

Open Space & Resource Protection

I. Issues, Goals & Recommendations

The views from Sagamore Hill across open fields, forests, homes, and Masconomet's burial site out toward Ipswich Bay provide visual proof of the diversity of Hamilton's resources and its cultural legacy. Hamilton is the product of its Native American heritage, its proximity to the coast, its natural history and environment, its colonial ancestors, its religious and equestrian communities, and its location near Boston. These influences have shaped the town's unique and enduring charm, and they must be accounted for in any plan to direct Hamilton's future development.



The open space and resource protection element of a master plan should provide a comprehensive guide for the protection, use and stewardship of a community's public assets. It highlights critical resource issues, identifies areas that merit special attention, and suggests ways for local government to be an agent of preservation.

Protecting land and water resources takes tremendous effort and diligence on the part of town officials, residents and landowners. Throughout the Commonwealth, the land market favors homes, not farms or forests. While Massachusetts is renowned for strong environmental laws, its land use laws are notoriously weak. Since land use regulation is the responsibility of cities and towns, it falls to them to resolve conflicts between development and open space. Hamilton needs to address its open space goals in ways that make environmental, economic and fiscal sense for a small town. By embracing the right mix of techniques – acquisition of land and development rights, effective regulations, working with developers and non-profit organizational partners, a structure to coordinate the work of town boards, public education and economic incentives – local government can successfully implement this master plan.

Important Questions

The open space and resource protection element addresses six questions that form the basis for the recommendations and policies outlined in the Master Plan:

- What are Hamilton's significant natural, cultural and open space features?
- Does the town have effective strategies to preserve open space?
- What are Hamilton's natural resource policies, and do they protect public health and the environment?
- Is Hamilton protecting its water resources and can it continue to provide adequate supply for residents and businesses?
- Does the town have policies and strategies to protect its historic and cultural resources?
- What is local government's responsibility for open space and resource protection, and does it have adequate capacity to fulfill its role?

Discussion

In Hamilton, both the variety and abundance of open space – undeveloped land with critical resource value, scenic views or historic significance – are very important to the character of the town. Notably, land conservation has been a local concern for many years. When Charles W. Eliot II wrote the town's first master plan in 1965, he stressed the importance of protecting Hamilton's open space because it is so central to the rural image of the town. Throughout the development of this master plan, residents consistently cited open space protection as one of their most important goals. Today, the town owns very little of the land that local officials classify as open space: less than 8% of about 3,000 permanently protected acres in the community.

Open space preservation enjoys broad constituent support, but there seems to be less agreement about which parcels are most important and what the town's role should be in protecting them. For many decades, Hamilton benefited from the generosity of private landowners, the work of land conservation groups, and investments by the state to preserve significant tracts of open space, mainly in the western end of town. During the 1990s, local government took a more active role by joining Manchester to acquire a large conservation area, Chebacco Woods. The Hamilton-Wenham Open Land Trust and other volunteers and town officials worked tirelessly on the Chebacco Woods project, not only by building public support to buy the land but also by writing an Open Space and Recreation Plan for the town – a plan that became key to Hamilton's eligibility for state grants. When the Citizens Action Planning Committee (CAPC) surveyed residents about a variety of master plan issues in 2002, 74% of the respondents said Hamilton should put more effort into protecting open space. Still, only 55% thought that taxes or other local revenue should be used to buy land or development rights. While Hamilton residents want to save open space, they do not necessarily think the town should have to pay for all of it.

Hamilton's conservative debt policies, high tax bills, and traditional reliance on wealthy citizens and private groups to conserve land all help to explain why the town owns so few parcels of open space, and lacks funding to acquire it. Unfortunately, the town has no dedicated source of funds to purchase land for conservation or any other public purpose. In Hamilton today, there are about 1,440 acres of identified open space without permanent protection and an additional 966 acres of vacant, undeveloped land, though not all of it is developable. Some of the land has significant natural resource value as wetlands, groundwater recharge, habitat, wildlife corridors, steep slopes and resource protection buffers. To promote wise public investments, the CAPC's Open Space and Resources Committee developed several criteria to identify acquisition priorities:

- Large, unfragmented forest land.
- Ecological value (wetlands and wildlife habitat).
- Scenic vistas and aesthetic value.
- Contiguous with existing protected land.
- Water resource and water supply land.
- Trail preservation and connectivity.
- Opportunities for passive recreation (playing fields, parks, etc).
- Suitable for active recreation.
- Agricultural and equestrian land
- Location in areas with limited protected open space

Buying conservation land is expensive in Hamilton, especially when land is purchased after owners have already agreed to sell their property for development. Acquisition costs, management obligations and maintenance costs, loss of tax revenue and potential municipal liability all need to be

considered. To manage and succeed at any open space acquisition strategy, Hamilton must dedicate funding and designate a staff member to negotiate land deals and work with volunteers. Since Hamilton cannot afford to save all of the open space that residents care about, the town also needs to develop a list of acquisition priorities based on the above criteria. Without all of these ingredients – paid and volunteer personnel, a capital projects fund, and a priority list – it will be very difficult for local government to play an effective role in protecting open space.

The greatest threat to Hamilton's remaining unprotected open space is sprawl, or the continuation of large-lot residential development throughout the town, which is effectively encouraged by Hamilton's current zoning bylaw. Given the high cost of land in Hamilton, the town's reluctance to embrace innovative zoning techniques further limits its ability to protect open space. It is very important to complement a land acquisition program with zoning regulations to conserve open space, farms and equestrian facilities on one hand, and manage the impacts of development on the other. In 1987, town meeting adopted a flexible-plan subdivision bylaw that was intended to promote creatively designed housing developments with common open space. However, the bylaw's shortcomings have resulted in missed opportunities to secure significant amounts of open space as the town absorbed new growth. Other open space zoning techniques recommended by a planning consultant in 1985 were never adopted.

