest Growth Management Committee. The general mission of the Metropolitan Area Planning Council is to enhance the quality of life and competitive advantage of the Boston metropolitan region economically, by providing a focus for action and developing sound responses to issues of regional significance.

History of the Community

According to the Ashland Historic Society, Ashland was incorporated as a town in 1846. Its 12.93 square miles were carved from pieces of Framingham, Holliston, and Hopkinton. However, settlements in this area have a much deeper history. Archaeological evidence taken from 21 known prehistoric sites reveals that the Ashland area has been occupied for nearly 8,000 years. Archeological evidence suggests the land was primarily a seasonal stopover point for Native Americans, the Nipmucks, during their yearly migrations to and from the coastal plains, although there is evidence of at least one permanent settlement, on Magunko Hill.

European settlement in the Ashland area started sometime after 1629, with the establishment of the Massachusetts Bay Colony. King Philip's War (1675-1676), a conflict between Natives and settlers, escalated to such a level that the early settlements of the area were abandoned. One such village was the Megunko Praying Village, a settlement of converted Native Americans established by John Eliot in 1659 as a "civil community" (Ashland Economic Development Plan, 2001).

The area's early history also had a connection to the Salem Witch Trials (1692-1693). Some accused witches were allowed to flee persecution to land owned by a judge in their trial. They and their families settled in the area in and around what is now Ashland Town Forest. Remnants of their

rock shelters are still evident in the forest and on private lands in western Ashland.

The Sudbury River and its tributaries, Cold Spring Brook and Indian Brook, have been an integral part of Ashland's history. Beginning in the 1700s, the rivers were the site of prosperous, hydro-powered mills. This industry became the nucleus around which business, mercantile, and community life were built. Saw and grist mills, an iron forge, a paper mill, and a printing company were among the early enterprises that harvested the waterpower of Ashland's rivers.

In 1834, 12 years before its incorporation, Unionville (Ashland's original name) was a productive marketplace. New railroads enabled the busy little town to transport its people and wares to Boston and beyond. The Boston and Worcester, the Hopkinton and Milford, and the Natick Street Railways all had service to and from Ashland. In 1846, under the guidance of civic leader James Jackson, industrial Unionville became the town of Ashland.

Dramatic changes started to take place in 1872, when Boston obtained the rights to divert Ashland's rivers to supply water for the city. The resulting impoundment of Indian and Cold Spring Brooks created the Hopkinton and Ashland Reservoirs. Boston seized or purchased nearly all business property along the rivers, and greatly limited further use of the rivers' waterpower. This caused a relocation of industry, infrastructure, and neighborhoods, and put an economic strain on the community.

The damming of the Sudbury and other rivers did not completely destroy the town's economic viability. In 1868, the Dwight Print Company built a complex of factory buildings, storehouses, blocks of row-houses, and retail outlets. However, the discovery that the company's business of cotton printing polluted the Sudbury River halted plans to expand the operation. In 1904, the Lombard Governor Company relocated to the Main Street mills. Eight years later, the company's owner, Henry Warren, invented the electric clock, marking Ashland as the birthplace of this ubiquitous instrument.

With Ashland's industrial growth came industrial pollution. In 1983, the U.S. Environmental Protection Agency's National Priority List of Superfund sites listed the Nyanza Chemical Waste Dump, a 35-acre site used for industry between 1917 and 1978. The listing was named for the Nyanza Chemical Company, which operated a dye manufacturing plant there from 1965 to 1978. Groundwater, soil, and sediments were contaminated with heavy metals and chlorinated organic compounds. The site cleanup is being addressed with the initial cleanup and four long-term stages focusing on source control and cleanup of the soil, off-site groundwater, wetlands and drainageways, and the Sudbury River. The remedies for source control and cleanup of the soil, wetlands, and drainageways have been found by the EPA to be "protective of human health and the environment, and in the interim, exposure pathways that could result in unacceptable risks are being controlled" (U.S. EPA). The remedy for off-site groundwater is expected to be suf-

ficiently protective of human health and the environment. Regarding the Sudbury River, the EPA re-posted the river in 1998 with signs warning against the consumption of contaminated fish and has not yet made a decision about remedial action (U.S. EPA). Approximately $47 million has been spent investigating and cleaning up Nyanza, and the EPA and Massachusetts Department of Environmental Protection perform ongoing monitoring, maintenance and review.

Population Characteristics

In more recent years, Ashland's rapid population growth and its impact on the overall landscape and community have been areas of concern for town residents and officials.

In 23 years, Ashland had a 69% increase in population, from 9,165 in 1980 to 15,462 residents in 2003. This once small town is now a booming suburban community. The latest projections (2005) by the Massachusetts Institute for Social and Economic Research for growth in Ashland have the population reaching 20,000 by 2025.

The Metropolitan Area Planning Council reports that while both the populations of the U.S. and Massachusetts have increased

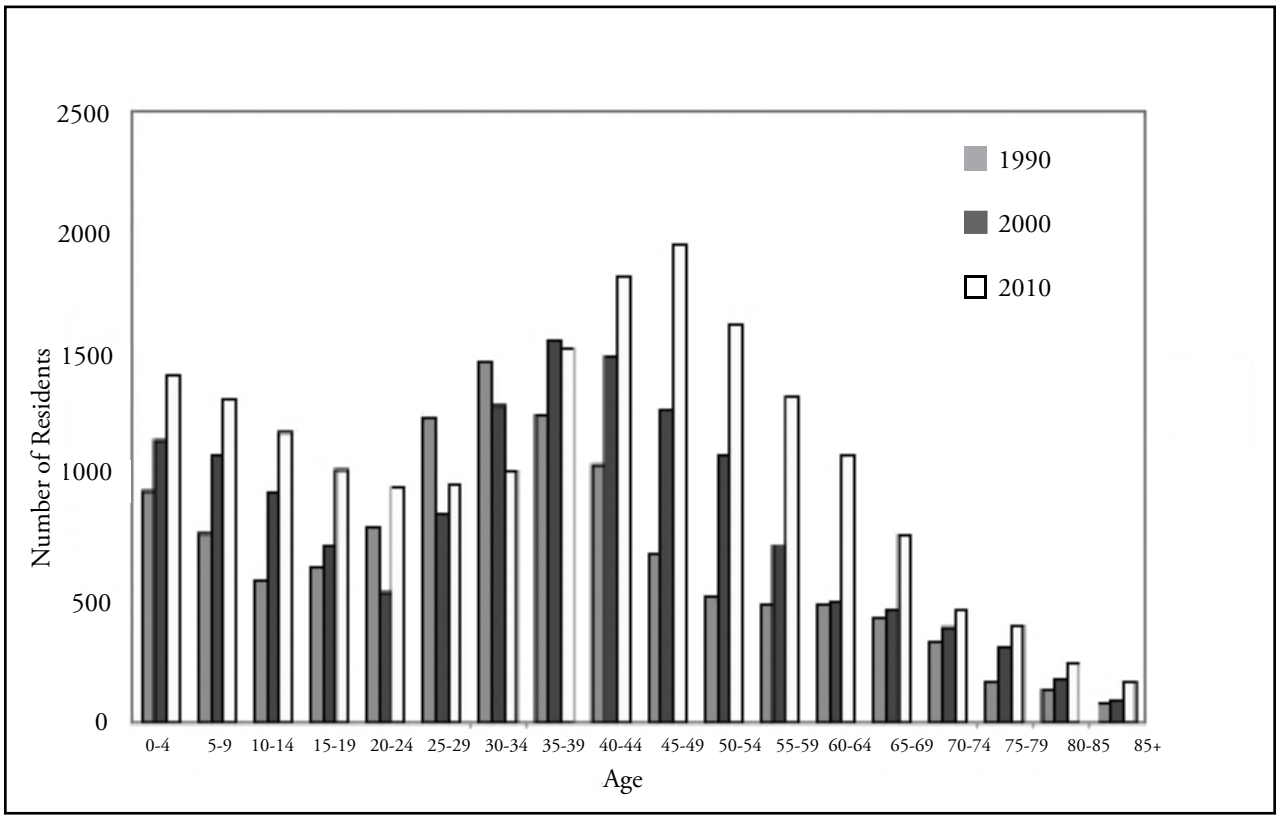

Figure 3.1 - Ashland's population is seeing growth in middle-aged adults and young children while Ashland's young adult population is declining. Source: MAPC

since the middle of the 20th century, Ashland's growth rate has greatly surpassed both. For example, between 1980 and 2000, the population increased by 24% across the U.S., 11% across Massachusetts, and 60% in Ashland.

The rate of population growth in Ashland has increased even more in the last 13 years. The largest population increase was in adults 45 to 54 years old, followed by seniors and youth (See Figure 3.1). The increases in older and younger populations mean that the town's recreational amenities must meet the needs of a growing number of users in different age brackets.

Ashland High School ranks 37th out of 288 high schools in the state, according to the U.S. Department of Education and the Massachusetts Department of Education test scores for 2005 and 2006 MCAS. Ashland's strong public school system has attracted many families and young couples hoping to raise their children in this community. The respected school system has seen an increase in enrollment of over 76% in the last 13 years (Ashland Public Schools, 2006.) This increase led Ashland to build a new high school. The number of senior-citizens residing in Ashland is also growing. An increase of 26% from 1990 to 2000 prompted Ashland to provide this segment with many services. Ashland has built a community center, which houses many senior activities and youth recreation programs. See Appendix E for additional Ashland demographic information.

The increase in population in Ashland has affected all aspects of the town. The historic town hall and public library were beautifully restored and expanded and the new high school and community center were built in response to the community's growth. Larger numbers also stretch Ashland's budget for public services and test the vitality of Ashland's open space and natural resources.

Since 1989, 35 subdivisions have been approved in Ashland. This building boom has developed over 800 acres of Ashland's open space. Likewise, commercial, light industry, and services have been built to better supply Ashland residents (Ashland Comprehensive Plan, 2003).

According to the Commonwealth of Massachusetts Executive Office of Environmental Affairs, as of 2000 there were a total of 1,653 acres at current zoning of developable land left in town. This land could accommodate 2,645 more residential units, adding 5,591 more residents to Ashland (Map 3.3, Development Patterns).

Ashland has a large population of commuters, with only 13.4% of residents working in town. According to the Ashland Economic Development Plan, the rest of the 6,782 workers identified in town are employed in the surrounding communities. Natick and Framingham employ over 30% of Ashland's commuters. Boston employs 12% of Ashland's residents. There are only a few major employers in Ashland, including two national grocery chains, the Town of Ashland itself (including the school system), and a fire-equipment manufacturer.

Extracurricular youth sports programs see a total of over 2,700 participants. The number of students who play multiple sports is not available. Ideally, a soccer/football field should undergo rest and rehabilitation for at least one year every 3-5 years, while a baseball/softball field should rest 1-2 days each week, according to youth sports coordinators. However, heavy demand results in nearly nonstop use of the recreation fields, which does not permit adequate time for field maintenance, rest, and rehabilitation. In multiple sports, a lack of available fields has forced, or might soon force, coordinators to reduce the number of home games.

Many current playing fields are not on town-owned land but are owned by private individuals and are not protected from future development. At the same time, residents do not feel responsible for paying additional costs for recreation facilities. In the 2003 and 2006 surveys, fewer than half of the respondents said they were willing to pay for better recreation facilities (see Appendix A.) However, as youth sports participation numbers increase, overuse of the fields might cause their usability to deteriorate. If this occurs, residents will have to choose between paying more for amenities and accepting lower-quality recreational facilities.

Growth and Development Patterns

Patterns and Trends

The first known permanent settlement in Ashland was the Native American community on Magunko Hill, near the Sudbury River and current downtown. With time, this settlement grew from a small village dotted with wigwams and individual gardens to a European frontier village with houses, streets and larger farms. A massacre in Framingham in the mid-1600s led to the expulsion of all Native Americans from Magunko late in that century. By 1710, the land had been deeded to various white settlers. This second wave of pioneers constructed large homes and erected mills along the Sudbury River.

News of the river's waterpower attracted additional commercial and industrial enterprises. Known as Unionville, the village grew from the area of Magunko east towards the area that is now downtown. Settlement during this time period extended from current downtown and across the floodplains of the Sudbury River.

