

Holden Open Space Plan



Spring 2010

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Holden Conservation Commission
Holden Land Trust
Holden Planning Board
Holden Recreation Committee
Holden Town Council
Holden Town Staff
Eastern Maine Snowmobilers Club
Fields Pond Audubon Center
The Curran Homestead

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A. INTRODUCTION

1. Definition of Open Space

For purposes of this Plan, open space is defined as **undeveloped land with special qualities worth conserving**. This can include:

- Forests
- Fields
- Wildlife habitat
- Farmland
- Trail corridors
- Ridge lines
- Scenic vistas
- Riparian corridors/waterways
- Wetlands & other valuable habitats
- Parks, fields, playgrounds
- Hunting & fishing areas

2. What is an Open Space Plan?

"Successful community planning for long-term benefit must consider both the best places to develop and the most important places to conserve simultaneously. Many communities work hard to ensure that commercial development is encouraged near existing infrastructure and within designated growth areas, yet they lack clear guidelines for where open space should be planned or what qualities the open space should have and they lack a comprehensive vision for future open space functions that is responsive to the needs of town residents. When municipalities lack definitive plans that use incentives to direct development to where it is most appropriate and tools to discourage growth where it costs town residents in terms of increased government services and less quantifiable public values such as rural character and wildlife habitat, they are leaving their future to chance.



An open space plan is a critical element of a town's 'conservation blueprint'. It not only identifies priorities for what to protect and where, but in turn guides where growth is most appropriate as well.¹

An Open Space Plan outlines the vision, goals and strategies for conservation and recreation in the community. It is an opportunity to:

- Envision the future, see the "big picture"
- Maintain rural character, quality of life
- Provide for outdoor recreation
- Protect natural resources
- Support and supplement the Comprehensive Plan & growth management
- Help secure funding for open space and conservation

¹ Beginning With Habitat (emphasis added).

Many open space plans include **maps** and assessments of natural resources and open space. These resources are already in hand: the Holden Comprehensive Plan provides a good inventory and assessment of the town's natural resources, and the recent mapping developed by the *Beginning With Habitat* state program and through the *Penobscot Valley Community Greenprint* provide excellent information for planning purposes. These maps are included in the Appendix.

A few key points on Holden's Open Space Plan:

- **THE PLAN IS NOT AN ORDINANCE.** This is a guiding document, and any strategies involving regulatory actions would require further presentation to and approvals from the Town.
- **THE PLAN IS NOT ANTI-DEVELOPMENT.** The goal is to protect the most important open space resources to the extent possible, while recognizing private property rights.
- **THE PLAN DOES RESPECT PRIVATE PROPERTY RIGHTS.** No strategy or action proposed through this plan entitles the Town or other entity any rights to private property. All actions recognize and respect property rights laws and
- **THE PLAN DOES NEED VOLUNTARY LANDOWNER PARTICIPATION.** With goals of increasing permanent conservation and land for public access, this plan ultimately relies on landowners willing to participate in such efforts.
- **THE PLAN IS CALLED FOR IN THE 2007 COMPREHENSIVE PLAN.** The development of this Open Space Plan is in conformance with the Town's adopted and state-approved Comprehensive Plan. The objectives and strategies contained in this plan are in conformance with the Comprehensive Plan.
- **THE PLAN IS AN INVESTMENT IN THE FUTURE.** This Plan identifies many of the reasons why open space planning is so important to Holden's quality of life, "quality of place", and local economy -- investing in conservation and open space in accordance with this Plan is investing in Holden's future.

3. Consistency with the Comprehensive Plan

Holden's 2009-adopted Comprehensive Plan specifically calls for the development of an open space plan under its strategies (below). This plan seeks to address these goals for open space planning, and to remain consistent with the Comprehensive Plan.



Develop an Open Space Master Plan that would include:

- *Identification of areas that are unique to Holden;*
- *Preservation of significant land;*
- *Preservation of the "visual" look of Holden;*
- *Recreational opportunities;*
- *Preservation of wildlife habitat and corridors;*
- *Preservation of connections between neighborhoods;*
- *Provision of access to water; and*
- *Preservation of view corridors.*

GOALS FROM THE COMPREHENSIVE PLAN

Natural Resources:

- Protect and manage the quality of Holden’s water resources including lakes, aquifers, wetlands, great ponds and rivers.
- Protect Holden’s critical natural resources including, but not limited to, wildlife and fisheries habitat, shorelands and scenic vistas.

Future Land Use:

- Protect the rural, small town character of Holden.
- Protect Holden’s natural resources and open spaces.

Public Facilities & Services [*including Recreational*]:

- Plan for, finance and develop an efficient system of public facilities and services to accommodate anticipated growth and economic development, consistent with the goals of this Plan to encourage growth in growth areas, and limit growth in rural areas.



TOWN POLICIES FROM THE COMPREHENSIVE PLAN

Natural Resources/General Protection:

preserve and protect natural resources, through municipal ordinances and enforcement of state laws and actively participate in local and regional programs to conserve and protect the area’s natural resources.

Holden’s Lakes and Ponds: protect and improve the quality of Brewer Lake, Holbrook Pond, Davis Pond and George’s Pond.

Forest Resources: encourage the wise use of forest resources.

Wildlife Resources: protect wildlife and wildlife habitat to the maximum extent possible.

Scenic Areas and Vistas: protect scenic areas and vistas to the maximum extent possible.

Prime Agricultural Soils: protect prime agricultural soils from being lost to development.

Outdoor Recreation: provide opportunities for recreation for the residents of Holden.

Impact Fees: investigate the applicability and feasibility of charging impact fees.

Rural Area Sprawl: take steps to limit rural area sprawl.

Rural Area Growth Management: take steps to control the rate of growth in Holden’s rural area. Strive to achieve a goal of having no more than 30% of future residential growth occur in the rural area.

B. WHY AN OPEN SPACE PLAN?

1. Why Is This Plan Important? Why Does This Plan Matter?

As discussed in the introduction, it is not only important for a municipality to guide and encourage appropriate growth (development), but to protect and maintain important rural resources. Holden's rural landscape, its open space, is an important part of its quality of life, and its character or *quality of place*.

What does open space mean to Holden? Open space is a resource that:

- Protects water quality,
- Supports wildlife populations and biological diversity,
- Provides for outdoor recreation,
- Provides traditional hunting and fishing opportunities,
- Includes important "working land" such as farmland and woodlots,
- Provides scenic views of the landscape, and
- Complements municipal growth management initiatives.

Open space also has economic benefits (see next section), largely due to the positive impact on quality of life and quality of place, supporting tourism, attracting investment, and complementing economic growth by providing scenic and recreational resources.

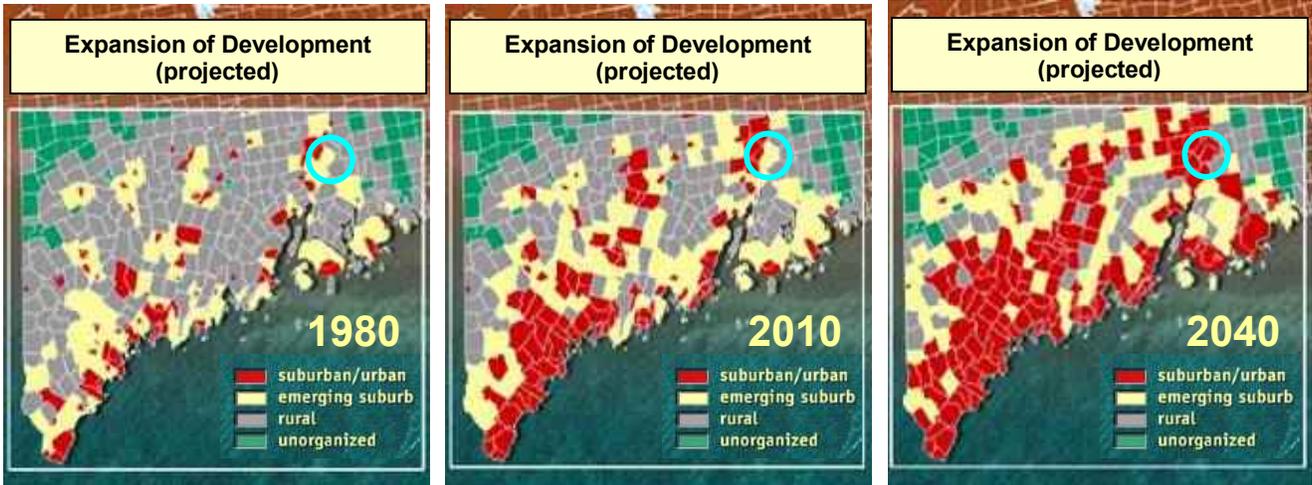
Open space matters in Holden because residents recognize that there are certain natural features and rural qualities that are irreplaceable. While residents also recognize and value private property rights, the community must act to protect the natural features and rural qualities equitably, but with the larger community and environmental benefits in mind. Holden will continue to see new development in town, and unless outreach and actions are taken, the community's "irreplaceables" may be lost.