Hamilton does use its zoning bylaw to protect sensitive natural resources when new development occurs. For example, Hamilton's Conservancy (Zoning) District places limitations on wetland development. Zoning is an important tool for regulating land use, while the local wetlands bylaw and M.G.L. c.131, §40, the Massachusetts Wetlands Protection Act regulate environmentally harmful practices in new development and areas that are already developed. The Conservancy District includes the town's wetland areas and it provides for only a limited number of uses by right or by special permit from the Zoning Board of Appeals. In addition, the Groundwater Protection Overlay District (GWPO) covers 3,538 acres and seeks to protect water supplies with large-lot requirements (2 acres) and restricted uses. The GWPO is a critical tool to protect water quality, but it may have an unintended consequence: increased water consumption per capita. The large homes built on Hamilton's requisite large lots consume significant, possibly unsustainable, amounts of water for lawn irrigation.

Providing water for drinking and fire protection has been a serious issue in Hamilton for decades. The same holds true for improving and protecting the quality of all water resources in town, whether for drinking water use, recreation, or wildlife. While the problems and their causes differ, adequate drinking water and water quality are recurring challenges for Hamilton. They are evidenced by the frequency of summer water bans on one hand, and by the condition of the Ipswich River and Chebacco Lake on the other. Providing adequate, high quality, potable water is a critical Master Plan objective, but the town must come to terms with the meaning of "adequate." Water is not an unlimited resource. If it is not conserved and protected today, there will not be enough potable water for future residents and wildlife. There are several alternatives to managing water consumption, such as pricing water to encourage conservation, prohibiting or restricting lawn irrigation systems, requiring smaller building footprints in the GWPO, studying the impacts of private wells on the public water supply, and adopting more stringent regulations than the State Building Code for water conservation devices in all new construction and substantial reconstruction. In addition to water conservation, acquiring additional land for water supply purposes outside of the overstressed Ipswich River Basin is crucial for Hamilton.

Hamilton's existing regulations could do more to protect surface and groundwater quality. Evidence of nutrient loading, sedimentation and erosion, point and non-point source pollution, and

invasive species threaten water quality in many parts of town. Regulations administered and enforced by the Conservation Commission under the Wetlands Protection Act and the town's Conservation Bylaw help to address these problems. However, stricter enforcement of existing requirements seems very important. The town also needs new strategies to manage nutrient loading from septic systems, lawn care practices, agriculture, sedimentation and erosion. There is a compelling need for mandatory septic system maintenance regulations, particularly in East Hamilton around Chebacco Lake, the School Street wellfield, Beck and Pleasant Ponds, Asbury Grove, and throughout the Groundwater Protection Overlay District, all of which are vulnerable to poorly maintained or failing septic systems. A land clearing and grading bylaw could mitigate erosion and enhance infiltration during construction projects, but the town needs adequate enforcement capacity.

Hamilton has a strikingly limited repertoire of mechanisms to protect cultural and historic resources. The town does use the Massachusetts Scenic Roads Act, G.L. c. 40 § 15C, to provide some protection for trees and stone walls along roads that town meeting has designated as scenic ways. However, Hamilton's historic structures survive largely because private homeowners and landowners value these treasures from their town's past. There is no guarantee that significant buildings or their context will be preserved in the future. At Charles Eliot's urging, the town established a local historic district on Bay Road in 1972. It contains a collection of special landmarks in Hamilton Center including Town Hall, the town's first church and meeting house and Cutler Park, which establish a clear sense of place. While Hamilton has other significant historic buildings, no structure or outbuilding outside of this one district is currently protected from substantial alteration or demolition. It appears that Hamilton has not conducted other historic property surveys since the Hamilton Center Historic District inventory was completed in the early 1970s. Without comprehensive inventories, Hamilton cannot nominate buildings or districts for listing on the National Historic Register or create local historic districts. Just as conservationists need a detailed open space inventory in order to identify the land they should protect, preservationists need a historic resources inventory in order to protect a town's cultural or built assets.

Town-wide, residents support open space conservation and resource protection. However, the Town currently has very little capacity, in terms of staffing and funding, to preserve the features that people love most about Hamilton. The Town needs to pursue a multi-faceted strategy to protect its remaining open space and resources. Real property acquisition is sometimes the best and most permanent strategy, and the town needs a ready source of funds for open space, water supply and public resource acquisition. However, this is an expensive choice and it creates stewardship and management obligations for the town. Land purchases should be reserved for the most significant parcels and resources. At times, the town may need to sponsor or facilitate limited development projects in order to finance the acquisition of selected open space. The town should also collaborate with other surrounding towns on regional land conservation projects, as it did with Chebacco Woods. Whether the town pays for land entirely with bonds or by combining bond revenue with the proceeds of sale for limited development, Hamilton's small local government needs to be organized and staffed to undertake these initiatives.

The hardest choices that Hamilton must make involve growth management and environmental regulations. If local government cannot purchase all of the town's open space resources, how will it preserve and manage public assets? Since most of the development in Hamilton occurs on Approval

Not Required (ANR) lots,¹ ordinary zoning rules and subdivision regulations alone will not protect natural and cultural resources from adverse impacts of new development. Moreover, by failing to send a consistent message to developers about Hamilton's preservation objectives, the town effectively places the entire burden for land conservation on civic-minded individuals, land trusts, non-local organizations such as state government or national conservation groups, and notably, Hamilton's taxpayers. The challenge is to adopt regulations that are not draconian, but still provide real resource protection and can be enforced by the town. Land use regulations, like "adequate" water supply, must have shared meanings for those who use and value the town's resources. A major objective of this Master Plan is to encourage Hamilton to adopt a range of resource protection tools so that landowners, local officials and residents can make realistic choices as the town continues to grow and change.