From its incorporation in 1846 until now, Ashland has grown steadily, with development primarily concentrated around the downtown core and the Sudbury River. These areas were the flattest and easiest to develop. Even after the damming of Indian and Cold Spring Brooks, industrial businesses, such as the Dwight Paper Company, survived along the Sudbury River for a number of years. However, the loss of hydropower caused a shift in Ashland's industry. Production moved away from milling and light manufacturing to chemical and dye manufacturing. Another major change occurred in the 1960s when the town's character changed from that of a New England mill town to that of a commuter

suburb of the Boston metropolitan region. Ashland became a place where people lived, but did not work.

The 1962 Master Plan reflected the image of Ashland as an industrial town. The plan zoned the entire length of Route 126 as a commercial corridor. It also added to the existing industrial zoning in the town center and along Pleasant Street. The 1962 plan also envisioned extensive single-family lots across the entire town. However, by 1972 the zoning for the Route 126 corridor had been changed to include multi-family as well as commercial zones. The 1972 Master Plan also called for extending sewer service through as much of town as possible. This residential shift continued with the 1988 Master Plan recommending that industrial zones not be expanded. Residential areas surrounded most of the existing industrial areas and town planners acknowledged that expansion of the industrial zones could cause conflicts. The 1988 Master Plan recognized for the first time that Ashland was no longer a "blank slate" and new growth and development had to work within the existing land development patterns.

Today, growth in the once-commercial Route 126 and Eliot Street intersection area consists of multi-family units. These units expand out from the Route 126 corridor and into the surrounding uplands. Current residential developments in Ashland include the area next to the Wildwood Cemetery area, Cedar Street, west of Megunko Hill, and the western border of town, north of the Sudbury River. In many of these areas, multi-family units are being built, though the numbers of single-family units have increased as well. Current zoning is primarily residential, with approximately 84% of the town zoned as such. Zoning districts in Ashland consist of four categories of commercial, one industrial, three residential and one mixed use. Ashland also has a rail transportation overlay district and a quarry remediation district (Map 3.4, Zoning).

Infrastructure

Ashland is served by a road network of over 80 miles, which connect the community with neighboring cities and towns. Interstate 90 (the Massachusetts Turnpike) cuts through the northwestern corner of town, with the closest exit located in Framingham. Route 135 traverses Ashland from the northeast to the southwest. Route 126 parallels Ashland's eastern border and runs north-south. These two routes are major vehicular arteries for the residents of the region. Smaller, local roads crisscross the town and make connections between the state highways.

Ashland is also served by commuter rail trains and local buses. The LIFT program of Framingham runs daily bus service in Ashland, Framingham, Hopkinton, Holliston, Marlborough, Milford and Natick. The Massachusetts Bay Transportation Authority's (MBTA) Worcester-Boston rail line includes a handicap-accessible Ashland station that opened in 2002. The station provides 678 parking spaces plus bicycle parking. From Boston, commuters and travelers can access Boston's local subway and bus service, as well as

regional, national and international bus, rail, air and sea transportation services.

Ashland has sidewalks in many parts of town and well marked hiking trails throughout the Town Forest and two state parks. A regional connector, the Bay Circuit Trail, enters Ashland through a large wetland network on its eastern border. It continues on through Ashland, passing many of the town's unique features, including Mill Pond Park and the Town Forest. The Bay Circuit Trail continues over Interstate 90 on Oak Street and then leads into Southborough and Framingham to the north.

Ashland State Park maintains a multi-use trail that circles the Ashland Reservoir. This trail connects to a maintained network of hiking and cross-country skiing trails at the adjacent Warren Conference Center. Other maintained trails include two that provide access to the Hopkinton State Park, one from High Street and the other from the western border of town. Additionally Ashland has a network of informal trails that connect many of the existing neighborhoods and green spaces within and out of town. As the town continues to grow, trail systems will continue to be used and as more open land is developed, chances to expand trail networks will diminish.

Ashland's public water supply is drawn from wells fed by underground aquifers beneath the Hopkinton and Ashland Reservoirs. The well field and water treatment facility adjacent to the Hopkinton Reservoir and the wellhead near Ashland Reservoir have designated Public Wellhead Protection Areas around them to provide protection (see Map 3.5, Water Infrastructure). Because the water comes from the aquifer, not the reservoir, the Public Wellhead Protection Area is smaller than desired. All of Ashland's and a smaller percentage of Hopkinton's public drinking water is pumped from the Hopkinton Reservoir facility.

Municipal sewer service is provided for over 60% of Ashland, with a goal to have 80% serviced in the future (Map 3.6, Sewer Infrastructure). Ashland is indirectly connected to the Massachusetts Water Resource Authority's (MWRA) sewage treatment and disposal service, through Framingham. The MWRA system was overhauled in the 1990s. The multibillion dollar renovation greatly increased the sewage treatment capacity of the Authority.

Long-Term Development Patterns

The 2003 Ashland Comprehensive Plan recommends the infill of the commercial and industrial zones around town. The Plan designates specific development districts where more industry and commercial activity will be encouraged. In addition to making these recommendations, the Comprehensive Plan proposes the transfer of development rights to allow for concentrated development in selected areas in exchange for more meaningful open space in others. These plans and tools for guiding current and future development encourage reusing and expanding the permitted uses of the town's existing built infrastructure (Maps 3.5 and 3.6), instead of

having new building encroach on the town's shrinking green spaces.

Most new development in Ashland is residential and construction sites are scattered throughout town. Extensive residential zoning and water and sewer service make this development easier. This growth continues to use the existing unprotected open space in Ashland. As new neighborhoods are developed, few recreational amenities such as trails or parks are concurrently being created to meet the needs of the growing neighborhoods and town.

4 Inventory and Analysis

The landscape of Ashland is defined by its natural character and aesthetic amenities. This section inventories the plants, animals, reservoirs, and rocks, as well as underlying challenges to their health.

Geology, Soils, and Topography

Geology

Ashland's bedrock is primarily Milford granite, an economic asset that has also posed challenges for development and growth of the town. Other bedrock constituents include Hornblende gabbro, Westborough quartzite, and Paleozoic to Precambrian mixed rocks (Map 4.1, Bedrock Geology).

Some areas of town have shallow bedrock, which provides an excellent foundation-bearing material for the construction of new buildings, but adds significantly to the cost of building new homes and installing modern underground utilities and septic systems.

Historically, small quarries throughout Ashland produced cut granite for architectural use. In the 1870s, stone quarried from the south flank of Wildcat Hill in the Town Forest was used to construct the many now-historic buildings in town, including the Dwight Print Company on the Sudbury River and the downtown train station (currently used as a medical office).

Ashland's quarry operations evolved from cut granite to sand and gravel, crushed rock, and road base aggregate. A former quarry next to Wildwood Cemetery is being redeveloped as a mixed-use community.

In the southern corner of town, Ashland's last active quarry, operated by Aggregate Industries, harvests hornblende gabbro bedrock for use as an asphalt aggregate. It is expected that this operation will draw to a close in the next 20 years. Aggregate Industries has agreed to deed the quarry to the town when operations cease. The lake that will form in the quarry will be used as an open space and recreational amenity for the town.

Soils and Surficial Geology

The surficial geology of Ashland is composed primarily of glacial till and stratified drift with scattered swamp deposits. The town of Ashland first developed on the stratified drift along the rivers and streams in town due to its proximity to water power and easy buildability. The town has since grown into the hills, built atop often shallow glacial till. Many small wetlands throughout town remain undeveloped, leaving isolated pockets of natural spaces (Map 4.2, Surficial Geology).

Soils along the Sudbury River and other waterways, including those beneath Ashland's downtown, are composed of a stratified drift, a layered material composed of fine to coarse sand and gravel. These materials were laid down by the streams and transient lakes of melting glaciers.

Stratified drift supports structural foundations, is easily excavated, is a good source of aggregates for construction and septic systems, and provides excellent drainage. These deposits also tend to produce high-yield wells with good water quality. However, high permeability of these deposits can allow for contamination of groundwater when over permeable aquifers where pollutants have infiltrated the soils (MassGIS).

Ashland's upland areas are covered in thin glacial till over bedrock, with occasional rock outcrops. The till is 20 feet deep at most. Glacial till is a loose to very compact mixture of sand, silt, clay, pebbles, cobbles, and boulders. Till typically has a low permeability to groundwater flow and may drain poorly.

Till provides a good foundation for building, but requires heavy hydraulic equipment to excavate. While till is capable of holding relatively steep slope cuts, which has benefits for development, the presence of boulders in the till can add significant costs to grading and excavating. Potentially poor drainage can restrict on-site septic or stormwater infiltration.

Ashland has small pockets of wetlands in lowland areas and on the banks of streams and ponds. Swamp-deposited soils have high organic and moisture contents. Dark peat and silts are mixed with organic matter in a typically wet and decomposed state. These areas provide floodwater storage and infiltration as well as wildlife habitat. Due to their instability and saturation, these soils are unsuitable for development (see Map 4.3, Soil Limitations.) Development near these areas should be carefully reviewed to avoid negative effects on the wetlands hydrology. The 1999 Ashland Wetlands Protection Bylaw prohibits building within 25 feet of

delineated wetlands and the Massachusetts Wetlands Protection Act affords special review of projects occurring within 100 feet of their boundary.

Topography

Wildcat Hill, Ashland's highest point at 436 feet above sea level, is within the Town Forest. The land generally slopes across town to the east, down to Waushakum Pond (157 feet above sea level). The landscape is characterized by rolling hills with occasional rocky outcrops. There are a few relatively level areas, such as where Cold Spring Brook meets the Sudbury River downtown. These level areas, with their sandy soils, have attracted heavier development due to the ease of building.

Forested wetlands, shrub swamps, and marshes are scattered throughout Ashland. One very large wetland system, over 200 acres in size, is bisected by Pond Street (Route 126) in the eastern part of town. These wetlands provide undisturbed habitat for wildlife and are essential for water storage and filtration.

Landscape Character

Ashland is a town with historic New England character that is facing a rapid transition into the 21st century. Nearly half of the land in town is forested while another third of the land cover is urban or suburban. The forested slopes are giving way to development.

Ashland is within the Southern New England Coastal Forest ecoregion, a primarily deciduous forest starting in eastern Massachusetts and extending south into Connecticut. Ashland's forests have a canopy dominated by red oak. Patches of red maple forests also occur, particularly in low-lying wetland areas.

Ashland's hills were logged by European settlers into the mid 1800s. The resulting second-growth forests are characterized by closely spaced trees that are tall, straight, and roughly a century old. However, some areas of town have likely been forested for over a century and a half, as indicated by comparing maps of Ashland in 1830 with modern forest cover. Such forests can be home to less common plants and animals due to the lack of disturbance (Map 4.4, Forest Opportunities).

Typical of this region, Ashland's forests have been fragmented by development. The town is fortunate to have a preserved town forest in excess of 500 acres and two state parks, each with over 300 acres of protected land.

Water bodies and waterways are a central part of the town's landscape character. The Sudbury River flows through the center of town through Mill Pond and into the Brackett Reservoir. The water of Mill Pond spills over a dam next to Myrtle Street. In contrast to this cascade of water, the expanse of still water of the Ashland and Hopkinton Reservoirs grace the south and southwest edges of town. These reservoirs are the century-old impoundments of Indian and

Cold Spring Brooks. Located within state parks, the reservoirs are each larger than 150 acres. They afford town residents excellent views and recreation opportunities, such as boating and fishing.

Another significant component of Ashland's landscape is its wetlands. Over 650 acres of wetlands are scattered throughout the town. Most of these are wooded swamps of deciduous trees, but shrub swamps and marshes are present as well. In the eastern section of town, Route 126 bisects a 200-plus acre wetland complex whose natural character appeals to users of the Bay Circuit Trail. Ashland has eight certified vernal pools.

Ashland's forested hills play a significant role in defining the town. Views toward and from hilltops contribute to the beauty of the town. Wildcat Hill in the Town Forest, Pine Hill nearby, and Megunko Hill frame Ashland's downtown, and offer views to more distant landscapes.

The forested landscape of Ashland is accented by a few significant open meadows. The open fields at Northeastern University's Conference Center and the former 4H property along Chestnut Street provide open views to Ashland State Park and the surrounding woods. These areas are used by residents for cross-country skiing, hiking, and bird watching. Residents also appreciate views of Yesteryear Farm and the marsh along the Sudbury River (Map 4.5, Unique Features).