Holden Will Continue to Grow

According to the Comprehensive Plan, Holden has experienced significant growth, growing by 2,073 people, or 275%, between 1950 and 2000. This rate was much higher than both the County (34%) and State (39%) growth rates during that time -- its population growth consistently outpaced County and State growth after 1970, except during the 1990's. While Maine State Planning Office projections predicted only modest population growth between 2005 and 2015, it is noted that these projections have historically been inaccurate relative to Holden's actual increasing growth.

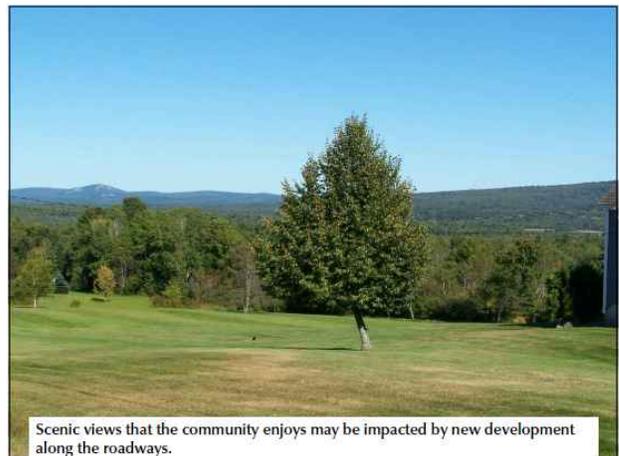
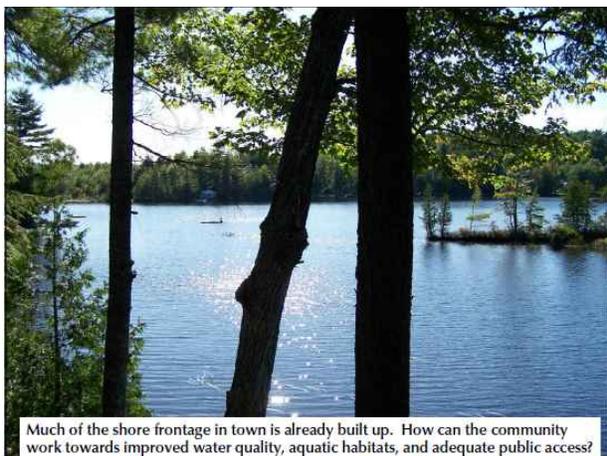
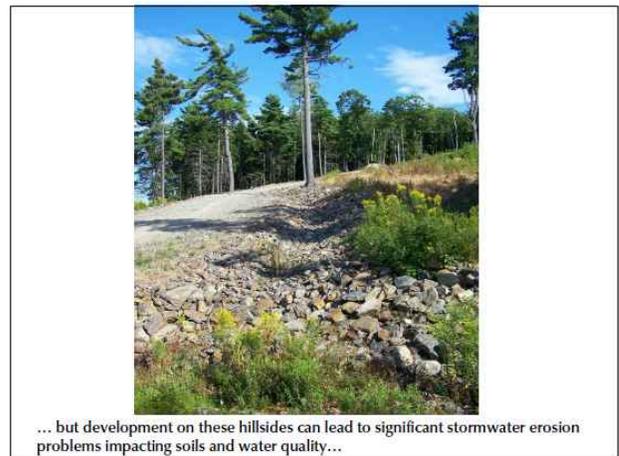
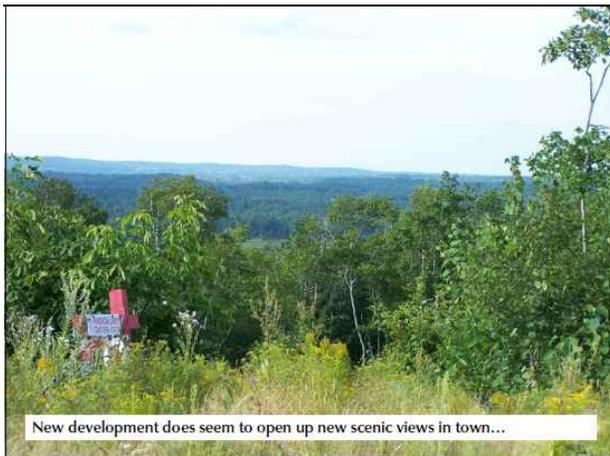


Residential development is the biggest threat to Holden's open space & natural resources. This is not to say Holden should or can close its doors to all new development, but that it's important to look at what the *most important* resources are and identify how to protect to them.



New Development in Holden is Not in Growth Areas

Holden's rural character and natural setting continue to attract people who work in Bangor/Brewer and elsewhere. Holden's growth management goals to steer new development towards village center and high-density residential zones have largely been unsuccessful. This means rural areas, which hold the most open space and recreation value, are highly susceptible to development.



2. The Economic Benefits of Open Space

There are several studies which have researched and even quantified the positive economic benefits of open space. For Maine, the connection between economic sustainability and quality of place (which includes rural character, open space and natural resources) has been demonstrated in the 2006 Brookings Report (*Charting Maine's Future*). This report resulted in the creation of the Governor's Council on Quality of Place, and on-going legislative work towards supporting the recommendations of the Brookings Report, including potential state funds such as the Communities for Maine's Future fund and Quality of Place fund.

The following are some recommended resources and reports discussing the economic benefits of open space, providing more information for communities to understand the economic connections:

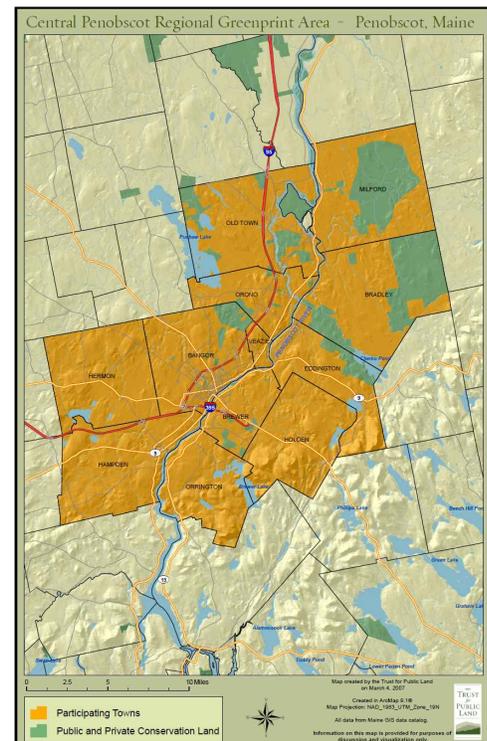
- The Brookings Report -- Charting Maine's Future: An Action Plan for Promoting Sustainable Prosperity and Quality Places (2006) (<http://www.brookings.edu/reports/2006/10cities.aspx>) (see Appendix)
- The Economic Benefits of Land Conservation, TPL (2007) (http://www.tpl.org/tier3_cd.cfm?content_item_id=21251&folder_id=188)
- Economic Benefits of Parks and Opens Space, TPL (1999) (http://www.tpl.org/tier3_cd.cfm?content_item_id=22613&folder_id=188)
- Economic Benefits of Open Space (Isleboro Islands Trust), in The Benefits of Open Space (1997) (<http://www.greatswamp.org/Education/benefits.htm>)
- Economic Benefits of Conserving Natural Land: Case Study, Mt. Agamenticus Area, Maine (2008) (http://www.defenders.org/programs_and_policy/science_and_economics/conservation_economics/valuation/publications.php)