Toward this end, Hamilton might consider steps that neighboring Ipswich has taken to protect its important open space. During the 1990s when development threatened some notable large properties there, public support to protect Ipswich's critical open space parcels gained significant momentum. In 2000, Annual Town Meeting authorized a \$10 million Open Space Bond to protect land for open space, water supply and recreation. Thereafter, the Ipswich Board of Selectmen created and appointed an Open Space Bond Steering Committee to make recommendations on how the program should be administered. The Committee recommended a number of actions, such as hiring a program manager to oversee the Open Space Bond program. A citizens' task force also conducted a comprehensive inventory and assessment of over 60 open space parcels, and ranked them according to a set of criteria.

Since April 2000, Ipswich has saved six parcels with a combined total of 289 acres at an anticipated net cost to the town of about \$3.84 million, or \$13,300 per acre. This net cost estimate includes direct reimbursements and grants from state agencies, other grants, and the town of Topsfield. The total cost to protect the land was approximately \$7.6 million, but through partnerships with various state agencies and other organizations such as the Massachusetts Department of Conservation and Recreation and the Essex County Greenbelt Association, Ipswich has paid only half of the cost of acquiring and protecting these properties. In addition to land acquisitions, the Open Space Bond also covers the salary of the Open Space Bond program manager and the costs of legal services, consultants, title insurance, and other related expenses.

Open Space & Resource Protection Goals

- 1) Significantly increase the amount of protected open space by preserving large ecologically significant tracts of forest, habitat corridors and water resources.
- 2) Preserve and encourage rural, working landscapes: agricultural and equestrian.
- 3) Encourage public use and enjoyment of Hamilton's open space by maintaining and linking the existing trail network, and by providing passive recreation opportunities throughout the town.
- 4) Protect the capacity and quality of Hamilton's wetland, surface and groundwater resources.
- 5) Assure the endurance of key historic buildings, stone walls, mature trees and vistas that represent Hamilton's history and define its visual character.

¹ A lot that does not require Planning Board approval under the Subdivision Control Law because it meets the town's minimum lot area and frontage requirements and has adequate access to a way.

Open Space and Resource Protection Policies

- 1) All stakeholders – town officials and employees, residents, property owners and developers – share responsibility for protecting Hamilton’s land and water resources.
- 2) Hamilton’s town boards share responsibility for protecting land and water resources and they will work cooperatively to achieve that end.
- 3) Bond authorizations to acquire and protect significant open space and land for water supply and recreation purposes is an appropriate use of local government resources. The town will make every reasonable effort to allocate 1.5-2% of its annual expenditures to debt service for public land acquisition and improvements, to be paid for with general fund revenue, developer contributions to the (proposed) Land and Water Conservation Fund, Community Preservation Act (CPA) surcharges, transfers from the water enterprise fund, and other available resources.
- 4) Hamilton seeks to preserve agricultural land, open space and forests from alteration, and to protect the character of historic and scenic corridors. Developments will be designed and built to support these objectives by adhering to open space-cluster principles whenever possible.
- 5) Hamilton recognizes the architectural importance of structures that represent all eras of the town’s development. Significant historic buildings will not be substantially altered or demolished without prior review by the historical commission and consultation with the Planning Department to identify feasible alternatives.
- 6) Hamilton will use a variety of tools, including strategic land purchases, limited development, working with conservation partners, conservation restrictions and zoning techniques, to achieve its open space and resource protection goals

Open Space & Resource Protection Recommendations

Bylaws and Regulations

- 1) Adopt an open space-residential cluster bylaw that requires open space design in new developments that exceed a particular threshold, e.g. five or more housing units, and protects important natural features, preserves trails and/or provides recreation space.
- 2) Adopt a land clearing and grading bylaw that requires all non-agricultural clearances of 20,000-30,000 ft² or more to obtain prior review and approval by the Planning Board in order to protect mature trees, stone walls and prevent erosion and sedimentation.
- 3) Evaluate regulatory options to protect established trail systems.
- 4) Consider a Transfer of Development Rights (TDR) bylaw to protect high-priority open space parcels by transferring their development rights to other locations where there is capacity to absorb higher-density development. Designating “sending” (open space) and “receiving” (development) areas that complement the Land Use Policy Plan.
- 5) Adopt regulations to require septic system maintenance (pumping) for all systems located around Chebacco Lake, the School Street wellfield, Beck and Pleasant Ponds, and within the Groundwater Protection Overlay District.
- 6) Ban or restrict new underground sprinkler systems to lower water consumption and require all new construction and significant rehabilitation projects to use water-conserving fixtures.

- 7) Adopt a bylaw that gives the Historical Commission the power to review demolition permits and delay demolition of historically significant structures (e.g., over 50 years old) for at least six months.
- 8) Provide zoning regulations to make preservation of older buildings economically feasible. For example, allow the conversion of large, historic homes to multi-family, mixed-use or commercial uses by special permit, subject to a design review process based on the Secretary of the Interior's Standards for the Treatment of Historic Properties.
- 9) Initiate the necessary planning, surveys and inventories to establish more local historic districts in Hamilton, including single-property or parcel districts, and nominate additional districts and properties for listing on the National Register of Historic Places. Hamilton should prioritize the inventory by starting with the town's Scenic Roads: Asbury Street, Bridge Street, Chebacco Road, Cutler Road, Highland Street, Gardner Street, Goodhue Street, Miles River Road, Sagamore Street and Walnut Road.
- 10) Review the Planning Board's Subdivision Control Regulations for potential inconsistencies between roadway design and construction standards and the preservation of Hamilton's scenic character. Consider allowing narrower streets, a smaller cul-de-sac, and no sidewalks to minimize unnecessary paving/loss of open space.