Beyond natural lands, Ashland's landscape is characterized by its largely single-family suburban homes on relatively small lots. The downtown core is walkable and of human scale, with traditional architecture, contributing to Ashland's small-town feel. New subdivisions and condominiums in town are changing the traditional look of Ashland. Single-family homes are clustered and close together on subdivided lots while condominiums in town are beginning to fill in former industrial or commercial corridors.

Water Resources

Water quality was noted as a major concern for the citizens of Ashland in both the 2003 and 2006 Open Space and Recreation Surveys (see Appendix A). Within the town are municipal and private wells, three reservoirs, ponds, the Sudbury River and its tributaries, other streams, wetlands, and eight certified vernal pools. Recreational opportunities such as boating, swimming, fishing, and hiking exist on and around many of Ashland's surface waters. Protected lands around water bodies are of value for the recreational opportunities, natural resource protection and wildlife habitat they provide.

Watersheds

Ashland is located in two watersheds, the Charles River Watershed and the SuAsCo Watershed. The majority of streams and brooks in town drain into the Sudbury River. Only the far southeastern corner of town drains to the Charles. These watershed

The Sudbury River draws Ashland residents to its banks for recreation, wildlife viewing, and relaxation.

connections link Ashland with the larger region. Issues such as water quality and pollution surrounding these rivers affect other communities downstream. The SuAsCo Watershed drains 36 towns and approximately 377 square miles. The Charles River watershed includes 35 towns with a drainage area of 308 square miles (Map 3.1).

Surface Waters

There are 583 acres of surface water in the town's lakes and reservoirs, as well as 12.2 miles of rivers and streams. There are an additional 16.8 miles of intermittent streams and brooks. Together, these water bodies account for roughly 4% of Ashland's total surface area (Map 3.2).

Hopkinton Reservoir

Hopkinton Reservoir is located within Hopkinton State Park. The reservoir covers 176 acres with an average depth of 22 feet and maximum depth of 53 feet. The Massachusetts Division of Fisheries and Wildlife indicates that transparency is good at 11 feet. Aquatic vegetation is sparse, except for the area of the inlet cove. The floor of the reservoir is sprinkled with piles of boulders. Due to organic enrichment, a low dissolved oxygen level, and nuisance exotic species, the reservoir was listed as an "impaired water" in 1998 by the U.S. Environmental Protection Agency (Mass. DFW, 2002.)

Access, parking, and a boat ramp are located on the northern shore of the reservoir, through the state park entrance on Route 85 in Hopkinton. Boating use is limited to electric or paddle-powered craft. Fishing is a popular activity, especially in the spring. MassWildlife regularly stocks the reservoir with trout. Scenic views and hiking opportunities are abundant around the reservoir and in the park. Other recreational opportunities include mountain biking, horseback riding, and picnicking.

Ashland Reservoir

This 155-acre reservoir is located within Ashland State Park, one mile south of the town center. Light penetrates to a depth of nine feet. The average depth is 23 feet but some areas are deep as 47 feet. There is little vegetation in the main basin of the reservoir. Its bottom is covered with rock, rubble and clay. The predominant aquatic plants, consisting mainly of water lily and coontail, grow in shallower coves along the shoreline (Mass. DFW, 2002).

Recreational opportunities on the reservoir and in the surrounding state park include swimming, picnicking, hiking, boating, cross-country skiing, and fishing. MassWildlife stocks the reservoir with trout twice a year. Fishing is a particularly popular activity from May through July. Parking and a boat ramp can be accessed through the state park entrance on Route 135. A second access point with a boat ramp is at the southern tip of the reservoir, off Spring Street.

Brackett Reservoir

This 134-acre reservoir, also known as Framingham Reservoir 2, has no public access. It was dammed in 1878 and has a maximum depth of 20 feet. Brackett has not been used as a water supply since 1930. In the 1970s, mercury from the Nyanza chemical and dye plant was found to have settled in the sediments of the reservoir. Despite an EPA-administered cleanup of the Nyanza Superfund site, the Brackett remains unusable for public water supply. The state Department of Conservation and Recreation prohibits use of the land it owns adjacent to the reservoir (U.S. Environmental Protection Agency 1983 and Mass. DFW 2002).

Sudbury River

The 6.3-mile-long section of the Sudbury River that winds through Ashland is a prominent feature of the town's landscape. It is appreciated for its natural and

Organized River Walks , organized by the Ashland Open Space Committee, teach residents about the value of a clean watershed.

scenic value. It flows through both Mill Pond and Brackett Reservoir.

Mercury and other heavy metals, likely from the Nyanza Superfund site, have contaminated sediments and fish in the lower 4.5-mile segment of the river. The U.S. Environmental Protection Agency listed the Sudbury as "impaired waters" due to this contamination and has warned against consuming fish caught from the river. The EPA is studying samples from a 26-mile portion of the Sudbury River (most of which is downstream from Ashland) to analyze the potential risk to human health and to the ecosystem. EPA plans to propose a final cleanup plan for the Sudbury River in 2007 (U.S. EPA, 2006).

Although contaminated, the river supports plant and animal life, including button-bush, water lilies, grasses, and 12 species of fish. The invasive exotic water chestnut has been identified in the river as well. The Sudbury also provides wildlife habitat for rare and endangered species.

Indian Brook

This stream flows from the outlet at the Hopkinton Reservoir Dam to its confluence with the Sudbury River. Indian Brook is 1.7 miles long, has an average depth of one to three feet. According to the SuAsCo Watershed Community Council, within the brook's eight-square-mile watershed, 66% of the land is forested, 15% consists of residential developments and 7% is open land. The closed Ashland Landfill on Howe Street is located within the watershed. In 2002, the Department of Environmental Protection assessed the waters of the Brook to be "impaired due to unknown causes."

Indian Brook is an aesthetic and recreational amenity. Scenic landscapes around the river were noted as favorite places of residents at the open space and recreation public forum held on January 28, 2006. At the brook's source below the reservoir, the Department of Conservation and Recreation operates a seasonal swimming pond. Water from the reservoir flows into the pond before it is allowed to flow to the Sudbury River.

Cold Spring Brook

This perennial stream flows north from Hopkinton into the Ashland Reservoir and eventually reaches the Sudbury River at Chestnut Street. When flowing, depths average one to two feet. Although smaller than other water bodies in town, the Brook is valued for its aesthetic and ecological significance.

Mill Pond

The Sudbury River was dammed near downtown, forming what is now Mill Pond. This location near downtown has made the pond and the land surrounding it a well-known and well-used recreational and scenic amenity. Residents appreciate the views of the waterfalls, the pond's ease of access, and boating, fishing, and walking opportunities.

Waushakum Pond

This 82-acre pond is located on the border of Ashland and Framingham. Waushakum Brook is the greatest inflow source of water to the Pond. The north-eastern portion of the Pond is the deepest, reaching a maximum depth of 47 feet. Fifteen years ago, the maximum depth of this area was 52 feet. This change is due to ongoing sedimentation (Mass. DFW, 2002).

In addition to sedimentation, the Department of Conservation and Recreation has expressed concern for the rising levels of nitrogen and phosphorous present in water samples. Raised nutrient levels cause increases in a water body's plant growth and algal blooms. The increase in vegetation and bacteria can essentially choke out all other life in the pond, an effect known as *eutrophication*.

Drinking Water

The 2003 and 2006 surveys conducted for this Plan indicated that residents are very concerned about the quality of their drinking water. Municipal wells and a water treatment plant located on Howe Street, adjacent to the Hopkinton Reservoir, supply more than 95% of the town's drinking water.

A second well field, located near the Aggregate Industries quarry, is not currently in use and would be costly to connect to the Howe Street water treatment plant. The supplying aquifer's zones of contribution, areas surrounding a well that supply it with groundwater, have not been mapped.

Flood Hazard Areas

Low-lying areas of Ashland are subject to periodic flooding caused by the overflow of the Sudbury River and Cold Spring Brook. Damage to industries and residences has occurred within the Sudbury River floodplain several times in the past century. Significant floods occurred in 1927, 1936, 1938, 1955, and 1968. Ashland Reservoir serves to moderate the flood flows of the lower portions of Cold Spring Brook. The town protects these areas through enforcement of the Massachusetts Wetlands Protection Act and the Massachusetts Rivers Protection Act, as well as through zoning bylaws that limit building and rebuilding of structures within the 100-year floodplain (Map 4.11, Flood Hazard Zones).

Wetlands

Approximately 650 acres of wetlands are scattered throughout Ashland's low-lying areas. Most of these wetlands are a mix of red maple swamps and shrub swamps, two of the most common types of wetlands in eastern Massachusetts. Most of these environments are found along the town's rivers and streams. Forests around town are also speckled with poorly drained pockets of land. Ashland's largest contiguous area of wetlands is the 200-plus acre Guinea Meadow Swamp, or Route 126 wetland, located in the eastern portion of town (Map 4.6, Wetlands).

Residents recognize the ecological significance of their wetlands. Such environments serve to filter stormwater from the

built environment and provide natural flood control areas. Healthy wetlands help keep water clean, provide wildlife habitat, and can serve as a recreational amenity when managed properly. Opportunities for hiking and viewing wildlife exist on the portion of the Bay Circuit Trail that passes through town and on numerous informal trails.

Vegetation

Forests and wetlands cover over half of Ashland's landscape. They are an integral part of the town's character. As with much of the state in the 19th century, a large portion of the Ashland area was cleared of most trees, and the land was used for agriculture. However, several areas of town appear to have been continuously forested since at least 1830, as indicated by historic maps. As settlers found the local soils to be poor for farming, Ashland's agricultural lands were abandoned. A few orchards managed to survive. However, most began to reforest through the process of natural succession. During the 1800s, forests reestablished themselves over much of the state, and in Ashland, forests now hide the old stone walls of former agrarian use.

Residents of Ashland identified the need to better protect and preserve more areas of open space in the town in both the 2003 and 2006 Open Space and Recreation Surveys and 2003 Comprehensive Plan. These areas are valued for the recreational opportunities they provide, such as hiking, fishing, boating, dog walking, and observing wildlife. Such areas are important for their wildlife habitat, scenic, natural and aesthetic values. They also provide town residents with relief from the built environment.

Forests

The forests of Ashland are of two main categories, natural and suburban. Although 32% of the town is residentially developed, trees, shrubs and grasses characterize the yards of most property owners. Landscaping in town includes a variety of species, both native and exotic. Sixty-two percent of Ashland is classified as having different types of suburban forest canopy. Twenty-eight percent of those forests are oak dominant. Another 17% are red maple dominated. These two major forests types are located throughout town in several large and many smaller parcels (Map 4.7, Land Cover).

There are large, contiguous oak-dominated forests that are publicly owned and protected in the Ashland Town Forest (524 acres), Hopkinton State Park (424 acres), and Ashland State Park (608 acres). These forests are typical in eastern Massachusetts. The plant communities of these woodlands typically consist of the species found on tables on the next page. (Mass. DFW, 2001).

Forest Canopy Trees	
Common Name	Scientific Name
Red Oak	Quercus rubra
White Pine	Pinus strobus
Hemlock	Tsuga canadensis
American Beech	Fagus grandifolia
Elm	Ulmus spp.
Black Cherry	Prunus serrula
Hickory	Carya spp.
White Ash	Fraxinus americana
Red Maple	Acer rubrum
Birches	Betula spp.

Forest Understory	
Common Name	Scientific Name
Mix of saplings of the canopy layer trees	
Witch Hazel	Hamamelis virginiana
Low-Bush Blueberry	Vaccinium angustifolium
Huckleberry	Gaylussacia brachycera
Sheep Laurel	Kalmia angustifolia
Dogwood	Cornus spp.
American Hazelnut	Corylus americana

Forest Ground Layer	
Common Name	Scientific Name
Partridgeberry	Mitchella repens
Princess Pine	Lycopodium spp.
Wild Sarsaparilla	Aralia nudicaulis
Hay-Scented Fern	Dennstaedtia punctiloba
Bracken Fern	Pteridium aquilinum
Wild Strawberry	Fragaria virginiana
Lily of the Valley	Convallaria majalis

Wetland Vegetation

Ashland's wetlands consist mainly of forested red maple swamps and shrub swamps. They are located throughout the town and are of highest concentration along rivers and streams. The largest contiguous area of wetlands (200+ acres) in town is located along Route 126.