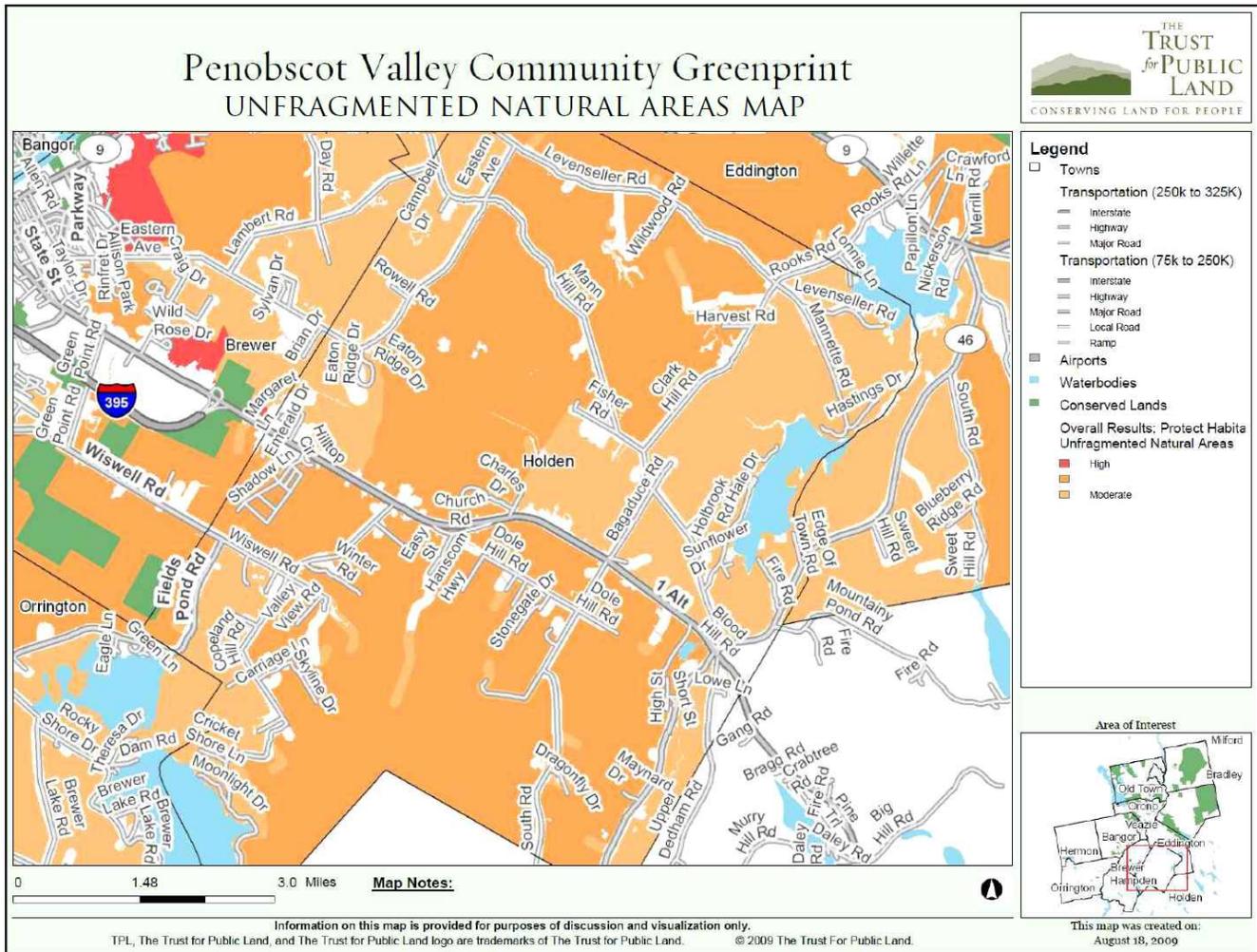
3. Holden and The 2009 Penobscot Valley Community Greenprint Process

Holden began its work on this Open Space Plan in July 2009, as the Trust for Public Land released the Penobscot Valley Community Greenprint final report and mapping. This collaborative regional process involved 12 communities in the Bangor region, including Holden. It examined the region's assets, critical resources, open space and recreational needs to developing a regional community plan to ensure key resources are maintained and recreational opportunities are expanded. Holden's active role in the process ensured the Town's integration into the regional plan.

For Holden, the Greenprint provides important regional context for open space planning and priorities. The Greenprint also provides well-developed GIS mapping and analysis of resources for the region and each community; Holden now has access to high quality resource maps for the town and assessments based on regional priorities.

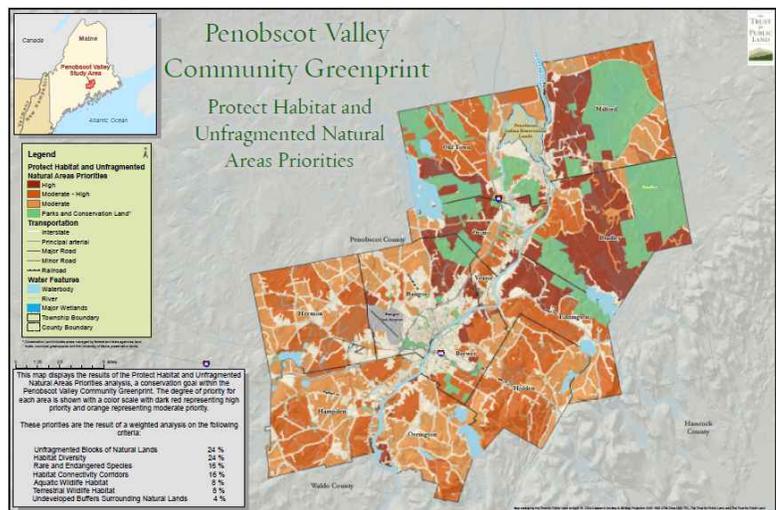
A series of the Greenprint maps for Holden are provided in the Appendix of this report.





Regional Goal: Protect Habitat and Unfragmented Natural Areas Priorities

This map illustrates priority lands that could be conserved in order to protect special natural habitats in the study area. To accomplish this, the map suggests targeting natural lands that are large contiguous patches, areas with habitat diversity, rare and endangered species habitat, habitat connectivity corridors, aquatic wildlife habitat, terrestrial wildlife habitat, and undeveloped buffers surrounding natural land. Within the entire Greenprint region, Almost 60 percent, or 140,700 of the 239,000 acres of unfragmented natural areas and habitat connectivity corridors in the study area have not yet been protected.



C. HOLDEN'S OPEN SPACE VISION

Holden's residents envision a future where...

- Community character and prosperity (Quality of Place) is sustained through the preservation of open space resources.
- There is a growing trail system, providing recreational opportunities and local and regional pedestrian and bicycle connections (e.g. Brewer, Bucksport, Orrington, Eddington, Dedham).
- Holden's landscape is maintained with meaningful blocks of undeveloped land, including forest, field and wetland.
- Wildlife habitat is maintained (quantity and/or quality).
- Water quality is maintained & improved.
- Scenic views that are important to Holden's rural character are maintained.
- Working landscapes (farm & forest) that contribute to Holden's character, economy and open space are sustained.
- There is easily-accessed open space near residents' homes and neighborhoods, and open space that connects between residential areas creates important local and regional networks.
- There is a growing base of permanently conserved land, via conservation easements and acquisition.
- An increased number of public recreation areas or parks, and a diversity of outdoor recreational opportunities, are provided.
- Better guidance for new development helps maintain important open space priorities while allowing appropriate growth.
- More landowners are empowered to be land stewards, informed of opportunities such as natural resource programs and tax benefits.
- Open communication and collaboration between all local interest groups and stakeholders fosters better maintenance and protection of open space resources.
- The citizenry knows the value of open space and advocates for its protection.



D. HOLDEN'S OPEN SPACE GOALS

The town's open space goals should serve to guide the year-to-year priority setting and decision-making processes that involve natural resources, outdoor recreation, and conservation. These goals reflect the community's values and support the open space vision.