Policy, Program and Capital Investment Actions

- 1) Authorize a bond issue for open space conservation, water supply, agricultural, park and recreation land purchases. Establish an oversight committee for the bond issue, and eventually transfer responsibility for coordinating acquisitions to the (proposed) Department of Planning and Community Development.²
- 2) Focus land acquisition investments in areas designated as resource protection priorities: unfragmented wetland, riparian, forest and other significant habitats; water supply and storage areas; agricultural land; and recreation sites and trails.
- 3) Work with private property owners and conservation organizations to pursue protection of key open space parcels through conservation restrictions, gifts of land and so forth, and pursue regional conservation projects with surrounding towns.
- 4) Establish an inter-departmental Land Use Committee to strengthen and sustain coordination and communications between the Planning Board, Zoning Board of Appeals, Conservation Commission, Board of Health and Historic District Commission.
- 5) Assure consistency between the town's water rate structure and the water conservation and land use objectives of the Master Plan.
- 6) Acquire land for future water supplies outside the Ipswich River Basin and develop a storage facility to increase supply and improve domestic pressure and fire flows, combining open space preservation with water supply protection.
- 7) Adopt the Community Preservation Act (CPA) to provide revenue for open space acquisition and historic resource protection.

² See also, Land Use Element.

- 8) Create a Land and Water Conservation Fund and allow developers to make a payment in exchange for increased density, subject to established criteria and review and approval by the Planning Board.
- 9) Establish an Agricultural Incentive Committee to study the feasibility and appropriateness of creating Agricultural Incentive Areas under the provisions of G.L. c.40-L, a Farmland Conservation Overlay District or an Agricultural Preservation District. The committee should also explore non-zoning agricultural land preservation incentives such as tax abatement, town-sponsored markets, Agricultural Preservation Restrictions (APR) and buffer acquisition and design.
- 10) Institute a predictable cycle of 5-year Open Space and Recreation Plan updates to assure that the Conservation Commission is eligible to apply for and receive Self-Help Grants.

Implementation Capacity

- 1) Establish formal relationships between the (proposed) Department of Planning and Community Development and conservation groups such as Essex County Greenbelt Association, Hamilton-Wenham Open Land Trust, Massachusetts Audubon Society, Trustees of Reservations, the Essex County Trails Association, and the Massachusetts Department of Conservation and Recreation to partner on complementary land acquisition projects for fundraising, grant writing, negotiation, outreach/education and land stewardship.
- 2) Dedicate a percentage of the acquisition fund bond proceeds to retain a town planner/capital projects coordinator in the Department of Planning and Development.
- 3) Assign the (proposed) Department of Planning and Development with responsibility for strictly enforcing and monitoring resource protection regulations and stewardship/management agreements. Evaluate the existing fee structures of town boards to determine if adequate funds exist to monitor compliance.
- 4) Implement demonstration projects and best practices at town-owned properties, and use interpretive signs (when appropriate) to educate residents and visitors.

II. Open Space and Resource Protection Analysis

Land and Water Resources

Open Space

Hamilton's open space meets scenic, environmental and recreational needs and it supplies a network of bridle paths and trails. Two significant open space corridors – along the Ipswich River in the western part of town and the greenway from Bradley Palmer State Park along Black Brook down to Patton Park, as shown in Map 5 – provide ecological, agricultural, recreational and public safety benefits and provide a model for successful open space protection that meets multiple community needs. According to town records, Hamilton's open space inventory includes approximately 4,862 acres of land, 60% of which is permanently protected³ This means that Hamilton has about 0.57 acres of open space per capita and 0.38 acres of protected open space per capita. Town government – mainly the Conservation Commission – own about 8% of all permanently protected open space in Hamilton. Most of the town's protected open space is located in the western part of town, with smaller amounts in the eastern portion.

Open space is typically classified according to a level-of-protection framework that recognizes "permanent," "temporary," "limited" or "no" use restrictions. Permanently protected open space includes only land owned for conservation and wildlife habitat by federal and state agencies or non-profit organizations, and privately owned land bound by conservation easements or an Agricultural Preservation Restriction (APR). Temporary and limited-protection open space includes land covered by revocable restrictions against development or change in use. A farm that is differentially assessed for tax purposes as long as the land is used for agriculture is an example of temporarily protected open space. Limited-protection open space includes land uses such as cemeteries, schools, parks or ball fields that could but are unlikely to be redeveloped. "Unprotected" open space is land with no legal restrictions against future development. Hamilton's most significant, permanently protected open space holdings include:

- The 365-acre Chebacco Woods, including 114 acres purchased by Hamilton and Manchester in the late 1990s, and 250-acre Manchester water supply property around Round and Gravelly Ponds, on which Manchester granted a conservation restriction to Hamilton. This is the largest parcel in the eastern part of town and it includes a certified vernal pool, kettleholes and hemlock forest.
- The 101 acres owned by the town to protect well heads at Pine Tree, Idlewood #2, Bridge Street, Patton, School Street and Brown's Hill.
- Bradley State Park, with 550 acres in Hamilton, is a regional recreation resource. It is used for walking, skiing, riding and picnicking.
- Ipswich River Wildlife Sanctuary, consisting of about 2,800 acres including 521 acres in Hamilton, is owned and managed by the Massachusetts Audubon Society. It protects the riparian banks and floodplain of the Ipswich River and walking trails connect pond, swamp, marsh and upland habitats.

³ "Protected Open Space in Hamilton," CAPC Open Space Subcommittee to Community Opportunities Group, Inc. (June 2003). See Appendix D for Hamilton Open Space Inventory and List of Significant Unprotected Parcels.

- Appleton Farms and Appleton Farms Grass Rides, approximately 360 total acres in Hamilton, owned and managed by the Trustees of Reservations. The 953-acre working landscape located in Hamilton and Ipswich is protected and can be accessed by a trail network.
- Two private land trusts - The Essex County Greenbelt Association and the Hamilton-Wenham Open Land Trust - own in fee and hold conservation restrictions on approximately 985 acres.