Red maple swamps are the most common forested wetlands in Massachusetts. Such swamps, depending on their physical setting, receive water through surface runoff, groundwater inputs or stream and lake overflow. The hydro-geologic setting is the primary determinant of the water regime and the plant community structure and composition. These wetlands are home to

Red Maple Swamp Canopy	
Common Name	Scientific Name
Red Maple (Up to 90%)	Acer rubrum
Black Gum	Nyssa sylvatica
Ash	Fraxinus spp.
Swamp White Oak	Quercus bicolor
Hemlock	Tsuga canadensis

Red Maple Swamp Understory	
Common Name	Scientific Name
Sweet Pepper Bush	Clethra alnifolia
Swamp Azalea	Rhododendron viscosum
Winterberry	Ilex verticillata
Spicebush	Lindera benzoin
Speckled Alder	Alnus incana
Northern Arrow-wood	Viburnum dentatum
High-bush Blueberry	Vaccinium corymbosum

Red Maple Swamp Ground Layer	
Common Name	Scientific Name
Oak Fern	Gymnocarpium dryopteris
Fragile Fern	Cystopteris fragilis
Bulblet Fern	Cystopteris bulbifera
Mountain Woodfern	Dryopteris campyloptera
Maidenhair Spleenwort	Asplenium trichomanes
Massachusetts Fern	Thelypteris simulata
Skunk Cabbage	Symplocarpus foetidus

numerous plant and animal species. Under the right conditions, vernal pools, an important breeding habitat for amphibians, can form. The hydrology of red maple swamps in Ashland faces threats from nearby development and road runoff.

Shrub swamps are common and widespread throughout Massachusetts. They typically occur in low-lying, flat areas or depressions where the water table is characteristically at or above the soil surface, at pond edges, and along rivers and streams. These wetlands are also often found in the transition zone between emergent marshes and swamp forests. Soils are composed mainly of well-decomposed, permanently saturated, organic matter. Development threatens to bring physical and hydrological changes to shrub swamps. Invasion by purple loosestrife (Lythrum salicaria) is also a potential threat to shrub swamps.

Shrub Swamp Canopy	
Common Name	Scientific Name
Speckled Alder	Alnus incana
Smooth Alder	Alnus serrulata
Red Maple	Acer rubrum
Grey Birch	Betula populifolia

Shrub Swamp Understory	
Common Name	Scientific Name
Maleberry	Lyonia ligustrina
Buttonbush	Cephalanthus occidetalis
Winterberry	Ilex verticillata
Swamp Azalea	Rhododendron viscosum
Silky Dogwood	Cornus amomum
High-bush Blueberry	Vaccinium corymbosum

Shrub Swamp Ground Layer	
Common Name	Latin Name
Skunk Cabbage	Symplocarpus foetidus
Sedges	Carex spp.
Cinnamon Fern	Osmunda cinnamomea
Sensitive Fern	Onoclea sensibilis

Fisheries and Wildlife

Ashland contains these principal habitat types: upland forests, wetlands, vernal pools, and waterways (impounded and flowing). Although less plentiful, open fields and meadows also play an important role in the town's ecology.

Despite development pressures, Ashland has been fortunate to retain four large areas of natural lands that serve as wildlife habitat and recreational resources for residents. The Town Forest and Ashland and Hopkinton State Parks are protected open space lands, while the Route 126 wetlands fall under the Massachusetts Wetlands Protection Act. Though several hundred acres apiece, these areas are separated by developed lands and roads and so do not afford the connectivity of a healthy landscape mosaic for wildlife.

Upland Forest

Upland forests provide the most extensive wildlife habitat in the state of Massachusetts. Part of the state's upland forest matrix is the central hardwood forest, the predominant land cover in Ashland.

Oaks dominate Ashland's forests (Map 4.7). Oak forests cover nearly 2,500 acres, or 30% of the land in Ashland. Together with other hardwood forests, the woods provide habitat for resident and migratory wildlife.

These upland forest areas, characteristic of much of Massachusetts, provide the habitat and forage for many species that comprise the state's wildlife. The structural attributes of these forests provide cavities and densities for a variety of bird and mammal species, while coarse woody debris is used by amphibian, reptile, and invertebrate species.

The rich forage of an oak-dominant canopy and its associated understory provide food that supports many of the regionally common wildlife species including white-tailed deer (Odocoileus virginaianus), gray squirrel (Sciurus carolinienisi), wild turkey (Meleagris gallopavo), raccoon (Procyon lotor), porcupine (Erethizon dorsatum), skunk (Mephitis mephitis), coyote (Canis latrans), and red fox (Vulpes vulpes).

Upland forests also serve as key habitat in the life cycle of many amphibians, who migrate up to 600 meters from breeding areas in vernal pools and wetlands to the upland forests where they spend their adult life (Mass. Comprehensive Wildlife Conservation Strategy, 2004).

Species that are threatened, endangered, or of special concern that depend on upland forests for habitat include the marbled salamander, eastern box turtle, eastern rat snake, and the oak hairstreak moth. Uncommon species that depend on upland forest habitat include the wood thrush and three uncommon bat species (Mass. DFW, 2001).

Ashland Town Forest and the adjacent Cowassock Woods (in Ashland and Framingham) provide excellent habitat to upland forest species within their total 575 acres. Ashland State Park provides upland

forest habitat within its approximately 320 acres of forested land. To the east of the park are over 200 acres of open space, extending potential habitat and forage range to wildlife.

Additionally, Hopkinton State Park in its entirety provides over 1400 acres of open space for habitat. Over 330 acres of land and 90 acres of surface water in Hopkinton State Park are within the town of Ashland. This upland habitat abuts the south bank of the Sudbury River north of the state park. However, Ashland's tracts of upland forest are separated by residential development.

Wetlands and Vernal Pools

Wetlands provide excellent habitat for amphibians, waterfowl, and rare plants as well as forage for large mammals. Reptiles and amphibians are more common in wetlands than in uplands. Forested wetlands can provide habitat for rare species such as the spotted turtle (Clammyl guttata), water shrew (Sorex palustris), eastern ribbon snake (Thamnophis sauritus), or American black duck (Anas rubripes) (Mass. DFW, 2001).

Many bird species use swamps extensively during migration. Dense shrub layers provide excellent nesting habitat. Common shrub species, such as highbush blueberry and winterberry, provide excellent forage throughout the year.

Shrub swamps with semi-permanent standing water can be refuge for waterfowl. Edges of ponds or slow streams can provide cover for fish such as the banded sunfish (Enneacanthus obesus) or the redfin pickerel (Esox americanus). Mammals such as river otter (Lutra canadensis), mink (Mustela vison), muskrat (Ondatra zibethicus), and beaver (Castor canadensis) also use shrub swamps.

In addition to wetland habitat, Ashland has eight certified vernal pools (Ashland Conservation Agent, 2007). Of these sites, one is inside the Town Forest and one is inside Hopkinton State Park. The others are on unprotected land. Frogs, toads, and rare salamanders rely on connections between these pools and upland forests. Protecting these connections is essential for the survival of the sensitive species that rely on them. However, these vernal pools are at risk of being disconnected from the upland woods as the connecting lands are not currently protected (Map 4.8, Sensitive Wildlife Habitats).

The seasonal hydrology within wetland pockets of the town's forested areas indicate a huge potential for vernal pools and thereby significant habitat for the species that depend on them. The Massachusetts Natural Heritage and Endangered Species Program has identified 80 areas of potential vernal pools within Ashland. These potential vernal pools lack protection under the Wetlands Protection Act because they have yet to be certified. Certifying these areas can help the town better understand and protect its natural heritage resources.

Wildlife Corridors

For a network of wildlife habitat to be healthy and sustainable, large parcels of protected open space need to be connected with corridors for wildlife travel, migration, and forage. Because upland areas in town are either heavily developed or subject to significant development pressures, the potential for wildlife corridors rests heavily on the existing riparian forests and wetlands to connect the open spaces.

There are three main riparian corridors in Ashland, the Sudbury River and two of its tributaries, Indian Brook and Cold Spring Brook. All of these waterways are impounded, with the Hopkinton Reservoir on Indian Brook, Ashland Reservoir on Cold Spring Brook, and Mill Pond and the Brackett Reservoir on the Sudbury River. Minor tributaries and other perennial streams also play important roles in providing connections between natural areas.

The Sudbury River flows into Ashland from the west, along the Southborough border. On the Ashland side, the river is adjoined by protected state-owned land. Once in Ashland, protection of the river is sporadic with discontinuous town-owned parcels providing only a partial green buffer along the river bank. After the Sudbury River is joined by Cold Spring Brook, it turns north toward Framingham. Entering the Brackett Reservoir, the Sudbury is lined to the east by land owned by the Massachusetts Department of Conservation and Recreation.

Fisheries

In the summer of 2001, the Massachusetts Division of Fisheries and Wildlife identified 12 fish species in the Sudbury River, with fewer species in the upstream samples. Redfin pickerel, fallfish (Semotilus corporalis), largemouth bass (Microptrus salmoides), rock bass (Ambloplites rupestris), white sucker (Catostomus commersoni), redbreast sunfish (Lepomis cyanellus), yellow bullhead (Ameiurus matalis), yellow perch (Perca flavescens), bluegill (Lepomis machrochirus), pumpkinseed (Lepomis gibbosus), chain pickerel (Esox niger), and rainbow trout (Oncorhynchus mykiss) (likely from a stocked population) were present in the sample. Most of these species are habitat generalists, species that are flexible and can live in a variety of places. However, fallfish and white sucker (constituting about 50% of the sample) are habitat specialists. Habitat specialists need particular types of habitat to flourish. All of these fish are tolerant to moderately tolerant of pollution.

Further downstream, water quality is affected by leachates from the Nyanza Superfund site on the lower 4.5 miles of the Sudbury River. Mercury from the Nyanza contamination has accumulated in fish and mussels in the waterway. The Massachusetts Department of Public Health has issued an advisory not to consume fish from the Brackett Reservoir and Sudbury River.

Indian Brook enters Ashland through the Hopkinton Reservoir. The Division of Fisheries and Wildlife recorded six

species of fish in the last survey in 1982: largemouth bass, yellow perch, bluegill, pumpkinseed, white perch, and rainbow trout. MassWildlife regularly stocks the reservoir with trout and, when available, brood stock salmon. DFW reports that fishing is extremely popular at this reservoir in the spring.

The outflow from the reservoir is directed through a pipe into a pool below the dam. The segment of Indian Brook between this pool and the Sudbury River, 1.7 miles in length, is a steep gradient stream of cascading riffles and plunge pools. Biological surveys indicate an improvement in water quality between 1996, when filter-feeding organisms dominated, to 2001, when higher numbers of sensitive species were present.

Ashland Reservoir, the result of the impoundment of Cold Spring Brook in the late 19th century, is a stocked lake providing fishing opportunities to visitors of Ashland State Park. However, seasonal closure of Ashland State Park limits access to the reservoir. In 1979, a fish sample of the reservoir included stocked trout, largemouth bass, smallmouth bass (Micropterus dolomieu), black crappie (Pomoxis nigromaculatus), yellow perch, pumpkinseed, bluegill, golden shiner (Notemigonus crysoleucas), and brown bullhead (Ictalaurus nebulosus). Largemouth bass and bluegill dominated the sample.

MassWildlife stocks Ashland Reservoir in the spring and fall with rainbow trout, brown trout, and, occasionally, brook trout. The reservoir has a reputation for providing excellent fishing from late May to July and demand for fishing is high during this season.

Rare Species

The western segment of the Sudbury River contains Priority Rare Species Habitat. The triangle floater, Alasmidonta undulate, a freshwater mussel that occurs in rocky and gravelly streams, was observed in the Sudbury River in 1999. Fallfish and common shiner have been observed as fish hosts for young mussels during their early parasitic larval stage. The mussel prefers slow-moving valley streams with sandy bottoms. Pollution and damming of rivers and streams are the primary threats to this species (Mass. DFW 2001).

Cicindela purpurea, or purple tiger beetle, is a species of special concern in Massachusetts. Preferring grassland habitats often associated with agriculture, the purple tiger beetle population has declined significantly in the last half of the 20th century. This species has not been observed in Ashland since the late 19th century, which corresponds to the loss of their preferred habitat in town.