- Preserve the visual character of Holden -- rural character, undeveloped land
- Preserve outdoor recreational opportunities; establish areas for public access and recreation
- Preserve wildlife habitat, wildlife corridors, and unfragmented natural blocks
- Protect water quality
- Maintain/gain access to waterways/waterbodies
- Maintain and establish connections between neighborhoods
- Maintain and establish a trails system
- Preserve viewsheds/scenic views/scenic character
- Protect farmland and working lands

Regional Open Space Goals

As a result of Holden's involvement in the *Penobscot Valley Community Greenprint*, the regional open space goals and Holden's local goals are closely aligned. The Greenprint supports Holden's local open space efforts by providing the regional context for open space and recreation beyond Holden's borders, helping to illustrate how Holden fits within the larger, regional open space picture. The region's open space goals are to:

- Protect contiguous natural areas
- Restore habitats
- Maintain scenic values/protect scenic vistas
- Protect working landscapes/waters: farms, forests, and fishing
- Protect water quality
- Improve water quality
- Address Penobscot River waterfront interests
- Create multi-purpose trails
- Establish other areas for public access/recreation

E. HOLDEN'S OPEN SPACE PRIORITIES

Given the vision and goals for open space, what are the most important actions for Holden to take? This list of priorities was established to help guide future actions related to the implementation of the Open Space Plan. These priorities are set based on the community's values as well as the documented benefits of and need for these open space resources.

Ultimately, the Town must use the Plan as a "filter", through which its decisions and planning must pass through. The Council, Planning Board, town staff, and other committees should view actions and activities relative to their impact on open space priorities and values established herein.

1) **Preserve large areas of undeveloped land for wildlife habitat and recreation.**

Large blocks of undeveloped and unfragmented land are critical to supporting wildlife diversity, watershed health, as well as maintaining rural character and providing for outdoor recreation. Certain wildlife species require large habitat blocks, and will move out of the area if too much development encroaches. Large blocks of undeveloped land are also important to supporting water quality and the health of watersheds, helping to provide cleaner, naturally filtered water for lakes and streams. Holden's rural character is largely defined by its significant blocks of undeveloped land, many of which are actively managed as woodlots (working landscapes) -- both qualities which are valued by the community. These lands are also where residents walk, hike, view wildlife, fish, hunt and enjoy the outdoors.



2) **Secure more permanently protected land, through purchase or easements either held by the Town or Land Trust, to maintain the Town's open space resources.**

While Holden currently enjoys a large amount of undeveloped open space, and there are many private landowners who are generous enough to continue in the tradition of allowing recreational access, these conditions are subject to change and the risk of development can be underestimated. Though it cannot be expected that the Town should protect all its undeveloped land, there should be a certain amount of permanently protected land set aside for the future benefit of residents and wildlife and natural systems. The Greenprint and Comprehensive Plan Inventory provide guidance as to some specific priority areas and important resources for Holden, which should guide the Town in seeking permanent conservation opportunities.

3) **Work towards connectivity between future conservation properties, creating larger blocks of contiguous, conserved land and/or parcels interconnected by trails or protected open space corridors.**

As Holden begins to gain more permanently protected conservation land, it will be important to try to create larger blocks of conservation land by piecing together conservation opportunities. By working with landowners and other stakeholders, new conservation properties can increase their

benefits for wildlife and recreation by directly connecting to existing conservation or providing for corridors and trails to connect between conservation areas.

4) Create more trails in town for walking/jogging/skiing, and interconnect trails where possible.

There is currently a strong interest from residents to find opportunities to develop recreational trails in town, and trails with regional connections. Building a trails network is usually a long-term process, which often begins one segment at a time with an eye to interconnecting trails wherever possible. Recreational trails are a huge benefit to the community in providing for outdoor recreation, encouraging healthy communities, and supporting alternative transportation options.



5) Maintain or improve the water quality in Holden's lakes, ponds and streams, for people and for wildlife.

Also strongly supported within the community, protecting and improving water quality holds value for people, wildlife and ecosystem health. Once a watershed and its water quality is significantly compromised by the impacts of development, it is increasingly difficult to bring it back to health. While existing regulations such as shoreland zoning help to protect water quality, permanently protecting land surrounding surface waters and groundwater resources (such as aquifers) from development provides a much greater assurance of healthy water quality and watershed health.

6) Preserve (conserve) unique habitat, or habitat types important to rare or endangered wildlife species.

Holden is home to several significant wildlife habitats, mapped by the Maine IF&W, including wading bird habitat, deer wintering areas, and "high value habitats" for priority species (5 acres or more). Several of Holden's lakes, ponds and streams also have been identified for high value habitat. Although existing state and federal regulations are in place to protect these resources, opportunities for permanent protection of these habitats supports the community's conservation values. Some properties or areas may include multiple high value habitat types, and a conservation opportunity then would be especially valuable to the community.



Photo: Ellen Campbell

7) Protect active farmland and agricultural soils, and promote sustainable farming.

Many rural communities in Maine do not consider farmland protection important if they do not have significant amounts of farmland. However, any existing farmland is an important resource to protect for the future, as it is a dwindling resource across the state. Local farming in Holden contributes to rural character, the local economy, regional and state food security, and the availability of healthy, fresh foods and locally produced goods. Farmland is also recognized for its open space values, for wildlife, recreation, and the environmental stewardship that most farms emulate.

8) Seek conservation options for identified high-value scenic viewpoints and viewsheds.

Holden's topography affords some wonderful scenic views from public roads and private lands. The hills and ridges in and around Holden provide a scenic backdrop for its lower lying areas. Many new residents are drawn to Holden by these scenic views and the new housing subdivisions that are taking advantage of the views. However, it is recognized that increasing development among the hills has impacts on the town's scenic views -- new buildings may begin to block views from the road, while ridges and hillsides with new development begin to lose their scenic quality. Yet the availability of Holden's scenic views is dependent on private landowners. As the community has recognized the value of its scenic views, it must work to find conservation options that are equitable for local landowners.



9) Maintain working forests and promote sustainable harvesting.

There are a number of forest blocks in Holden that are managed as working forests. Similar to farmland, working forests are recognized for their open space values such as wildlife habitat, recreation, and environmental stewardship. Some landowners may allow hunting, another community benefit. Although there is existing state regulation and enforcement of forest management practices, communities should continue to encourage continued sustainable, private management and harvesting which ultimately maintains valuable open space resources and benefits.

10) Work with neighboring towns on regional open space opportunities, including shared conservation lands and interconnected trails.

As is recognized in the regional *Penobscot Valley Community Greenprint*, recreation and conservation planning does not end at one town's borders, but often requires a regional view. Large blocks of undeveloped land, waterways and waterbodies, and wildlife all function irrespective of town lines, and are shared resources. It is important to maintain communication with Holden's neighboring towns regarding cross-border conservation and recreation opportunities, as well as the maintenance of regional resources.



11) Strengthen programs to promote protection of private open space for habitat and natural resource values, including providing more information to landowners on current use tax programs and local assessment guidelines, conservation easements, estate planning, etc.

Conservation of natural resources means a combination of public and private conservation, permanent and non-permanent conservation strategies. As important as it is for Holden to seek opportunities to secure permanent public conservation land, it is equally important to support and promote private protection of open space, both permanent and non-permanent. While private land that is an important part of the town's open space network should not necessarily be targeted for permanent conservation, the Town can still work to promote open space protection and the

conservation of natural resources to private landowners, encouraging them to be stewards of the land and to keep an open mind to permanent and non-permanent conservation options, including state and federal tax and financial incentive programs.

12) Encourage the continued tradition of hunting with permission on private land, and help to maintain the snowmobile trail network.

For many community members, the on-going tradition of hunting on private land and using local snowmobile trails is an important part of the quality of life in Holden.

Community members have expressed their support for these activities, and it is important for the Town to continue to help promote safety and respect for private property when it comes to these activities.



13) Provide public access to lakes and ponds in town.

Although many residents in Holden do have access to local lakes and ponds through ownership, there is no public water access within Holden. Public access to serve the town could be for a hand-carry boat launch or to provide an opportunity for residents without waterfront property to enjoy access to Holden's public waters. Local access (to lakes or ponds whose water quality is not at risk) would supplement the existing regionally available public boat launches and water access, providing overall improved public water access for Holden residents.

14) Seek opportunities to establish more parks and outdoor places where the community can gather and children can play safely, including neighborhood or public parks.

Holden's residents currently rely on local school grounds to provide for outdoor community gathering spaces and outdoor play areas for children. As the community continues to grow, these facilities may become more overused, and families and new residents may desire additional park spaces in town, such as small public or neighborhood parks. It is important to consider outdoor park space needs to serve all ages, and to recognize the very positive community-building impact such public spaces, even small ones, have locally.



F. CONSERVATION APPROACHES

1. Holden's Approach to Conservation

Every community approaches conservation and open space planning in a slightly different way. Communities with higher growth rates and dwindling rural and recreational resources may need to take more aggressive approaches to conservation, while small communities with low to moderate growth rates and less of a sense of significant loss of open space to development can opt to have either more conservative or slightly aggressive approaches to conservation depending on the community's values.