Significant temporarily and unprotected open space in Hamilton's inventory include:

- The 414-acre Myopia Hunt Club and Schooling Field are located in the south-central part of Town on Bay Road. Myopia is a private, golf, tennis and equestrian facility founded in 1876.
- The grounds of Pingree School (101 acres) on Highland Street and Gordon-Conwell Seminary (127 acres) on Essex Street, both the result of family estate dispositions that occurred several decades ago.
- Approximately 700 acres of farms, forest and other open space temporarily protected by Chapter 61, 61A and 61B.⁴

Hamilton is very proud of its agricultural and equestrian traditions. Horse farms and riding trails are found throughout the town, many associated with the estates of wealthy families that made their summer homes in Hamilton after Myopia Hunt Club relocated from Winchester in the late 19th century. A majority of the town's farms are non-commercial, rural-residence farms: large holdings used principally as a residence, with accessory agricultural uses and attendant outbuildings, although Hamilton also has a few small working farms. Owing to the age of these properties and their relationship to the town's development history, Hamilton's rural-residence farms have both open space and cultural resource value.

Hamilton's official open space inventory does not recognize all vacant or substantially open land, which is true in all communities. Local officials recently catalogued other important parcels and identified 35 over 20 acres with a total of more than 1,800 acres.⁵ These parcels are privately owned and nearly all are between 25-90 acres in size. The holdings are concentrated in two areas of Hamilton: along Bay Road (649 acres), and in the area east of Bay Road and north of Essex Street (676 acres).

Wetland and Water Resources

Hamilton's water resources (Map 6) are diverse and they contribute to the town's beauty and its sense of place. Groundwater is used for drinking water, and surface water is used for, recreation and habitat. The quantity of drinking water and the quality of ground and surface water resources are important issues in Hamilton. Future development can adversely affect water quantity and quality, but today, nutrient loading, sedimentation and erosion, point and non-point source pollution, and invasive species are greater threats than new growth to Hamilton's water quality.⁶

⁴ The 700-acre estimate is based on local assessment data.

⁵ CAPC Open Space Subcommittee, "Significant Unprotected Properties in Hamilton," Stet--March 2003).

⁶ Hamilton Open Space Working Group and Hamilton Conservation Commission, Open Space and Recreation Plan for the Town of Hamilton (1997), 4-10 -4-14.

Surface Water

Ipswich River. The Ipswich River, a Class A and B waterway, bounds Hamilton to the north and west. The portion that flows along the town boundary is proposed as a state-designated Scenic and Recreational River. Water quality ranges from good to excellent and is used for swimming, fishing and canoeing.⁷ The river recharges wells in Hamilton and Ipswich. Seasonal violations of coliform bacteria and dissolved oxygen are attributed to large wildlife populations living in the Ipswich River Basin. The Massachusetts Audubon Society's 2,800-acre Ipswich Wildlife Sanctuary (521 acres in Hamilton) protects this significant riparian habitat. As documented by the Ipswich River Watershed Association, the river is severely impacted by upstream pumping and resulting low summertime flows, which has led the Department of Environmental Protection to issue revised withdrawal permits to all towns with wells in the watershed requiring significant decreases in water use and increased conservation measures. As such, the Ipswich River presents a regional water supply and quality problem that Hamilton alone cannot solve, but which significantly constrains Hamilton's water supply options.

Miles River. The Miles River runs north from Wenham Lake, and the Longham Reservoir, into the Ipswich River. Its source is Wenham Lake and nearby wetlands. Many small tributaries enter the river in Hamilton. Residential development borders the river throughout the town and there is little protected buffer beyond the 200-foot buffer required by the Rivers Protection Act. The Hamilton and Wenham Conservation Commissions, together with environmentalists from Beverly and Ipswich, established the Miles River Task Force in June 2002 because of their shared concerns about industrial pollution, low water levels and encroaching dense vegetation.⁸ The task force is developing a plan to restore and manage the river.

Brooks, Lakes and Ponds

Hamilton's secondary waterways include perennial streams, brooks, lakes and ponds. Two brooks – Idlewild and Black - provide drainage for large wetlands. The riparian habitat along Black Brook is an important water source through a large open space corridor. The 207-acre Chebacco Lake on the Essex-Hamilton border, with about 83 acres in Hamilton, is an important recreation resource for fishing, boating and swimming, and a spawning ground for anadromous fish (alewives). Nutrient loading and bacterial contamination from failing septic systems, run-off and household greywater all threaten Chebacco Lake's water quality.

Hamilton has several significant ponds – Beck, Round, Gravelly, Pleasant, Weaver and Cutler. The town of Manchester depends on Round and Gravelly Ponds for its drinking water. Pleasant Pond is used for fishing, swimming and boating, but Hamilton residents must use the Wenham Beach to access it. Weaver Pond, which was created by dredging a swamp in the 1940s, is a significant natural feature in Patton Park. Weaver Pond has eutrophied due to nutrient loading from fertilizer and geese, and invasive weeds choke its banks. Pleasant and Beck Ponds face similar contamination

⁷ The Massachusetts Division of Water Pollution Control classifies water quality. Cited in Open Space and Recreation Plan (1997), 4-4.

⁸ Jane Dooley, "Miles River Mess," Hamilton Wenham Chronicle [online], [cited 20 September 2002]. Available from the World Wide Web at <http://www.townonline.com/hamilton/news/local_regional/>

threats.⁹ Cutler Pond is a small pond in Cutler Park in the town's Historic District. Presently, it has no recreational uses.

Wetlands

Wetlands are an important component of the hydrologic system. They play a critical role in water storage and flood control and many species of wildlife depend on wetland habitat. They also protect water quality and function as groundwater recharge and discharge areas. The wetlands interests identified and protected by the Wetlands Protection Act and the Hamilton Conservation By-Law include water supply protection, pollution prevention, flood control, storm damage prevention, wildlife habitat preservation and soil erosion control. Available GIS data suggest that more than 26% of Hamilton's total land area is comprised of wetland resources. Deciduous wooded swamp (1,257 acres) is the most prevalent wetland type.¹⁰ Hamilton's largest wetland complexes are Wenham Swamp in the southeast corner of town, and along Black Brook. The riparian border along the Miles River includes large areas of deep marsh and swamp wetlands, particularly in the area north of Bridge Street. The land between Beck Pond and Chebacco Lake is nearly all swamp.