Clemmys guttata, or spotted turtle, was another species of special concern until it was de-listed in 2006. Spotted turtles rely on vernal pools, shrub swamps, forested swamps, and nearby uplands for their lifecycle. Spotted turtles can travel great distances to find appropriate nesting sites and so need an unfragmented landscape mosaic (Mass. DFW 2001).

Scenic Resources and Unique Environments

Residents of Ashland care about the unique character of their town. As identified through a number of public forums, these scenic views across water bodies or from hilltops complement scenic roads that wind through town. Ashland's historical and archeological resources also tell a story of an active community that pre-dates European colonization (Map 4.9, Scenic Views).

The rivers and reservoirs of Ashland play a central role in its unique character. Views toward and within Mill Pond Park are valued for their natural character, reflections, and proximity to downtown. Similarly, the panoramic views across the Ashland and Hopkinton Reservoirs, particularly from the tops of the dams, are cherished by town residents.

Hilltop views from Wildcat Hill in the Town Forest, nearby Pine Hill, Megunko Hill across the Nyanza site, and the hill above the Aggregate Industries quarry are valued by Ashland residents.

Adjacent to Ashland State Park is the Warren Conference Center, operated by Northeastern University. The landscape here is valued for its open lawns and meadows. A stone wall runs along the edge of the meadow at the eastern edge of Ashland State Park (Map 4.5).

Ashland also has several old cemeteries. Wildwood Cemetery offers hilltop views toward town, while the Revolutionary Cemetery, Kadra Cemetery, and graves behind Federated Church have stone walls that show Ashland's history. Other headstones are located behind the Mindess School and near Olive Street.

Furthermore, historical and archeological sites can be found in Ashland. Stone structures, known locally as witch caves, were used by those fleeing persecution during the Salem Witch Trials and are still present near Woodridge Lane in the Town Forest. Older still is the Devil's Den, a superb stone shelter likely built by Native Americans.

Historic buildings in Ashland's downtown include the Town Hall, the library, Ocean House, John Stone's Inn, and the Masonic Lodge Building. Historic factory buildings from Ashland's industrial past also add unique architectural elements that give Ashland its character. Some of these buildings include the Dwight Paper Company building on the Sudbury River, and Warren Telechron building on Homer Street.

Environmental Challenges

Hazardous Waste Sites and Brownfields

Empty industrial and commercial facilities, polluted waters, and contaminated soils are remnants of Ashland's history. The town has been actively working with state and federal environmental agencies to remediate polluted sites. Preventing contamination of drinking water, which is pumped from

aquifers below Ashland and Hopkinton Reservoirs, is a major concern of residents. The sites represent not only a challenge for Ashland, but an opportunity. Removing such hazards benefits the overall health of the community by limiting the chances of direct exposure to toxins and decreasing the likelihood of groundwater contamination. State and federal funds are available to aid the community in remediation of its contaminated industrial or commercial facilities.

As of February 2006, the state Department of Environmental Protection had documented 73 Chapter 21E sites in Ashland. All but 10 of these contaminated sites have been remediated (Map 4.10, Environmental Challenges). Under Massachusetts law, Chapter 21E is the statute that governs the cleanup of releases of oil and hazardous material to the environment. The "Brownfields Act of 1998" amended Chapter 21E by establishing significant liability relief and financial incentives to spur the redevelopment of brownfields sites, while ensuring that the Commonwealth's environmental standards are met. In fact, many provisions of Chapter 21E, as amended, are intended to turn around some of the easier sites with liability protections directly available under the statute.

Cadilac Paint and Varnish and the 35-acre Nyanza site are two of Ashland's areas of highest concern. The first is a former paint and varnish manufacturing facility that closed in 1987. At that time, site remediation was completed, consisting of the removal of underground storage tanks, buried drums and contaminated soil. DEP testing at the site confirmed the presence of volatile organic compounds in the soil and groundwater under the site as well as in four private drinking water wells located northeast of the property. In 2003, the town considered taking ownership of the site to conduct further remediation with the hope of reusing it, but was concerned about liability issues.

From 1917 to 1978, textile dyes and other chemical products were manufactured at the Nyanza site on Megunko Hill. Large volumes of industrial wastewater containing acids, chlorinated organics and mercury contaminated the site and the Sudbury River. Over 45,000 tons of chemical sludge generated by Nyanza's wastewater treatment processes, along with spent solvents and other chemical wastes, were buried on site. The groundwater, soil and sediments became contaminated, including adjacent wetlands and fish in the Sudbury River.

The Environmental Protection Agency and Massachusetts Department of Environmental Protection performed a massive clean-up of the site, which included the excavation of some contaminated soils and capping of the heavily contaminated Hill area of the site. These efforts have reduced the potential of exposure to hazardous substances by controlling contamination migration and isolating wastes. In 1998, the EPA re-posted the Sudbury River with signs warning against the consumption of contaminated fish. The EPA completed the cleanup of mercury-contaminated sediments in onsite wetlands and drainage ways in August 2001 (U.S. EPA 2003). Study of the Sudbury River is ongoing and EPA plans to

propose a final cleanup plan in 2007 (U.S. EPA 2006).

Landfills

The town landfill, located at 94 Howe Street, was closed in the late 1970s and completed in 1983. Routine testing in 2000, as required by the Massachusetts Department of Environmental Protection, detected an increase in vinyl chloride levels. Upon completion of follow-up assessments, determination will be made regarding the remediation (Ashland Board of Health, 2007).

Chronic Flooding

Low-lying areas of Ashland are subject to periodic flooding caused by the overflow of the Sudbury River and Cold Spring Brook. Damage to industries and residences has occurred within the Sudbury River floodplain several times in the past century. Significant floods occurred in 1927, 1936, 1938, 1955, and 1968. Ashland Reservoir moderates the flood flows of the lower portions of Cold Spring Brook. The scattered wetlands and low-lying areas of town also provide areas for stormwater retention (Map 4.11).

Sedimentation

Sedimentation has been noted as an issue of concern for Waushakum Pond, on the border of Ashland and Framingham. Fifteen years ago, the maximum depth of the pond was 52 feet. Waushakum is currently no deeper than 47 feet. This change is due to sedimentation, the accumulation of geological or organic material in a body of water (Ashland Conservation Commission, 2002).

Name	Location
No Name	205 Main St.
No Name	196 Pond St.
No Name	79 Concord St.
Former Cadilac Paint Co.	409 Eliot St.
Former Three C Electric Co.	280-330 Pleasant St.
Former Gas Station	Pond St. Kings Plaza.
Property	11 Mulhall Dr.
Nyanza (Superfund cleanup site)	Megunko Rd.
No Name	Sandstone Way
Middlesex Equipment	2 Megunko Rd.

Ten brownfields, or 21E sites. If remediated, some of these sites may offer open space and recreation possibilities.

New Development

The population of Ashland has grown by 69% in the last 23 years, resulting in a residential building boom. As identified in the 2003 Comprehensive Plan, between 1989 and 2003, 809 acres, nearly 10% of the total developable land in town, was approved to be used for 35 subdivisions, consisting of nearly 900 housing units. If this trend continues, the Metropolitan Area Planning Commission has projected that in 2025 Ashland would reach buildout with current zoning, a state where no additional development is possible within the community. In this scenario, over 20,000 residents would live in approximately 8,000 households. The impact of residential development on open space and recreational facilities is two-fold. As more land is developed, less is available for expanding the town's green infrastructure and recreational resources. Secondly, there will be more residents using existing amenities, stressing such resources and degrading the high quality of experience that residents expect from them.

Water Pollution and Impaired Water Bodies

Contaminated and impaired surface and ground water (the federal Environmental Protection Agency defines waters as impaired when "water quality conditions do not support at least one use of the water") is a constant reminder of Ashland's industrial past. As with much of New England, the mills and factories grew along rivers. They were sources of power and places to expel industrial wastes. The soils of such industrial sites also became contaminated and over the years, that contamination has seeped into the groundwater and surrounding surface waters. Other sources of water pollution common across New England are acid rain, incineration of hazardous materials, and pesticide runoff.

Soils and waters of former and present industrial areas along the Sudbury River, including the Nyanza property, have been monitored by state and federal agencies. Between 1973 and 1989, surface water samples were analyzed from Trolley Brook, Chemical Brook, the wetlands and basins on Megunko Hill, and a spring located on the southeast side of the hill. All of these areas are associated with the Nyanza site.

Additionally, the Environmental Protection Agency has listed the following water bodies as "impaired" as of 2002: Brackett Reservoir, Hopkinton Reservoir, Sudbury River, and Indian Brook.

5 Inventory of Lands

Ashland's twelve-and-a-half square miles (about 8,275 acres) are developing rapidly. The residential building boom of the last two decades is expected to continue to displace the unprotected open space in Ashland. For this community, open space is valued for its contribution to the community character, the opportunities for recreation it provides, and the habitat it provides for wildlife. Open space takes many forms, from urban parks to large natural areas.

As the town has developed, open space has been cleared and developed into residential subdivisions. This loss of open space interrupts connections between open areas where residents and wildlife were once able to pass. Also, as population grows and open space is lost, more people will use existing open space and recreation facilities while the town will become less able to expand these resources.

Evaluating the protected resources that are available in town and planning for future protection are important to ensure a healthy community. Ashland's protected lands fall into three categories: publicly owned, owned by a non-profit organization, and owned privately and held with a conservation easement.

Publicly owned protected lands, like the Ashland Town Forest, Hopkinton and Ashland State Parks, and municipal parks, are protected for the use and enjoyment by town residents (Map 5.1, Inventory of Open Space). Not all town- and state-owned lands are protected; for example, those used for municipal or regional infrastructure do not have the protected status of parks and conservation land. Ashland is unusual in the Commonwealth in that protected lands are not currently under jurisdiction of the Conservation Commission. The Town Forest is managed by the Town Forest Committee while the Board of Selectmen maintains oversight of other park and conservation land.

Of the non-profit land holders in Ashland, only the Sudbury Valley Trustees holds land in permanent protection. Other non-profit land holdings, like Northeastern University's Warren Conference Center, are used by Ashland residents for recreational purposes or provide quality conservation lands, but are not permanently protected.

The lands described in this section and Appendix B include both protected and unprotected lands of conservation and recreation interest. These lands were evaluated based on criteria generated by the town through public meetings, surveys, and Open Space Committee deliberation. The criteria were then mapped so that lands with those qualities could be identified and prioritized. The land evaluation criteria are listed below.

Land Evaluation Criteria

Forest Lands

Ashland's forested landscape character is valued and should be preserved. Land cover data were used to identify undeveloped forest lands that contribute to the landscape's value (Map 4.4).

Rivers and Streams

Lands near rivers and streams provide recreational access, riparian habitat, and scenic character (Map 3.2). Also, Map 4.11 shows lands protected by the Massachusetts Rivers Protection Act.

Wetlands

Protected under the Massachusetts Wetlands Protection Act and the Ashland Wetlands Protection Bylaw, wetlands provide valuable habitat for resident and migratory wildlife. They can also provide valuable passive recreation and educational opportunities. Protecting wetlands also preserves natural filters, contributing to water quality in the community (Map 4.6).

Priority Rare Species Habitat

The Natural Heritage and Endangered Species Program identified areas throughout the state that are a priority for preserving the habitat of threatened and endangered species. Such lands in Ashland should get special consideration due to their importance to sensitive species (Map 4.8).

Certified and Potential Vernal Pools

Vernal pools provide a seasonal breeding ground for amphibians as well as important habitat diversity for plants and animals in woodland environments. Connections between vernal pools and upland habitat are essential for many rare species of amphibian (Map 4.8).

1830s Forests

Historical land use patterns were evaluated by comparing maps from the 1830s with those from the 1990s. The older maps show lands that were forested over 150 years

ago and suggest which modern forests might have been less disturbed over those years. Undisturbed forests have a higher probability of containing uncommon herbaceous plants that rely on undisturbed land to establish populations (Map 4.4).

Adjacent to Protected Open Space

A common strategy for protecting open space is safeguarding lands adjacent to currently protected open space. Expanding existing amenities can be cheaper than establishing new areas. Further, this strategy can serve to expand interior habitat needed by sensitive species of wildlife (Map 5.2, Adjacent to Open Space).

Drinking Water Protection

Residents consistently ranked drinking water quality as of very high importance on surveys. In order to protect the quality of drinking water, the area around public wellheads needs to be protected and runoff mitigated. Public wellhead protection areas (Zone 2) were used as the region of concern for this criterion (Map 3.5).