In Holden, the approach to conservation and open space seeks to strike a balance between the desire to protect valued resources and a respect for private property and landowner rights. This approach means that:

- The Town and its open space partners must continue to provide **on-going outreach and information** to residents and landowners on natural resources, conservation, and any proposed public projects or initiatives;
- Conservation only happens through **voluntary private landowner participation**;
- **Priority resources** receive priority attention;
- Conserving natural resources and recreational opportunities means employing **both permanent and non-permanent conservation tools**;
- Conservation and recreation projects must always have **"win-win" outcomes**;
- The Town and its open space partners must **regularly revisit the open space vision and priorities** within this Plan;
- The Town and its partners must **remain flexible** to **act as opportunities arise**, if they are consistent with the Plan (even if they might be viewed as a lower priority).

2. A Conservation "Toolbox"

Conservation Mechanisms

There is no one solution, no single "tool" or action that will accomplish a community's open space and conservation objectives. For many community open space planning efforts, a variety of tools or mechanisms ("toolbox") is developed in order to address the range of open space conservation and

recreation needs and opportunities. Holden should consider the following conservation tools, already used by other Maine communities:

Conservation Easement, Trail Easement

Conservation and trail easements are a commonly used method of permanent conservation, where the land is restricted from future development. Unlike land purchase, the land itself remains in private ownership, while the easement is held by a land trust or municipality. Conservation easements may be either purchased or donated.

Land Swaps

Land acquired by the Town (or land trust) that does not necessarily have high conservation or recreation value may be swapped for other property which does hold those values.

Current Use Tax Programs (Tree Growth, Open Space, Farmland)

The state of Maine's Current Use Tax Program allows for reduced taxes for certain types of working landscapes and open space, in order to encourage those resources be maintained. This acts as a type of non-permanent conservation, with financial incentives for private landowners to enter into the program and financial penalties to discourage discontinuing the program in favor of land sale or development.



Land Purchase, Bargain Sale

To conserve land, a Town or land trust can seek to purchase *in fee* a property with conservation and/or recreation value. Fee acquisition gives more control of the property, which may be more important if the land will have a significant recreational component or if there is a particularly important resource to protect. Fee acquisition may also be the preference of the selling landowner. In some cases, the selling landowner may be interested in selling land for conservation at a reduced price, known as a bargain sale. This has benefits for the landowner as well as the community.

Other Voluntary Agreements

The Town may wish to consider opportunities for voluntary landowner agreements in certain instances, such as for maintaining or protecting scenic views. Snowmobile trails rely on yearly voluntary landowner agreements, a successful model for maintaining the specific activity without requiring long-term landowner commitment.



Local Land Use Ordinances, Planning, and Growth Management

Holden is already on the path to growth management, and updating the Comprehensive Plan and making changes to land use ordinances to support appropriate land use and development. There are a range of land use tools used in Maine's communities to help protect open space and natural and recreational resources. Conservation overlay districts, open space or conservation

subdivision provisions, and performance standards addressing open space or recreational goals are some of the regulatory tools that can supplement growth management measures and conservation efforts.

Conservation Financing Mechanisms

In addition to the mechanisms for conservation mentioned above, the tools for conservation also include how to finance conservation. While some conservation opportunities come along in the form of land or easement donations or volunteer efforts, many conservation projects require funding to pay for fee acquisition (buying the land), a conservation easement, or to cover maintenance costs for a conservation or recreation property. Holden should consider the following options for funding conservation local efforts:



Photo: Ellen Campbell

Conservation Fund/Account

The Town should establish a separate conservation fund or account to house funding to be dedicated to conservation (or recreation) purposes. Various funding from fees, land sales, annual budget contributions, grants, or other sources would be put into this account for use on conservation and recreation projects.

Review of and Sale of Tax Acquired Property

Different municipalities have different policies when it comes to municipal tax acquired property. To work towards the goals of this plan, Holden should consider reviewing tax acquired property for conservation and/or recreation value. Land that holds value would be retained by the Town. For tax acquired land to be sold by the Town, Holden should consider reserving that money to a conservation fund. (Land Banks, historically, have been public entities created to hold, manage and develop tax-foreclosed property. In Maine, the mission of land banks has been broadened to include not just redevelopment, but the furtherance of the town's vision for future land uses, and they may be established to work towards conserving land or other spaces deemed important to the community.)

Fee-in-lieu-of-TDR (or Density Transfer Fee)

Many people have heard of TDR, Transfer of Development Rights, a program used in many parts of the country to shifting potential development from rural/natural areas to areas deemed more appropriate for development. The "development rights" in areas to be protected (referred to as "sending areas") are transferred to designated "receiving" areas that can accommodate the growth. TDR in Maine has had limited success. Though some Maine communities have developed TDR programs, they are either not being used or their use has not necessarily accomplished conservation. In other states, TDR programs are commonly implemented at the county/regional level. In Maine, however, differences from town to town in land use regulation, housing demand, and markets make a regional TDR program difficult to implement.





An alternative program, however, has proven to be more successful. A **Development Transfer Fee** program, sometimes called **Fee in Lieu of TDR** or **Density Transfer Charge**, is based on the same basic concept as TDR. The difference is that a Development Transfer Fee program is fee-based, using a third party (usually the town) as the broker. Under this program, once a developer pays a Development Transfer Fee to the Town, it allows them to build more units in the designated growth area than would be allowed under existing density limits. The payment is deposited into a town fund for land acquisition. Accumulated funds are used

to conserve lands in designated rural areas, once an opportunity becomes available. This process allows a developer to build at greater density in a designated growth area. It also allows the town to conserve rural land by using the fund to compensate owners who are willing to give up their rights to develop to have a permanent easement placed on the land. These programs are voluntary; they are driven by incentives rather than regulatory requirements.

Impact Fees

Communities can use impact fees on new development to help pay for infrastructure and other public improvements or needs. Impact fees can only be assessed when a community can show that the impact of new development causes the need for additional funds or improvements. In Maine, there is a specific program for Open Space Impact Fees. This program is established by local ordinance, and allows communities to assign fees so that new development (which ultimately reduces the community's available open space and natural resources) is compensating for its impact on open space. Funds are then used for public conservation and open space preservation.



Fees (Penalties) from Current Use Tax Program Withdrawal

When a property that is enrolled in the state's Current Use Tax Program (Tree Growth, Farmland, Open Space) withdraws from the program, which usually happens when a landowner wants to develop, a penalty fee is assessed (higher fees for Tree Growth properties). Some communities in the state have decided to dedicate those fees for conservation funding,

Annual Funding, Budget Contributions

Even if only small amounts, putting aside funds from the Town's annual budget for conservation shows community support for and willingness to invest in open space conservation and recreation. The Town should consider making at least a small annual contribution to support this Plan and its goals.

State & Federal Grants, Non-Profit/Foundation Grants

There are some available state and federal grants to fund conservation initiatives, recreation development and activities, and support outreach and education. Grant funding is typically not

as common for land acquisition, although unique opportunities or resources could be aligned with the right funding source. Non-profits and foundations are a potential source for conservation efforts or projects as well.

Sale of Wood Products from Town-owned Land

Many communities in Maine have a "town forest" or have established forest management and harvesting plans which generate modest funds for public use. Holden should consider future land acquisitions for their suitability for selective, sustainable wood harvesting, and the dedication of funds generated by forest harvests to support conservation efforts.

"Green Development", Conservation With Development

As the Town begins to explore conservation opportunities and specific projects, another mechanism to help fund conservation is conservation *with* limited development. "Green development" would be employed when a conservation property has a limited area which has low or no conservation value but could be sold for development to help fund the conservation of the remainder of the land. This is a method already used by some land trusts, and while it is preferable to seek funding options other than limited development first, it has been a successful means to help secure conservation funding when the situation calls.



Photo: Ellen Campbell

Tax Increment Financing (TIF) District Funds

TIF funding has been used successfully by communities across the state to help fund public improvements and support economic development. TIF districts establish a distinct geographical area in which growth and development is being encouraged or occurring, and the program captures the *increase* in tax revenue from new and expanded development, for use by the municipality - while not impacting local state funding formulas. These captured funds are then used for predetermined uses such as public infrastructure and improvements, tax benefits to the businesses in the district that are developing or expanding, or for other public benefit. The funds often are reinvested within the TIF district itself, though some communities have structured TIF funds to benefit other areas of town - TIF funds from a business park going to support the downtown, for example.