Groundwater Resources & Public Drinking Water

Hamilton relies entirely on groundwater as its source of drinking water and all of its operating water supplies lie within the overused Ipswich River Basin.¹¹ The largest wellfield is north of Pleasant Pond near the Wenham line, where three gravel-pack wells produce a combined average yield of 650 gallons per minute (gpm) and have a maximum withdrawal authorization of 880 gpm.¹² Two smaller wells, School Street and Patton, yield about 120 gpm. There is also a non-operating well on Bridge Street near the School Street supply. All groundwater pumped from these wells is filtered at the Gordon "Tiny" Thompson Walter Filtration Plant on Pine Tree Drive to remove iron and manganese.¹³ According to local officials, Hamilton's existing wells do not provide enough water to meet demand. This is a long-standing problem in Hamilton, though investment in new water supplies and the treatment plant have helped to reduce the frequency and duration of water bans.

The Massachusetts Department of Environmental Protection (DEP) recently issued a revised withdrawal permit to Hamilton under the Water Management Act, which restricts the Town's pumping from its wells and requires more stringent water conservation measures to protect flows in the Ipswich River. Local officials anticipate that DEP will approve a new gravel-pack well in the large wellfield near Wenham as part of the overall 10-year permit renewal process. The Department of Public Works Director (DPW) estimates that the proposed water supply will help to meet existing demand.¹⁴ He believes the town should explore for future supply sites in east and northeast

⁹ Steven Kenney, Hamilton Department of Public Works Director, interview by Andrea M. Underwood, Community Opportunities Group, Inc., 28 October 2002.

¹⁰ MassGIS, Statewide Vector Data, filenames "w249926.dbf, w249930.dbf, w249934.dbf, w253926.dbf, w253930.dbf, w253934.dbf, w257926.dbf, w257930.dbf and w261926.dbf," updated July 2002.

¹¹ Open Space and Recreation Plan (1997), 3-12.

¹² Steven Kenney, interview by Judith A. Barrett, Community Opportunities Group, Inc., 21 October 2001.

¹³ Hamilton Department of Public Works, Consumer Confidence Report and Annual Drinking Water Quality Report, (2001).

¹⁴ Steven Kenney, 21 October 2002.

Hamilton near the Chebacco Woods conservation land and the U.S. Air Force property on Sagamore Hill, which lies in the North Coastal Watershed Basin.¹⁵ The DPW Director reports that conservation acquisitions and restrictions have prevented other potential sites in the Ipswich River Basin from being developed as well fields.

Neighboring Manchester, Ipswich and Essex also depend on Hamilton to help protect their drinking water supply systems. These towns use Hamilton's surface water resources for their drinking water. Manchester has a permit to pump up to one million gallons per day (mgd) from Round Pond to Gravelly Pond and then water is pumped from Gravelly Pond for treatment. The water is treated to remove iron and manganese at a recently constructed treatment plant near Gravelly Pond. The plant's treatment capacity is 2.0 mgd, though local records indicate that 0.65 mgd is the safe yield to pump from Gravelly Pond.¹⁶ In addition, two groundwater wells for Essex are located in the Chebacco Lake watershed and the town of Ipswich has three wells near the confluence of Black Brook and the Ipswich River.

Underground storage tanks, floor drains, septic systems, some agricultural practices, household hazardous waste, leachate and road salt all threaten the town's drinking water.¹⁷ The DPW Director is most concerned about potential contamination of the well at School Street and thinks the land around it should be purchased and managed by the town.¹⁸

Hamilton's zoning bylaw provides for water supply protection in 3,538 acres covered by the Groundwater Protection Overlay District (GWPO). Of the district's total land area, the town owns only 101 acres to protect wellheads at Pine Tree, Idlewood #2, Bridge Street, Patton, School Street and Brown's Hill.¹⁹ The GWPO includes the town's wells and recharge areas and those of neighboring communities. As an overlay district, it augments the regulations of underlying zones by prohibiting hazardous materials storage, landfills and other high-risk land uses. Development in the GWPO is also controlled by a minimum lot size of 80,000 ft². In addition, GWPO regulations prohibit uses that will create impervious cover on more than 15% or 2,500 square feet of any lot, whichever is greater. Hamilton has also adopted conservation measures to manage water quantity. For example, the town adopted DEP's Mandatory Water Ban Bylaw, which authorizes the Board of Selectmen to impose voluntary or mandatory water bans on outdoor water use. In addition, the Department of Public Works retrofitted all public buildings with water saving fixtures and it distributes water saving devices to residents who request them. Two years ago, the Ipswich River Watershed Association awarded the town a "B" on its "Water Usage Report Card."²⁰

¹⁵ The boundary between the Ipswich River and North Coastal basins is roughly coterminous with Essex Street. See Massachusetts Geographic Information System (MassGIS), [online] "Basin Index and Major Basins Map," 12 April 2000 [cited 25 October 2002]. Available from the World Wide Web, <http://www.state.ma.us/mgis/ix_bas.html> select "PDF Version."

¹⁶ Open Space and Recreation Plan (1997), 4-5.

¹⁷ Ibid. (1997), 4-12 to 4-14.

¹⁸ Steven Kenney, interview, 28 October 2002.

¹⁹ CAPC Open Space and Recreation Subcommittee, "Open Space in Hamilton," by memorandum to Community Opportunities Group, Inc., October 2002.

²⁰ Consumer Confidence Report (2001).