Brownfields

Residents of Ashland are also concerned about environmental health in their town and have expressed interest in remediating contaminated 21E sites around town. Converting these contaminated areas into protected open space or recreation facilities is a long-term goal that has strong support (Map 4.10).

Quarry Remediation

Ashland's aggregate mining history is likely coming to a close in the next decade or two. The Aggregate Industries quarry on Spring Street is the only active quarry left in town. Aggregate Industries has agreed to deed the quarry to the town when operations cease. The area is currently zoned for "quarry remediation," and provides a future opportunity for conversion to an alternative use (Map 4.10.)

Underserved Areas

Ideally, some open space and recreation land should be within walking distance for all town residents. Areas that have no recreational resources within a 30-minute walk were considered underserved and were highlighted for the purpose of this evaluation (Map 5.3, Recreation Resources).

Athletic Field Potential

In order to meet the growing demand for athletic fields in Ashland, such facilities will need to be expanded in the near future. An ideal site for a new athletic field would be undeveloped non-forest land of at least two acres that is relatively level but has positive drainage (3%-6% slope).

Trails

One of the primary recreation activities in town is walking or hiking natural trails. Some trails in town, however, cross unprotected land or are aligned along roadways. In order to protect these valued recreational

resources and provide the natural amenities that the residents enjoy, lands along existing trails were identified as priorities (Map 5.3).

Scenic Viewshed

Residents were asked for their favorite viewpoints throughout town. Using a viewshed analysis of Ashland's landscape from these points, areas affecting these desirable views were identified (Map 4.9).

Unique Features

Lands in town that offer unique features and characterize Ashland were also given consideration. Geological features, hilltop viewpoints, and open meadows were identified in this inventory (Map 4.5).

Priority Parcels

This extensive list responds to community interests to protect and conserve natural lands for wildlife and recreation, to meet the recreational needs of the growing population, and to address the social and community concerns related to protected open space.

Combinations of qualities were examined to identify lands that best meet Ashland's diverse open space and recreation needs. The following combinations helped identify prime conservation lands in town:

- Forested areas with stream corridors
- Lands adjacent to protected open space with stream corridors
- Lands adjacent to protected open space with 1830s forests
- 1830s forests with stream corridors

Parcels that had any of these combinations earned extra points in the ranking of priority lands.

The priority parcel lists, in Appendix B, include lands that possess at least four of these qualities or combinations of qualities. Though these lists are extensive, they may not include all potential parcels of interest for open space and recreation. This land evaluation model is designed as a tool to help identify priority, but should not preclude the town from taking action on properties that meet these or other criteria should the opportunity arise.

Private Parcels

Permanently Protected

Protected lands owned by private parties are either permanently protected through conservation easement or temporarily protected through the Chapter 61 program. The town holds conservation restrictions on 13 parcels in town. Approximately 160 acres of private land in Ashland are protected through conservation easements. Much of this land is within subdivisions and can be used only by residents of those subdivisions.

Despite the lack of recreational access to these deed-restricted lands, they do provide some value to the town in terms of conservation and natural areas, especially when connected with other open space. Six of

these 13 parcels are 10 acres or more, most are forested, eight contain rivers, streams, or ponds, and six contain wetlands. These features contribute to their value for wildlife and natural areas in town. Based on the athletic field potential criteria, 10 of the 13 parcels show potential for athletic field use.

Temporarily Protected

Approximately 50 acres of land in town are temporarily protected under Chapter 61. These 50 acres are divided among three land owners and four parcels. Chapter 61 provides a tax incentive to property owners for managing their land for forestry, agriculture, or recreation. This program provides the town with the first opportunity to purchase these lands should the owner choose to sell in the future.

Two parcels owned by the Ashland Fish and Game Club are currently protected under Chapter 61B and are used by members for outdoor recreation, hunting, and fishing. These properties are high quality conservation and recreation space that could provide valuable opportunities to Ashland's residents at large. The properties are adjacent to Mill Pond Park, which is town-owned protected open space. They provide partial potential links between the Town Forest and the Sudbury River, a step toward linking the town's largest upland habitat with its central riparian corridor. One property is intersected by the regional Bay Circuit trail, inviting connections from downtown's Mill Pond Park to the Town Forest.

Two properties are agricultural lands currently protected under Chapter 61A. One is managed by Weston Nurseries, which has agreed to sell over 600 acres to Boulder Capital. Because the land being sold straddles the Ashland-Hopkinton border, both towns have mobilized to plan for the future of the Weston Nurseries land. The Ashland portion meets a number of open space evaluation criteria, such as having forests, streams, wetlands, and athletic field potential, in an area that is currently underserved with recreation amenities. Furthermore, portions of the Weston Nurseries land in both Hopkinton and Ashland are near and uphill from the wells that are Ashland's only source of public drinking water.

The second Chapter 61A property, the Glen Maura Farm, is currently managed as a horse farm with a stable and riding ring. This property contains riparian forests, wetlands, and open areas with athletic field potential.

Unprotected Private Lands of Interest

Private parcels of conservation and recreation interest were evaluated with the criteria outlined above. The properties fall into five main regions.

Region one encompasses lands adjacent to or near the Town Forest. The value of these lands lies in improving the conservation and natural recreation land the town already enjoys and providing connections between the Town Forest and Ashland's downtown core. Quality habitat and ripar-

ian corridors consistently ranked highly due to their value for conservation, active and passive recreation, and contributing to the town character.

The second region encompasses unprotected lands along the Sudbury River and primary waterways. These lands are valuable for their contribution to water quality, opportunities afforded for water recreation, and potential for linking existing protected open space.

Third, areas east of Hopkinton State Park provide opportunities to protect quality natural lands along trails and near active natural recreation areas.

Lands near Ashland State Park provide several opportunities for preservation and utilization. Lands operated by Aggregate Industries, southwest of the State Park, are valuable for many reasons, including the protection of drinking water, the preservation of old forest lands, streams, and wetlands, water recreation opportunities within the quarry, potential for athletic fields, and scenic and valued unique features. The current agreement between Aggregate and Ashland offers an opportunity after quarry operations cease. Existing opportunities and amenities on this site may require advance planning to preserve.

Lastly, wetlands on the north end of the Route 126 corridor provide excellent habitat and trail recreation value in this underserved area of town. Partial protection of these lands, afforded by state law, could be enhanced and improved with proactive measures by the town to preserve this resource and its surrounding landscape.

Public and Non-Profit Parcels

Protected State Lands

The Commonwealth of Massachusetts owns and manages over 1000 acres of protected open space in the town of Ashland (Map 5.1). The Department of Conservation and Recreation oversees Ashland and Hopkinton State Parks, both of which provide extensive conservation and recreation resources. These parks provide opportunities for hiking, fishing, and swimming to town residents and visitors. Ashland State Park is open seasonally, providing only limited access to its water resources, natural lands, and hiking trails. Hopkinton State Park is open year-round and provides resources for hiking, fishing, boating, and athletics.

The Commonwealth also owns land surrounding Brackett Reservoir, located on the border of Ashland and Framingham. The Department of Conservation and Recreation does not allow recreational use of the land it owns adjacent the reservoir.

Unprotected State Lands of Interest

Aside from the outstanding protected open space resources in Ashland that are owned by the state, approximately 40 acres (12 parcels) of state-owned land are of conservation interest based on this report's

The Dike Pond trail and Route 126 wetlands are a favorite destination for walkers and nature enthusiasts. The diverse habitat consists of 200+ acres of forest and shrub wetlands. This area is bisected by the industrial corridor of Route 126, making long-term protection a priority for Ashland.

analysis (see Appendix B). Seven of these parcels are owned by the Massachusetts Turnpike Authority, flanking Interstate 90. These lands offer forested riparian corridors along the Bay Circuit Trail. Giving consideration to these lands for trail and wildlife bypass of the freeway could have important regional significance.

Protected Town Lands

Ashland owns 767 acres of land that are protected. Over 500 of these acres are within the Town Forest, a large upland forest that offers hiking and passive recreation opportunities to the public. The Town Forest is overseen by the Town Forest Committee. Trail maintenance is performed by volunteers.

Mindess School and the Middle School (the former high school) are protected town-owned lands managed by the school system. Both schools have athletic fields, with a track and tennis courts at the Middle School. The new Ashland High School has land set aside for the possible development of fields.

Stone Park near downtown has two ball diamonds, an athletic field, and a skate park. The park also includes Kid's Spot, a children's play area. Gryncel Park also has recreational opportunities for town residents with two ball fields.

Town-owned Wildwood Cemetery offers hilltop views and a quiet place to walk. Wildwood Cemetery is adjacent to pro-

tected lands around the Brackett Reservoir and to the back lot of the new high school. A new mixed-use development is adjacent to Wildwood Cemetery and may generate more use of this property.

Unprotected Town Lands of Interest

Over 150 acres of town-owned land present some conservation or recreation interest. Over 100 acres are found on just two parcels, located behind the Mindess School and the High School. These are forested riparian corridors adjacent to protected open space. They offer opportunities to expand and diversify open space resources and help link protected lands. Linking protected parcels adds value for wildlife and trail connections.

Protected Non-Profit Lands

The Sudbury Valley Trustees (SVT) owns 41 acres of conservation land in Ashland. Twenty-seven acres are the Ashland portion of Cowassock Woods, which straddles the Ashland-Framingham border. Cowassock Woods abuts the Ashland Town Forest and trails in the two properties connect with each other.

The other Sudbury Valley Trustees property contains a pond and wetlands, part of the large wetland on the Route 126 corridor. This land is near protected town-owned land and Waushakum Pond. The Bay Circuit Trail runs along the edge of this property, allowing users to appreciate its valuable wildlife habitat while protecting its sensitive nature.

Unprotected Non-Profit Lands of Interest

Unprotected lands of conservation or recreation interest owned by private non-profit entities in town are listed in Appendix B. These lands are owned by Northeastern University, Warren Benevolent Fund, Ashland Boy Scouts, the United Church of Christ, and other church groups.

Five parcels, totaling 180 acres, owned by Northeastern University are on either side of Chestnut Street. Property west of Chestnut Street is operated by the university as the Warren Conference Center. Tennis courts, trails, and fields on this property are used by town residents for recreation. The property also connects with trails in Ashland State Park. East of Chestnut Street, Northeastern's lands have a high conservation value, providing quality habitat that connects to open space in neighboring Holliston.

The United Church of Christ owns 53 acres northeast of the Town Forest. The property serves as a conference center and youth day camp. These lands have likely been forest for over 150 years and contain streams and wetlands. Protecting these pristine lands could enhance the interior forest habitat and expand access to the Town Forest.

The Warren Benevolent Fund owns lands between the Ashland State Park and the

Aggregate Industries quarry. This property is managed by the Girl Scouts of America as a camp for the youth involved with the organization.

Adjacent to Hopkinton State Park is the Boy Scout Camp. The camp and adjacent state park are used by Ashland scout troops for camping, hiking, and group activities.

6 Community Vision

The Town of Ashland, led by the Open Space Committee with extensive collaboration and input from the community, other town committees, town officials, elected representatives and a graduate student team from the Conway School of Landscape Design, has created this Open Space and Recreation Plan (OSRP).

Description of Process

In 2003, public meetings were held and an Open Space and Recreation Survey was created and distributed by the Committee throughout town and to students at the High School. Two hundred seventy-one completed surveys were collected.

In 2006, the Open Space Committee, in conjunction with the Conway School of Landscape Design's student team, sought more public involvement. A new survey, patterned after that of 2003, was made available to residents online and at various points around town, including the public library and community center. Two public meetings were held, on January 28 and February 28. Advertisements in local newspapers and on the local access television channel, flyers posted around town, an email campaign and word of mouth were used to publicize these efforts. Extensive additional research and analysis were also completed during this time, which included GIS work, interviews with town officials and a synthesis of survey results. Research was also conducted with local, state, and regional entities in the fields of planning, landscape architecture, government, biology, ecology, stormwater management, brownfields, parks and recreation, education and forestry.

Statement of Open Space and Recreation Goals

Formal and informal input collected during the preparation of this Plan (such as surveys and public comment) indicates that residents of Ashland recognize the direct tie between open space and recreation, and their quality of life. In a bustling region, Ashland has the challenge of balancing

the growth of "gray" infrastructure such as roadways, houses, and water and power lines, with the preservation of "green" infrastructure such as the undeveloped lands, wetlands, parks, recreational fields, and forests. This balance has made Ashland a desirable place to live. However, the rapid growth and development trends of the town and region have caused a great deal of concern amongst residents.