Traditionally, TIF funds are used for downtowns or other business development areas, but there may be an opportunity to establish a TIF district for the benefit of conservation and open space funding. If it could be thus structured, this could offer an opportunity to generate conservation or recreation funds, supported by growth and development, and without coming out of municipal budgets or tax paying residents.

Municipal Bonding

In recent years, there has been movement in communities in Maine to raise funds for land conservation through general obligation bonds. Certainly many Maine voters are supporting bonds for land preservation – as evidenced by the Land for Maine's Future (LMF) program's success in winning a series of bond approvals for conservation funds. For most conservation projects, multiple funding sources are needed, and state and federal funds require matching funds. Having local funding available can be a deciding factor in whether a project wins

approval and is successful. Municipal bonding provides an advantage in that significant local conservation funding demonstrates strong local commitment to conservation, leveraging the public and private funds needed to conserve the land. Being voter-approved, municipal bonds require strong public support for the conservation initiative and well-developed guidelines for expenditures and acquisition of property or development rights. Residents must be brought on board as early in the process as possible to ensure support for the bond issue.

Installment Purchase Agreement (IPA)

Although not a funding source in and of itself, an Installment Purchase Agreement (IPA) is a strategy to help deal with the mechanics of conservation financing. In Maine, it is currently being explored specifically for use in farmland protection. With this type of financing structure, both towns and private landowners can realize benefits, though perhaps the largest obstacle to overcome is their level of complexity, despite their flexibility. Essentially, this program allows



conservation easements or land acquisition to be paid for in installments over a number of years, functioning as a long-term contract between the town or land trust and selling landowner. The value of installment purchases of conservation easements to landowners often exceeds the value of selling the property for development, after taking into account interest income and the deferment of capital gains taxes over many years. For the town or land trust, the pressure to come up with enough funding to pay for conservation all at once is relieved so that fundraising can occur over several years.

G. OPEN SPACE STRATEGIES

In order to meet Holden's open space objectives (*Section E*), the following set of strategies was developed, with input from community members. They include many strategies from the Holden Comprehensive Plan, creating a consistency between these two important Town planning documents. (For the strategies below, "CP" indicates strategies which have come directly from the 2007 Comprehensive Plan.)

Due to the inherent nature of open space planning and conservation activities, most these strategies cannot be put on a timetable or prioritized in numerical order. Many of the Town's open space objectives are "opportunistic" in that they rely upon certain actions or options to first present themselves voluntarily. In some cases, the strategies listed provide multiple options or "tools" to achieve the objectives, which is important to the Town's conservation and open space approach.

It is recommended that the Town and Conservation Commission, along with other local entities (such as the Holden Land Trust), examine the open space objectives and specific strategies on an annual or bi-annual basis and select a set of achievable initiatives or actions to engage in. (See *Next Steps*.)

Preserve large areas of undeveloped land for wildlife habitat and recreation.

- Strive to maintain undeveloped blocks greater than 250-acres in Holden by considering partnering with the Holden Land Trust or other similar organizations to acquire development rights, obtain conservation easements or fee ownership on large blocks of land, or protect these blocks through other means. (CP)
- Work with neighboring towns and cities to conserve undeveloped blocks of land greater than 5,000 acres. (CP)
- Consider options for acquisition of property or easements important to the Town for its natural resource value. (CP)
- Make wildlife diversity and conserving large blocks of habitat a priority for conservation and protection as a community resource.
- Provide opportunities for the Holden Land Trust to comment on how open space that occurs on large tracts of land or on land with a high natural resource value in proposed subdivisions can best be structured to preserve the natural resource value. (CP)
- Promote USDA/NRCS programs such as EQIP (Environmental Quality Incentives Program), CRP (Conservation Reserve Program) and CSP (Conservation Security Program) that provide financial incentives for private landowners to maintain wildlife habitat.

Secure more permanently protected land, through purchase or easements either held by the Town or Land Trust, to maintain the Town's open space resources.

- Coordinate town priorities for land protection with land trust priorities and other related organizations. (CP)
- Establish an open space impact fee or density transfer fee (a.k.a. fee-in-lieu-of-TDR) to help offset new development with land protection.

- Cluster/open space subdivisions: provide clear guidance on priorities for establishing open space (e.g. trail connections, habitat blocks, special resources, etc.)
- Consider the use of overlay districts to protect priority resources
- Possible use of term easements/conservation leases as non-permanent (fixed period) conservation
- Consider acquiring right-of-first-refusal for parcels with high importance for conservation
- Review all tax-acquired properties for conservation/recreation value; consider acquired parcels not having conservation/recreation value for land swap or sale to benefit land conservation/recreation.
- Consider incentives that would allow public access to open space areas [created by open space subdivisions]. (CP)
- Consider "green development" options, where a parcel could have limited/partial development to help fund conservation.
- Develop a policy or an approach for maintenance planning for publicly held open space properties.

Work towards connectivity between future conservation properties, creating larger blocks of contiguous, conserved land and/or parcels interconnected by trails or protected open space corridors.

- Encourage protection and preservation of wildlife travel corridors between large blocks of land. (CP)
- New subdivisions - work towards connectivity/access whenever a new development impacts or abuts an existing trail (as trail system builds).
- Seek opportunities to physically link or connect conservation properties or explore opportunities to create larger blocks of conservation by building on existing conservation properties.

Create more trails in town for walking/jogging/skiing, and interconnect trails where possible.

- Develop a Trail Network Master Plan that would include an inventory of existing trails, areas where residents wish to have trails, and desirable areas of connectivity and destination points. (CP)
- In accordance with the Trail Network Master Plan, extend trails throughout the community and provide regional connections. Plan for trail systems that complement the planned I-395 connector. (CP)
- Continue to promote the Community Nature Learning Trails; provide educational information and new activities.
- Encourage more trail development with new subdivisions; work towards trail connectivity/access whenever a new development impacts or abuts an existing trail (as trail system builds).
- Explore trail corridor opportunities associated with rail, power lines, or other utility lines.
- Look for opportunities to extend trails from neighboring towns into Holden.
- Promote Open Space Current Use Property Tax Program and the increased benefits of allowing public access.

Maintain or improve the water quality in Holden's lakes, ponds and streams, for people and for wildlife.

- Inform all property owners of the importance of protecting water quality. Focus on practical steps the property owner can take such as limiting or avoiding lawn fertilizers, maintaining septic systems, correcting erosion, and leaving as much of the shorefront as possible in its natural condition. Use the local print media and web sites, as well as other means, to reach people. (CP)

- Continue to support and encourage volunteer efforts to work with the Department of Environmental Protection to monitor the quality of the lakes and streams and reduce non-point source pollution. Support efforts to control/eliminate invasive aquatic plants in all Holden's lakes, streams and tributaries. (CP)
- Continue strict administration and enforcement of the shoreland zoning provisions of the Town's Land Use Ordinance. (CP)
- Continue to work with the Department of Environmental Protection in the enforcement of the Town's phosphorus control standards so as to maintain or improve water quality on a long term basis. (CP)

Preserve (conserve) unique habitat, or habitat types important to rare or endangered wildlife species.

- Encourage the regular mapping and analysis of the town's wildlife habitat by the Department of Inland Fisheries and Wildlife and/or by consultants. (CP)
- Request development review assistance from the Maine Department of Inland Fisheries and Wildlife when development proposals would impact resources identified by the Department, including deer yards and waterfowl and wading bird habitat. As the Town develops and revises ordinances, consider consulting with the Beginning with Habitat Program, the Natural Areas Program and similar programs. (CP)
- Provide educational opportunities for landowners with high value habitat to enroll in either the Farm and Open Space Program or the Tree Growth Tax Program. (CP)
- Implement Comprehensive Plan recommendations on wildlife habitat & natural resources
- Continue to protect identified significant natural resources through land use as set forth in the Town's Zoning and Subdivision Ordinances. (CP)
- Continue to require that applicants for approval of subdivisions and non-residential developments submit environmental impact assessments to the Planning Board. (CP)

Protect active farmland and agricultural soils, and promote sustainable farming.