Geology and Landscape Features

The glacier that covered nearly all of New England shaped Hamilton's topography and the town has the resulting, characteristically diverse landscape.²¹ Swampy areas extend from the Wenham Swamp along the southwest part of town, and along flat areas bordering rivers and brooks. In the eastern part of the town, glacial marine sediments parallel Bay Road and stretch to the MBTA railroad. Flat lowlands and rolling hills covered in glacial deposits like eskers are common. Brown, Vineyard and Cilly's Hills are drumlins that form the largest and highest parts of Hamilton. Glacial till is found around these drumlins and near the lakes in East Hamilton.

There are several soil types located in Hamilton: Freetown Muck in the wetland areas; Merrimac-Hinckley-Urban found around glacial marine sediments and in the glacial outwash; and Paxton-Montauk-Urban, Canton-Woodbridge-Freetown and Chatfield-Hollis-Rock around till uplands.²² The glacial till and the wet, swampy areas are poor sites for development because the soils are too compacted (till) or too constrained for septic systems, although newer technologies and revisions to DEP's Title 5 regulation may make these historically undevelopable sites developable in the future.

Vegetation and Biodiversity

Hamilton's forest cover is typical for central New England.²³ Northern hardwoods – maples, beech, birch, cherry and oak, as well as evergreens red and white pine and hemlock – are found in upland areas. Red maple swamp, sweet pepperbush, winterberry, highbush blueberry, arrowwood viburnum and sedge are common in swampy, wet areas. Rare plants include the showy lady's slipper, pale green orchis, terrestrial stalwort, and the river-bulrush. Invasive species like purple loosestrife are found in some wetlands and along the Miles River.

Migratory waterfowl and black, mallard and wood ducks are all found in Hamilton's open water and wetlands. Other aquatic species include otter, mink, muskrat and game fish. Deer, pheasant, quail, grouse and fishers are game species, and coyotes, fox, fishers, owls, hawks and herons are also evident in Hamilton. The Massachusetts National Heritage Program lists the blue-spotted salamander, spotted salamander, eastern box turtle, golden-winged warbler and the New England medicinal leach as rare, uncommon or ecologically sensitive species found in Hamilton.²⁴

Hamilton's forests and meadows provide habitat for increasingly threatened migratory songbirds. The grasslands at Appleton Farms provide nesting habitat for some of the largest populations of bobolinks and eastern meadowlinks in all of New England.²⁵ The large, open grassland meadows that contain wetlands and vernal pools are among the most critical wildlife habitats in Hamilton and the surrounding region (Map 7).

²¹ Open Space and Recreation Plan (1997), 4-1.

²² U.S. Department of Agriculture Soil Conservation Service, Soil Survey of Essex County, Massachusetts, Southern Part, 1983.

²³ Open Space and Recreation Plan (1997), 4-7 – 4-9.

²⁴ Ibid., 4-9.

²⁵ Trustees of Reservations, Appleton Farms and Appleton Farms Grass Rides, 2002.

Cultural Resources

Cultural resources are the places and institutions that contribute to a community's unique identity. In Hamilton, they contribute to the town's "rural feel" and its traditions as a place of rest and leisure. Despite limited formal preservation efforts undertaken to date, private homeowners, the Historic District Commission and the Historical Society have managed to steward many of the town's significant buildings. In addition, the Community House, the Hamilton-Wenham Arts Council, the Hamilton-Wenham Public Library and the Wenham Museum all provide cultural activities and serve as repositories of documents, records and artifacts.

Architectural Traditions

Originally a settlement called Agawam, Hamilton was once a part of the town of Ipswich. John Winthrop purchased the settlement from the Agawam Sagamore Masconomet in 1632.²⁶ The Town of Hamilton separated from Ipswich in 1788. Early industries included woolen mills along the Ipswich River in the eastern part of the town and the ice industry at Chebacco Lake. Small farms and cottage industries, gristmills, sawmills, blacksmiths, cobblers and shops, were located in the town. Today, Bay Road runs through the historic Town Center and here, and along Cutler Road, well-preserved 19th century buildings in Georgian, Federal and Greek Revival styles line the streets.

A group of Methodist ministers established the Asbury Grove Camp Meeting Association in 1857 and founded a summer colony in Hamilton. Large crowds many times the size of Hamilton's year-round population came to the camp meetings and stayed in tents. By 1899, the grove was a permanent summer colony with about 300 small early-Victorian cottages. The L.B. Bates Memorial Library, a post office, and a hotel, restaurant, laundry and even a jail were built to serve Asbury Grove. A large fire in May 1927 destroyed most of the wood frame buildings, but many cottages were later rebuilt. Asbury Grove is the oldest and longest running camp meeting in the country.²⁷ Today, year round and summer cottages, recreational facilities, a corner market and a chapel comprise the neighborhood's fabric.

The Myopia Hunt Club moved from Winchester to Hamilton in 1883, creating a second summer colony that changed land ownership and social patterns in Hamilton.²⁸ Hamilton became a fashionable summer retreat for Bostonians participating in the polo matches and equestrian sport at the Myopia Hunt Club. Wealthy summer visitors began to purchase old farms and they built estates and country homes. These large estates had both grand houses and additional outbuildings that provided housing for domestic help and stable workers, and barns for livestock and storage. The estates preserved the town's rural heritage, but the social fabric of the community began to change. Hunts, polo matches, dances and parties at Myopia and club members' estates became significant cultural events in Hamilton. As travel by train and car between Hamilton and Boston became more efficient, Hamilton's summer residents began living in the town year-round.

²⁶ Annette V. Janes, Hamilton, Charleston: Arcadia Press, 2002.

²⁷ Ibid., 76.

²⁸ Janice P. Pulsifer, Changing Town: Hamilton, MA 1850-1910, Hamilton, MA: Hamilton Historical Society, 1976, (30).

Other Resources

According to Census 2000, there are 742 buildings in Hamilton that pre-date 1939. Since the local historic district is a relatively small area in Hamilton Center (Map 8), it does not protect many of the town's historic structures. Several properties are listed individually on the National Register, including the Pingree School, the Austin Brown House, the Emeline Patch House, the Brown House, the Woodberry Quarrels House and Gordon-Conwell Seminary. The historic vestiges that accompany these buildings, such as outbuildings, stone walls and tilled fields, are also important.