Rapid population growth has led to rapid change in the overall land use within Ashland. Residential developments, including condominium complexes and single-family home subdivisions, are replacing woodlands. Residents recognize that development in their town will continue to happen but want to guide it in ways that protect and enhance the community's natural lands and resources, recreational amenities, social and cultural identity and overall quality of life.

Through the planning process, four overarching goals for recreation and open space have been developed.

A. Preserve, protect, connect, and enhance Ashland's conservation and natural land resources.

Residents recognize that growth and development should not compromise the natural character and environmental quality of their community. The intent of the first goal is to protect lands for their natural resource and conservation qualities, increase the town's participation in protection of the local watershed, and advance more ecologically sound development practices as the town grows.

B. Provide, maintain, and improve diverse recreation opportunities that meet the needs of Ashland's growing population.

Ashland's active population appreciates the existing recreation amenities in town, but as the population grows, so will the demand for these facilities. Ashland needs more multi-purpose recreational facilities, an enhanced network of trails, and improved recreation amenities. Opportunities for residents to hike, play, exercise, or enjoy the outdoors should be easily accessible, diverse and kept in good order.

C. Preserve and improve the quality, character, and health of Ashland's community and environmental resources by remediating degraded lands, protecting common resources, and preserving the cultural heritage.

Open space preservation meets significant social and community needs of Ashland residents. Maintaining quality of life and the cultural character in town depends on strategic preservation efforts. Ashland can improve the environmental and cultural vigor of the community by preserving drinking water quality for Ashland residents, rehabilitating brownfields and degraded lands, and protecting sites of archeological and historical significance.

D. Build a strong constituency of open space and recreation advo-

cates through education and collaborative partnerships.

Ashland can promote an appreciation of its existing open space, natural resources, and town character by teaching residents about the impact they have on the environment, the social and economic advantages of open space and recreation amenities, and what they can do as individuals and as members of the community to keep Ashland a great place to live.

7 Analysis of Needs

Ashland is in the enviable position of having large areas of open space within its borders, a river through its downtown, and large open bodies of water. Many communities that are in the same region do not have these outstanding amenities. However, despite these features, Ashland still has environmental concerns. Ensuring clean drinking water despite possible development near the wells, remedying pollution from an industrial past, balancing water quality and access, augmenting a lack of well-maintained athletic fields, and improving connectivity between large open spaces are among Ashland's priorities.

Summary of Resource Protection Needs

Ashland residents expressed the needs of the community and what is important to them through public forums (Section 10) and Open Space and Recreation Surveys conducted in 2003 and 2006 (Appendix A).

Although the survey size was smaller in 2006 (118 in 2006 compared to 271 in 2003), the priorities remained very much the same and, in fact, some increased in importance. When asked about Ashland's Open Space needs specifically, residents in both surveys said protecting water resources and the drinking water was very important (81.55% in 2003; 92% in 2006), making it their highest priority. Water quality needs to improve in the Sudbury River, its tributaries (e.g., Cold Spring Brook, Indian Brook), the reservoirs and ponds. Many of these water bodies are contaminated with a variety of pollutants from Ashland's industrial past (see Section 4). By remediating the sites, Ashland can improve the quality of its natural resources and protect the character of the town.

High-quality drinking water in Ashland has been a priority for a long time. Ashland's public wells draw water from an aquifer beneath the Hopkinton Reservoir. The wellhead protection areas and the recharge zones for the aquifer are mandated state law. However, land outside the wellhead and recharge areas affects the quality and quantity of the water in the aquifer.

Some of this land is outside of Ashland (for example, part of the Weston Nurseries land in Hopkinton). The final disposition of the Weston Nurseries land will have a significant impact on the town's ability to protect its only source of drinking water, which is pumped to town wells from the aquifer beneath the Hopkinton Reservoir. The aquifer is very near and directly downhill from part of the Weston Nurseries land. Ashland needs to collaborate with those outside of its municipal borders in order to ensure clean and safe drinking water for current and future residents. The need to protect these recharge areas is great.

Residents also stated it was very important to protect the town's natural resources (72.32% in 2003; 72% in 2006), passive recreation areas (58.67% in 2003; 58% in 2006), active recreation areas and the character of the town. The importance of protecting the active recreation areas increased from 42.44% in 2003 to 52% in 2006 while the importance of protecting the character of the town also increased from 45.02% in 2003 to 62% in 2006. Clearly, the issues that are important to the town's residents have remained consistent from 2003 to 2006, and residents believe the recreation areas and character of the town are more at risk now than before.

One issue facing the quality of existing open space in Ashland is the lack of connectivity between the two state parks and the Ashland Town Forest. To ensure healthy plant and animal populations, these areas of green space should be connected through a series of corridors through smaller protected lands or existing forested backyards and neighborhoods. Other conservation methods, such as conservations restrictions, should be explored to ensure such connectivity. Residents need to be made aware that not all lands need to be owned by the town to ensure their protection and that they can help preserve land through conservation restrictions.

Areas recommended for preservation that fulfill the criteria described in Section 5 are identified in Appendix B and on the Inventory of Open Space Map (Map 5.1).

Summary of Community's Needs

In the 2006 Open Space and Recreation Survey, the top recreational priorities of residents were trail-based activities (e.g., walking paths, hiking and skiing trails, bike trails), field-based activities (e.g., baseball, football, lacrosse, soccer, softball and tennis), the use of conservation areas (e.g., Ashland State Park, Ashland Town Forest, Hopkinton State Park) and local parks, and water-based activities (e.g., boating, fishing, public river access).

According to the Massachusetts Outdoors 2000!, the Statewide Comprehensive Outdoor Recreation Plan (SCORP), the activities of Ashland residents generally coincide with those of the Northeast Region where Ashland is located. Some of the popular activities also shared by residents of the Northeast Region and Ashland include the use of park facilities

for picnics and other activities, and toddler activity at children's playgrounds and tot lots. In contrast to the Northeast Region, trail activity is by far the most prominent activity among Ashland residents, not water-based activity, followed by active recreation not passive recreation.

In the 2006 Open Space and Recreation Survey, residents were generally satisfied with the recreational areas in town available to children and youth (57.6%) and those available to adults (50.5%). However, residents, including youth and the older population, have also expressed a need for more facilities and opportunities for recreation. Residents would like more neighborhood parks within easy walking distance of neighborhoods.

Currently, much of the Bay Circuit Trail is aligned on roads through town. Trail realignment for the Bay Circuit could provide more interesting hiking opportunities. In addition, other trail systems are needed to connect preserved parks to the downtown core.

Residents have also identified recreational opportunities on the waters of Ashland as a concern in the 2003 and 2006 Open Space and Recreation Surveys. Access and water quality issues need to be balanced since greater access can adversely affect water quality. Information and public education are needed to explain that both access and high quality can be achieved with careful considerations.

Ashland Youth Sports groups have specifically expressed a need for more recreational fields. Due to the popularity of youth sports, the number of teams in the division and the number of games played by each team, recreational fields cannot be sufficiently rested for maintenance and rehabilitation, leading to overuse and field damage. In order to rest the fields currently in use, other fields must be available. A lack of funding for proper maintenance of the fields has further compounded the problem.

Recreational facilities should comply with the Americans with Disability Act (ADA) requirements. Appendix F describes specific recommendations to bring existing facilities into compliance. Many of these recommendations relate to improving parking accommodations at existing facilities. Ashland's need for recreation fields and facilities will continue to increase in the coming years as the town's population continues to grow.

Management Needs and Potential Change of Use

Ashland residents have responded to the increase in population by taking steps to embrace new models of development and growth. Ashland has adopted the Community Preservation Act (CPA). It provides the town with state money for help in preserving open space and historic sites, and creating affordable housing and recreational facilities. Additionally, the town has approved zoning changes that allow for multi-use areas. Some developments allow for a higher density of units and conserved green space. Moreover, the Planning Board

has expressed a need for better tools to help steer smart growth.

Ashland does not currently have sufficient revenue to easily protect open space through land acquisition or to create additional recreational facilities. Some funding could be used from the CPA funds, while regional land trusts could offer additional assistance for protecting land. The preservation of existing unprotected open space in Ashland depends on residents organizing and using available opportunities and information.

The town's success in planning for future development and economic growth depends on the involvement of dedicated, enthusiastic residents who wish to play a role in the future of Ashland. Effective lines of communication among residents of Ashland, their local government, and the Commonwealth are needed if any of the open space and recreational goals are to be achieved. Effective education of residents and collaborative partnerships are needed to help realize these goals.

Ashland, like many New England towns, has many planning and leadership committees. The Board of Selectman, the Planning Board, the Conservation Commission, the Comprehensive Plan Committee, the Ashland Redevelopment Authority, the Board of Assessors, the Affordable Housing Committee, the Finance Committee, the

Ashland State Park offers many recreational opportunities. Hiking, swimming, biking, and nature watching are activities that Ashland residents participate in. They would like more places to do these activities.

Council on Aging, the Board of Health, the Recreation Commission, the School Committee, the Community Preservation Act Committee, and the Open Space Committee all make important decisions about Ashland's future. Long-term planning will require cooperation and collaboration among town officials in order to guide Ashland's future of development and green spaces.

Much of Ashland's town-owned land is under the jurisdiction of the Board of Selectmen and not under permanent protection. Future use of some of this land for infrastructure and public facilities will be necessary as Ashland grows.

In addition, management will also be very important if a townwide system of greenway corridors and paths is to be created. Handling trail maintenance, dealing with use and abuse, and negotiating with landowners for access across private land are just a few of the many situations needing direct management.

Open space decisions need to have a cohesive structure to ensure that the vision of green space in Ashland is a priority. A unified management system will help Ashland to reach its goals for water quality, recreation opportunities, and green connectivity. By adopting the Open Space and Recreation Plan, Ashland will have a cohesive vision to guide the town toward its open space and recreation goals.

Goals and Objectives

The goals and objectives defined in this plan come from a number of sources. The majority of the goals were developed at two public meetings. The first meeting was publicized as an analysis meeting, held on July 30, 2003. Committee members presented identified key open space and recreation needs, problems, and opportunities. As part of the feedback from the analysis meeting, draft goals and objectives were written.

These original goals and objectives went through a series of revisions by the Open Space Committee. As part of the 2006 Open Space and Recreation Planning process, the goals and objectives were created by synthesizing the revised 2003 goals and objectives with the input from a public forum, held January 28, 2006. In addition, regional planning goals, Economic Redevelopment Plan goals, and goals from the 2003 Ashland Comprehensive Plan were reviewed for consistency.

Goal A: Preserve, protect, connect, and enhance Ashland's conservation and natural land resources.

Objective A.1: Protect lands valued for their natural resources and conservation qualities for wildlife habitat, education, and use.

Objective A.2: Improve Ashland's participation in the management of the local watershed for water quality, habitat, and health.

Objective A.3: Advance green development and smart growth practices for future development.

Goal B: Provide, maintain, and improve diverse recreation opportunities that meet the needs of Ashland's growing population.

Objective B.1: Identify, acquire, and secure lands that could serve as needed multi-purpose

recreational facilities, athletic fields, and/or neighborhood parks.

Objective B.2: Preserve, protect, and enhance a networked trails system including, but not limited to, hiking trails, alternative loop trails, sidewalks, bike trails, and bike lanes.

Objective B.3: Improve and enhance existing recreation facilities.

Goal C: Preserve and improve the quality, character, and health of Ashland's community and environmental resources by remediating degraded lands, protecting common resources, and preserving the cultural heritage.

Objective C.1: Protect drinking water resources and the lands which affect them in order to preserve quality drinking water for Ashland residents.

Objective C.2: Proactively remediate and rehabilitate degraded lands such as brownfields, quarries, and landfills to improve the health and condition of Ashland's environment while expanding recreation opportunities for Ashland residents.

Objective C.3: Protect and preserve lands that have archeological or historical significance.

Goal D: Build a strong constituency of open space and recreation advocates in Ashland through education and collaborative partnerships.

Objective D.1: Establish local and regional partnerships to collaborate on common goals and objectives.

Objective D.2: Promote an appreciation of Ashland's existing open space, natural resources, and historic character.

Objective D.3: Educate residents on the impact of human activities on the environment.