- Consider options for protecting prime agricultural soils such as cluster development. (CP)
- Increase community efforts on promoting agriculture & local/regional farms.
- Make prime agricultural soils and active farm land use a priority for conservation and protection as a community resource.
- Establish a committee or working group to identify the needs, threats, and potential actions/initiatives to promote and protect farming.
- Incorporate agricultural business development and opportunities into local economic development planning.
- Promote use of the Farmland Current Use Property Tax Program.
- Review local regulations to ensure they are "farm friendly".
- Explore opportunities for permanent farmland conservation projects in town.
- Ensure future conservation easements on farmland adequately accommodate agricultural uses and activities.

Seek conservation options for identified high-value scenic viewpoints and viewsheds.

- Encourage the preservation of scenic areas and vistas and other significant natural resources during the development review process. (CP)
- Adopt a scenic view protection policy or plan, designating/defining high priority scenic views and a rating system for scenic views.

- Maintain the view point: keep structures and vegetation from blocking visual access to the view.
- Maintain the viewshed: limit tree clearing for new developments to reduce the visibility of buildings in viewshed areas (such as ridges and high points).
- Outline triggers (mapping, criteria) for visual impact assessments, adopt clear performance standards for new developments, and outline accepted mitigation for scenic impact.
- Adopt a scenic road corridors map establishing high priority scenic routes, for purposes of conservation prioritization and performance standards for new development.
- Encourage landowners to maintain scenic views by keeping vegetation pruned/thinned.
- Proactively seek opportunities for public or land trust held easements to protect significant scenic views.
- Consider fee-in-lieu-of-TDR program for protecting scenic views.
- Establish a policy on scenic views with regards to communications towers, wind turbines, and other high structures.

Maintain working forests and promote sustainable harvesting.

- Provide educational opportunities for owners of forest lands to actively manage these lands in order to keep them healthy, productive, and contributing to the rural character of the Town. Provide information about the tree growth tax program. Encourage landowners to work with licensed foresters and trained loggers to accomplish their goals in a responsible way. (CP)
- Continue to regulate timber harvesting through the Town's Shoreland Zoning Ordinance. (CP)
- Encourage cluster development when large, contiguous tracts of forest land are proposed for development. (CP)
- Ensure future conservation easements adequately accommodate working forest uses and activities.
- Explore options for establishing forested buffers in appropriate areas. (CP)
- Encourage the use of the Tree Growth Current Use Property Tax Program.

Work with neighboring towns on regional open space opportunities, including shared conservation lands and interconnected trails.

- Cooperate with neighboring towns in the development and implementation of programs to protect resources of regional importance. (CP)
- Host or recommend an annual regional conservation commission gathering (formal or social) to talk about regional opportunities, ideas, and needs.
- Have TPL provide a public presentation on the final Greenprint Report and mapping, and continue to stay involved with any regional open space planning efforts/follow-up.
- Explore opportunities for expanded conservation and recreational opportunities in the "Greater Fields Pond Area" near the Curran Homestead and Fields Pond Center, an area where Holden, Orrington, Brewer and Bucksport borders all meet.

Strengthen programs to promote protection of private open space for habitat and natural resource values, including providing more information to landowners on current use tax programs and local assessment guidelines, conservation easements, estate planning, etc.

- Provide informational outreach to inform the public of the value of each of the Town's natural resources. In addition, educate and inform specific landowners about the natural resources located on their property. (CP)

- Continue to hold free workshops/talks/walks on local wildlife.
- Consider workshop/presentation series, informational meetings on issues, state/federal programs, resources for landowners.
- Continue to hold activities to promote open space, conservation and outdoor recreation, including nature walks, woodlot management, winter trek, fishing/canoeing, etc.
- Promote current use property tax programs.

Encourage the continued tradition of hunting with permission on private land, and help to maintain the snowmobile trail network.

- Seek opportunities for collaboration with the snowmobile club, respecting the club's need to maintain positive landowner relations.
- Continue to support local hunting, fishing and outdoor sporting, and provide landowners with information on safety, current regulations, and IF&W or other state agency's information.
- For any large parcels or blocks of land which may come into consideration for permanent conservation that have traditionally served as hunting or fishing grounds, include open discussion on the future use and accessibility for these activities.

Provide public access to lakes and ponds in town.

- Consider the need for and impact of one or more public access and/or recreation areas on at least one of Holden's water bodies. (CP)

Seek opportunities to establish more parks and outdoor places where the community can gather and children can play safely, including neighborhood or public parks.

- Continue to support the Holbrook Regional Recreational Program. (CP)
- Continue to rely on school facilities to meet some of the recreational needs of the citizens of Holden. (CP)
- Continue to rely on recreational opportunities and facilities that are available in other communities throughout the surrounding region. (CP)
- Establish a list of criteria for potential land acquisition for public parks.
- Include provisions in the Town's Zoning, Subdivision and Site Plan Review ordinances to require parks, open spaces and/or walking, hiking or bicycle trails in new developments. (CP)

H. OUTREACH & PARTNERSHIPS

The success of this Plan rests largely on the Town's continuing efforts on outreach and building partnerships. Successful conservation and development of recreational opportunities means working with many partners and stakeholders, building community and regional support, and providing information on issues, projects, and initiatives on an on-going basis.

Several strategies and initiatives were identified with respect to outreach and partnership:

- Through existing Town committees (Conservation Commission), collaborate with other local groups (Land Trust, recreation committee, snowmobile club, etc.) and/or regional entities on conservation and natural resource related outreach
- Coordinate town priorities for land protection with land trust priorities and other related organizations (CP)
- Continue to build conservation and outreach partnerships with neighboring communities: Brewer, Eddington, Dedham, Bucksport, and Orrington
- Continue to coordinate with the communities of the Penobscot Valley Community Greenprint, and to participate in on-going regional initiatives and follow-up
- Offer multiple ways to distribute news/information to landowners and other partners and stakeholders: informational meetings, website, town office, newsletters, etc.
- Continue to reach out to local schools and school children on natural resources and conservation
- Invite the Penobscot County Soil & Water Conservation District (PSWCD) and the regional RC&D (*Time & Tide*; a USDA program) to a Conservation Commission meeting to discuss Holden's initiatives, agency resources and programs, and potential opportunities
- Coordinate with the Maine State Forest Service District Forester on issues of working forests, sustainable forest management, and landowner outreach



I. NEXT STEPS

This Open Space Plan presents a wide range of local actions and strategies, including many long-term and on-going initiatives. While it is difficult to number these in order of importance, or place a time-frame on completing certain tasks or objectives, the community should have a plan to ensure the use and implementation of the Open Space Plan.

It is recommended that the Town, through Council review (working with the Conservation Commission, Land Trust and other town committees), identify an achievable set of priority objectives, initiatives, or specific projects from this Plan **on an annual or bi-annual basis**. The community can then have the flexibility to decide on, and later revisit, the particular priority areas for what is most relevant in terms of

timing, need, or opportunities. The Plan itself should continue to serve as a guide for decision-making and planning, and be drawn upon when opportunities for conservation and recreation arise.

At the time of this Plan's completion, several strategies in particular did rise to the top in terms of community support and perceived need. These strategies should be considered among the first for Holden to undertake upon the acceptance of the Open Space Plan:

- Establish a local Conservation Fund or Account.
- Identify initial financing mechanisms which should be established by the Town to fund future and on-going conservation efforts (e.g. impact fees, annual budget contributions, etc.).
- Begin development of a Trails Network Master Plan, and engage in on-going trails planning and development.
- Take action on scenic views protection - consider conducting a more in depth scenic views assessment and/or identifying implementable mechanisms for protection.
- Seek opportunities for the expansion of conservation and/or recreation opportunities in the "Greater Fields Pond Area". *This was identified during the development of this Plan as an initiative with interest from several stakeholders and a potential opportunity for a cross-borders project with neighboring communities.*
- Continue outreach efforts, including coordination with the Holden Land Trust, coordinating with neighboring towns, preparing landowner outreach materials, and connecting with partner agencies and non-profits.