Hamilton has three historic parks: Bradley Palmer State Park, and Cutler and Patton Parks. The Massachusetts Department of Environmental Management (DEM) manages Bradley Palmer and the Bradley Palmer Mansion. Cutler Park on Bay Road honors Dr. Manasseh Cutler, the pastor who advocated for Hamilton's secession from Ipswich. The park was built on the former Wigglesworth Cemetery, though the graves and headstones were moved to the cemetery on Bay Road. Patton Park memorializes General George S. Patton, Sr., one of Hamilton's most distinguished citizens. A Sherman tank and acknowledgment markers from the citizens of Avranches and LeHavre, France stand in the park today.

Appleton Farms in northeast Hamilton is generally characterized as open space and farmland, but its historic buildings, stone walls and trees are part of a larger historic cultural landscape of the town and region. The Trustees of Reservations and Past Designs prepared a detailed inventory and a master plan for the 17th century property in 2002.²⁹ Other important historic resources include cemeteries, the Masconomet burial ground, scenic roads, bridges and heritage trees. The Massachusetts Scenic Roads Act, M.G.L. c. 40 §15C, offers some protection for trees and stone walls along roads that have been designated by town meeting. They may not be removed during road paving or maintenance unless a public hearing is held and the Planning Board approves the project. Hamilton has designated Asbury Street, Walnut Road, Bridge Street, Chebacco Road, Cutler Road, Highland Street, Gardner Street, Goodhue Street, Miles River Road and Sagamore Street as Scenic Roads.

Issues and Conclusions

- 1) Hamilton's open space acquisition criteria could be refined by conducting a gap analysis and creating a portfolio of the specific types of habitat and landscapes and locations that are already protected in order to determine habitats and parcels that are needed to support master plan goals. For example, a priority could be placed on acquiring grassland and forest habitat for regionally significant populations of bobolinks, golden-winged warblers and eastern meadowlarks; riparian wetlands and vernal pools for the blue-spotted salamander, the spotted salamander and the eastern box turtle; and landscapes that include heritage trees, trails and stone walls to preserve historic landmarks. Aquifer recharge areas and flood sensitive areas also need high priority status for permanent open space protection. Map 9 shows the general location of protected and unprotected, vacant and underdeveloped acres in Hamilton and their relationship to key resources. Criteria that recognize the interconnectedness of land and water for water quality, habitat, water supply and public health and safety will help the town maximize the public benefits of buying open space.
- 2) To meet current and projected demand, Hamilton needs an additional source of water outside the Ipswich River Basin and the town needs to protect its existing wells and watershed basin. In

²⁹ Past Designs, Cultural Landscape Assessment: Appleton Farms, (January 2002).

the interests of public health and safety, land within Hamilton's aquifer recharge areas and flood sensitive areas needs high priority status for permanent open space protection. Acquiring land for water supply purposes is crucial as well, and should be combined with open space protection where feasible and appropriate. If the town places too much emphasis on conservation land over water supply, there will likely be more, and perhaps more severe, water shortages in the future. Land dedicated solely for open space conservation may not be developed with wells or access roads, so the town needs to think carefully about which of its water needs it is addressing – quality or quantity (or both) – when it purchases public land.

- 3) Hamilton needs a dedicated, adequate public funding source to fund open space protection and acquisition. The Town can no longer count on private land conservation alone to preserve its open space and rural character. The town should authorize a bond issue, similar in size to neighboring Ipswich's recent \$10 million bonding authorization, to fund open space conservation and related priorities .
- 4) Hamilton's Zoning Bylaw, the Massachusetts Wetlands Protection Act and the Rivers Protection Act do create buffers along rivers and wetlands and provide sedimentation and erosion control in sensitive areas. Still, chronic flooding in some portions of town and persistent erosion mean that additional open space protection, regulatory controls and enforcement are needed to stabilize natural features and protect water quality. Exposed soil and gullies are visible all over the south and west sections of town, while severe erosion persists in East Hamilton at Beck Pond, the Gordon-Conwell Library and Sagamore Hill.
- 5) Hamilton does not have a comprehensive resource inventory of its 19th century estates or of Asbury Grove. Inventories of other historic properties and landscape features along Asbury Road, Bay Road, Bridge Street, Chebacco Road, Cutler Road, Essex Street, Highland Street, Gardner Street, Goodhue Street, Miles River Road and Sagamore Street would enable Hamilton to document and protect its varied architectural traditions. Listing important structures on the National Register automatically qualifies properties for listing on the State Register of Historic Places. Listing on the State Register enables owners of historically significant properties to qualify for phased increases in the assessed value of their homes when they invest in a significant restoration project - if Hamilton were to adopt the enabling legislation for this purpose (Chapter 191, Acts of 1996). When paired with demolition delay and zoning incentives to preserve buildings that are ineligible for investment tax credits, National Register status is a very important preservation tool. A complete inventory will enable the Historical Commission to work effectively at protecting a wider variety of historic resources in Hamilton.
- 6) Hamilton will always depend on voluntary private efforts to maintain its collection of historic homes and to conserve its natural resources. Many Hamilton residents, owners and renters, live in historic buildings and on properties with old trees and stone walls. Residents near the Conservancy District and within the Groundwater Protection District have stewardship responsibility for their individual parcels to protect the town's wetlands and aquifers. Hamilton must demonstrate examples of resource stewardship and provide education and outreach through its actions at town-owned properties. The Hamilton Public Library on Bay Road is such an example. Preserving this municipal building is an opportunity to demonstrate sensitive re-use when the structure is renovated to meet changing needs. In addition, the town should provide examples of water conservation by drawing attention to the fixtures in retrofitted in municipal buildings and by installing attractive landscaping that requires very little water and chemicals to maintain.