Objective D.4: Educate residents about conservation options and the social and economic advantages of open space in a community.

9 Five-Year Action Plan

This Five-Year Action Plan outlines an action and proposed timetable for each open space and recreation objective. All of the following goals, objectives, and actions are subject to funding and appropriation. The actions should be reviewed annually, updated, and reevaluated to ensure consistency with goals and objectives. A five-year action plan map is included at the end of this section (Map 9.1, Five-Year Action Plan).

Goal A: Preserve, protect, connect, and enhance Ashland's conservation and natural land resources.

Objective A.1: Protect lands valued for their natural resources and conservation qualities for wildlife habitat, education, and use.

Actions	Timetable
a) Monitor lands of interest for market availability and acquisition potential.	ongoing
b) Further diversify the funding base for open space acquisition beyond Community Preservation Act funds, to include an open space bond authorization and public and private grant sources.	ongoing
c) Pursue conservation easements for trails, wildlife corridors, and significant natural lands.	ongoing
d) Enforce state regulations of sensitive natural lands through the Rivers Protection Act and Wetlands Protection Act. Consider strengthening these through local bylaws.	ongoing
e) Develop stewardship plans for all newly acquired properties.	ongoing
f) Update and review status of existing conservation restrictions to ensure compliance with regulations.	2007
g) Begin a dialogue with landowners regarding the future of priority parcels of conservation interest.	2007

h) Collaborate with regional, state, and neighboring open space organizations, including land trusts and conservation groups.	2008
i) In accordance with the Conservation Commission Act, transfer appropriate properties to the care and custody of the Ashland Conservation Commission for protection and management. Investigate the possibility of stewardship by the Open Space Committee and Town Forest Committee.	2008
j) Investigate the creation of a local land trust that can act independently of town government to preserve valued lands.	2008
k) Identify undocumented sensitive lands in town by examining and certifying qualifying vernal pools and identifying Areas of Critical Environmental Concern.	2008

Objective A.2: Improve Ashland's participation in the management of the local watershed for water quality, habitat, and health.

Actions	Timetable
a) Discourage inappropriate use of storm drains as a means of disposal by continuing the storm drain stenciling program to educate residents about the destination of runoff and spills.	ongoing
b) Educate Planning Board members about best management practices and low-impact design through town-funded attendance at professional workshops.	ongoing
c) Monitor Weston Nurseries land disposition and pursue preventive measures to protect Ashland's sole water supply.	ongoing
d) Partner with regional public and private watershed agencies.	2007
e) Ensure that floodplain zoning complies with FEMA regulations.	2007
f) Develop a program for discouraging invasive plants in local ponds and waterways, such as Waushakum Pond.	2007
g) Address non-point source pollution by implementing best management practices to mitigate stormwater runoff in highly developed areas.	2008
h) Prevent point source pollution by identifying origins of contaminants in storm drains.	2008
i) Develop a stormwater bylaw as part of compliance with National Pollution Discharge Elimination System Phase II.	2008
j) Pursue conservation easements along town waterways and around sensitive water bodies.	2009

Objective A.3: Advance green development and smart growth practices for future development.

Actions	Timetable
a) Encourage developers of open space subdivisions to link conservation lands with adjacent protected lands when possible.	2007
b) Enact Transfer of Development Rights bylaws to allow for flexible development patterns.	2008
c) Explore the feasibility of a conservation overlay zone for sensitive and valuable natural areas.	2008
d) Create density bonuses for new development to encourage development styles that can preserve open space.	2009

Goal B: Provide, maintain, and improve diverse recreation opportunities that meet the needs of Ashland's growing population.

Objective B.1: Identify, acquire, and secure lands that could serve as needed multi-purpose recreational facilities, athletic fields, and/or neighborhood parks.

Action	Timetable
a) Encourage developers and landowners to set aside portions of their sites for recreation.	ongoing
b) Submit proposals to the Community Preservation Act Committee to use CPA funds for purchasing and upgrading active recreation facilities.	2008
c) Develop additional recreational space in regions of town that are currently underserved.	2010
d) Field assess parcels identified in this inventory as appropriate for athletic field use in order to confirm their suitability.	2008
e) Develop a riverfront park along the Sudbury River to increase use and appreciation of this resource.	2009
f) Plan for the redevelopment of the Aggregate Industries quarry, including developing plans before quarry operations have ceased.	2010

Objective B.2: Preserve, protect, and enhance a networked trails system including but not limited to, hiking trails, alternative loop trails, sidewalks, bike trails, and bike lanes.

Action	Timetable
a) Partner with regional trail coalitions, including Upper Charles Trail planners and the Bay Circuit Alliance.	ongoing
b) Mark and maintain shoulders for safe bicycle use.	2008
c) Pursue easements with public access to connect foot trails where they cross private property.	2008
d) Investigate the feasibility of realigning or adding alternative loops to the Bay Circuit Trail in order to reduce the trail's road alignment.	2009
e) Introduce a sidewalk bylaw in order to promote a walkable community.	2009
f) Create a trail from downtown to the Town Forest.	2010
g) Actively pursue permanent protection for lands that existing trails cross.	2011

Objective B.3: Improve and enhance existing recreation facilities.

Action	Timetable
a) Hold joint meetings with the Recreation Department and the heads of all Ashland Youth Sports Programs to determine priority of needs.	ongoing
b) Evaluate the usage of existing fields to identify recreational resource deficits.	2007
c) Evaluate existing recreational facilities for health, safety, and ADA compliance.	2007
d) Publish current user numbers and projections for Youth Sports Programs in *Ashland Directions*.	2008
e) Appropriately designate recreation space in development districts and corridors (e.g., Pond and Eliot Streets).	2008
f) Obtain right-of-first-refusal agreements with the state for Ashland State Park and other state-owned land in town.	2008
g) Increase accessibility of facilities to comply with the Americans with Disabilities Act.	2008
h) Improve drainage at Stone Park.	2008
i) Seek monies from Town and other sources to fund capital improvements at recreational fields.	2008
j) Investigate the need for and possibility of developing recreation fields at Ashland High School	2008
k) Expand the uses of Ashland State Park to include year-round access and additional recreational opportunities.	2009
l) Secure agreements for continued use of privately owned recreation facilities.	2009
m) Establish town-employed Parks Department personnel to improve management of town recreation fields.	2010

Goal C: Preserve and improve the quality, character, and health of Ashland's community and environmental resources by remediating degraded lands, protecting common resources, and preserving the cultural heritage.

Objective C.1: Protect drinking water resources and the lands which affect them in order to preserve quality drinking water for Ashland residents.

Action	Timetable
a) Monitor water quality surveys to stay informed of pertinent concerns.	ongoing
b) Hire a hydrogeologist to determine groundwater flow and determine zones of contribution for each aquifer.	2008
c) Strengthen the aquifer protection bylaw to include aquifer recharge areas as regulated lands, for the protection of the town wells near Hopkinton Reservoir.	2009
d) Review land use within the zones of contribution to determine if any hazardous waste issues exist that are degrading water quality.	2009

Objective C.2: Proactively remediate and rehabilitate degraded lands such as brownfields, quarries, and landfills to improve the health and condition of Ashland's environment while expanding recreation opportunities for Ashland residents.

Action	Timetable
a) Create a Brownfield Commission including members of the Board of Health and Open Space Committee to explore and guide the remediation and reutilization of contaminated properties in town that might serve as open space or for recreation.	2007
b) Continue developing designs for the Aggregate Industries quarry.	2011
c) Explore the potential of the Howe Street landfill as a site for the development of new athletic fields.	2011

Objective C.3: Protect and preserve lands that have archeological or historical significance.

Action	Timetable
a) Update the town's inventory of historically and archeologically significant sites and create a GIS layer with this information to file with the Massachusetts Historical Society.	2007
b) In consultation with the Ashland Historic Commission, nominate significant sites in town to the National Registry of Historic Places to acknowledge and preserve their historic significance.	2008
c) Preserve the historic character of downtown with appropriate zoning and the development of a plaza park.	2009
d) Require archeological surveys in areas proposed for development that possess high potential for archeological significance (see Appendix D for Maps.)	2009

Goal D: Build a strong constituency of open space and recreation advocates in Ashland through education and collaborative partnerships.

Objective D.1: Establish local and regional partnerships to collaborate on common goals and objectives.

Action	Timetable
a) Establish alliances with regional, state, and neighboring community open space organizations like the SuAsCo Watershed Community Council, Sudbury Valley Trustees, Hopkinton Area Land Trust, Southborough Open Land Foundation, Rails to Trails Conservancy, Massachusetts Riverways, Bay Circuit Alliance, Massachusetts Department of Conservation and Recreation, Sudbury River Watershed Organization, and Bay State Trail Riders Association.	2007
b) In order to collaborate on mutual goals and build partnerships within Ashland, hold collaborative meetings of the Open Space Committee, Board of Selectmen, Planning Board, Comprehensive Plan Committee, Ashland Redevelopment Authority, Recreation Department, Department of Public Works, Town Forest Committee, and Conservation Commission.	2007

Objective D.2: Promote an appreciation of Ashland's existing open space, natural resources, and historic character.

Action	Timetable
a) Host programs providing diverse recreation opportunities to town residents.	ongoing
b) Organize hikes and naturalist workshops.	ongoing
c) Sponsor historical and archeological tours of Ashland.	ongoing
d) Encourage the use of open space land as living laboratories in the science classes of the Ashland schools.	ongoing
e) Publish the Open Space and Recreation Plan on the town website.	2007
f) Map and publish townwide trails in pamphlet form for easy distribution.	2007
g) Post clear signs at trailheads to improve awareness of access points.	2008

Objective D.3: Educate residents on the impact of human activities on the environment.

Action	Timetable
a) Educate children through the school curriculum about environmental science and sustainable natural resources.	2008
b) Sponsor a river cleanup or stream surveying with volunteers from the general public.	2008
c) Via Ashland Day, Earth Day, Rediscover Ashland Day, and other means, educate residents about proper disposal of household waste, stormwater management, water conservation, and benefits of landscaping with native plants.	ongoing

Objective D.4: Educate residents about conservation options and the social and economic advantages of open space in a community.

Action	Timetable
a) Publicize existing tax incentive programs, such as conservation restrictions for property owners. Develop informational inserts for inclusion in tax bills.	2008
b) Market the benefits and successes of open space conservation initiatives.	ongoing

The next map diagrams the goals and priority areas identified through the process of compiling this Plan. Focus areas are as follows:

1. Indian Brook/Weston Nurseries – Quality open space east of Hopkinton State Park creates connections between natural lands, preserves water quality of Indian Brook, and enhances existing trails.

2. Ashland Fish and Game Club – This important conservation and recreation area is an important link between the Sudbury River and the Ashland Town Forest, along the Bay Circuit Trail from Mill Pond Park. This land is a valuable connection between the social center of Ashland and its largest natural area.

3. United Church of Christ – These valuable conservation lands are home to old forests, streams, meadows and wildlife. Preserving these valuable lands can enhance Ashland's premier conservation resource, the Town Forest.

4. Aggregate Industries Quarry – Planning for the future of this active quarry is a key component to an open space future in Ashland. Remediating these lands can help protect public drinking water, expand recreation opportunities, and protect natural areas and many unique features valued by residents. Future use of this land by the town could be an invaluable asset to present and future residents.

5. Warren Conference Center/Former 4H Club – The open lawns and meadows around the Warren Conference Center provide a variation in Ashland's landscape, offering valuable recreation opportunities, athletic fields, and wildlife habitat.

6. Ashland High School – Lands behind the new high school connect Wildwood Cemetery to lands above Brackett Reservoir. Future use of this area should be balanced between its conservation value and the recreational needs of the community.

7. Route 126 Wetlands – The extensive wetland network on the eastern end of town provides excellent habitat for a variety of species, important water storage and filtration, and walking trail opportunities. Protection of this resource can be enhanced by preserving upland areas nearby.

To preserve Ashland's character as a green community, Ashland must plan now for a positive future. The town must take action to preserve the remaining valuable lands that connect existing open space and recreation amenities, lands that protect the town's water resources, lands that increase access to recreation and open space lands, and lands that improve existing natural lands.

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Public Comments

Section Ten is reserved for public comments and letters of review about this plan from the Planning Board, Board of Selectmen, Conservation Commission, the Metropolitan Area Planning Council, and other reviewers.

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