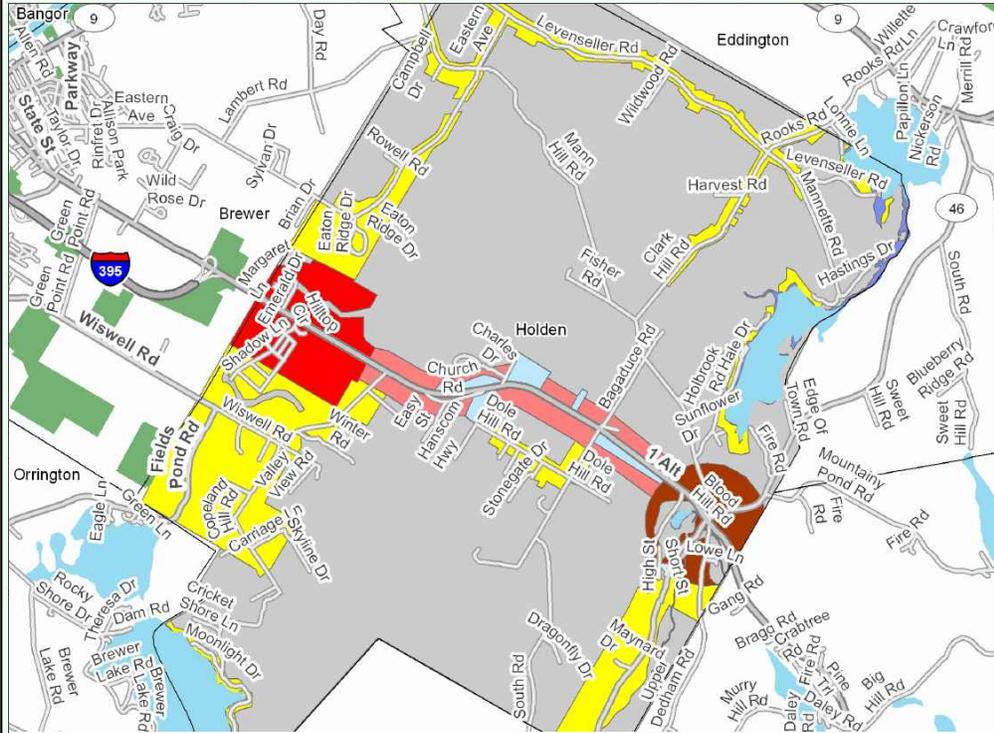


J. APPENDIX

- A-1. Resource Maps (Greenprint/Trust for Public Land, Beginning With Habitat)
- A-2. Penobscot Valley Community Greenprint
- A-3. Inventory & Assessment from the Holden Comprehensive Plan
- A-4. Economic Benefits of Open Space
 - The Brookings Report: Charting Maine's Future
 - *Executive Summary*
 - *Chapter: Implications of Maine's Development Patterns*
- A-5. Information on Funding Opportunities & Mechanisms
 - Open Space Impact Fees:
 - Financing Infrastructure Improvements Through Impact Fees (Open Space Excerpts), Maine State Planning Office
 - Fee in Lieu of TDR, Density Transfer Fee:
 - Density Transfer Charges (Excerpted Text), Maine State Planning Office
 - Density Transfer Fee: A Fee in Lieu of a Transfer of Development Rights (TDR) Program, Berthoud, CO
 - Land Bank Examples
 - Portland Land Bank
 - South Portland Land Bank Ordinance (in the Open Space Plan)
- A-6. Results from Public Workshops and Mailed Questionnaires

Penobscot Valley Community Greenprint

FUTURE LAND USE MAP



- Legend**
- Towns
 - Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - Holden Future Land Use
 - General Commercial District
 - Limited Commercial District
 - Town/Village Center
 - Community Service/Institutional Cor
 - Mixed Residential District
 - Rural/Open Space District
 - Water

0 1.48 3.0 Miles **Map Notes:**

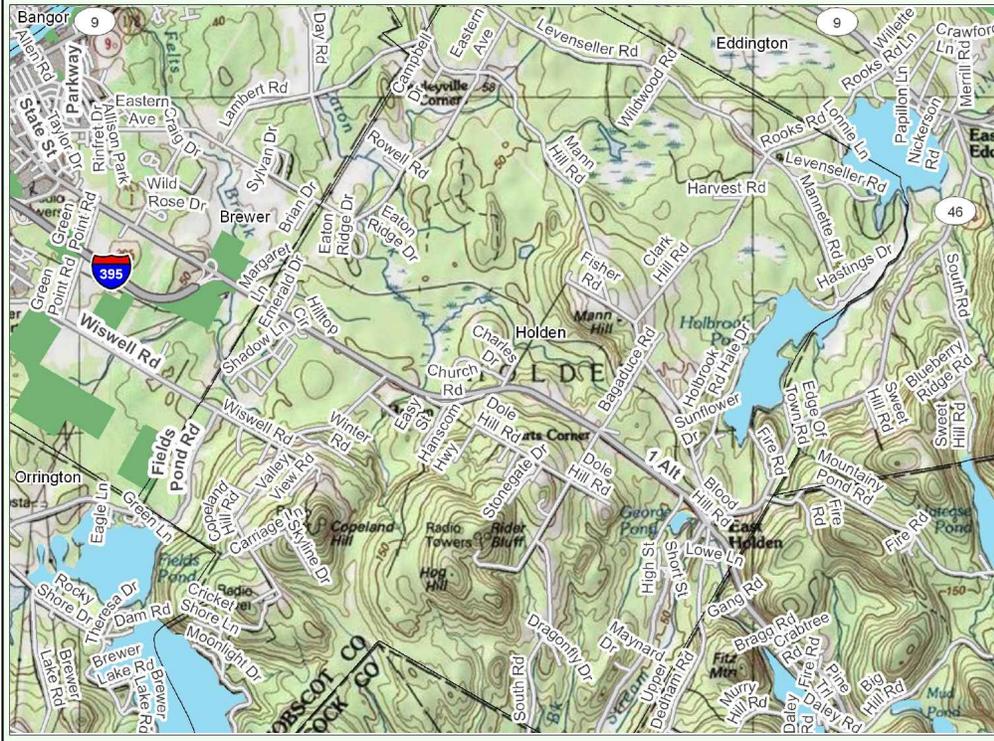
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August 18, 2009

Penobscot Valley Community Greenprint

USGS TOPOGRAPHIC MAP



- Legend**
- Towns
 - Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - NGS USA Topographic Maps

0 1.48 3.0 Miles **Map Notes:**

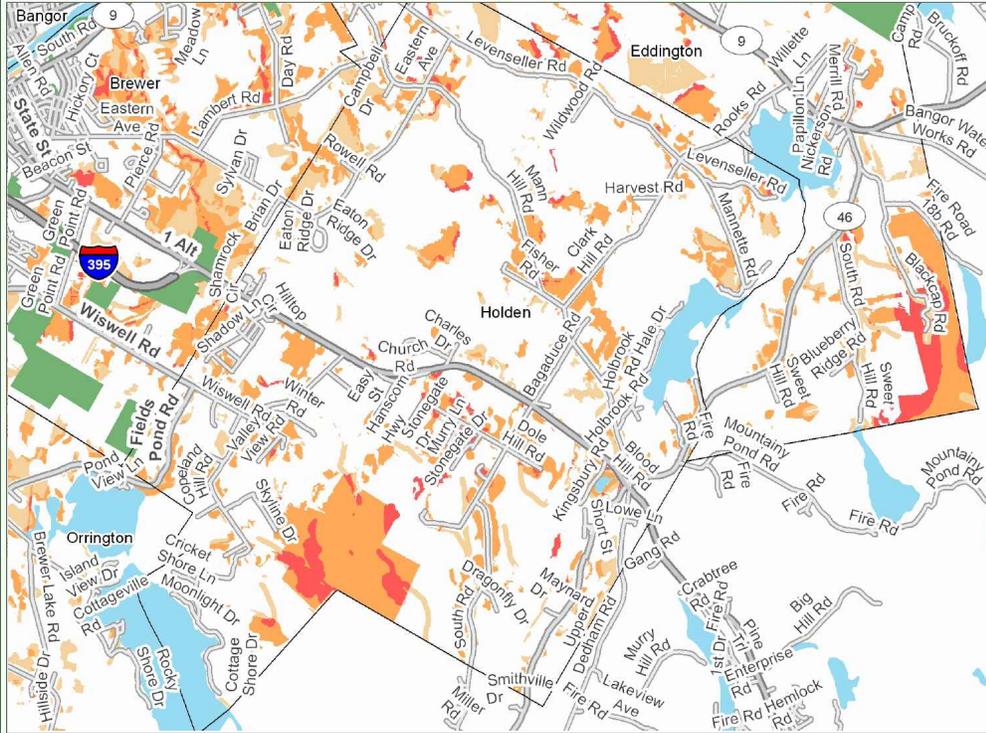
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OVERALL REGIONAL PRIORITIES MAP



- Legend**
- Towns
 - Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - Penobscot Valley Regional Gr
 - High
 - Moderate To High
 - Moderate

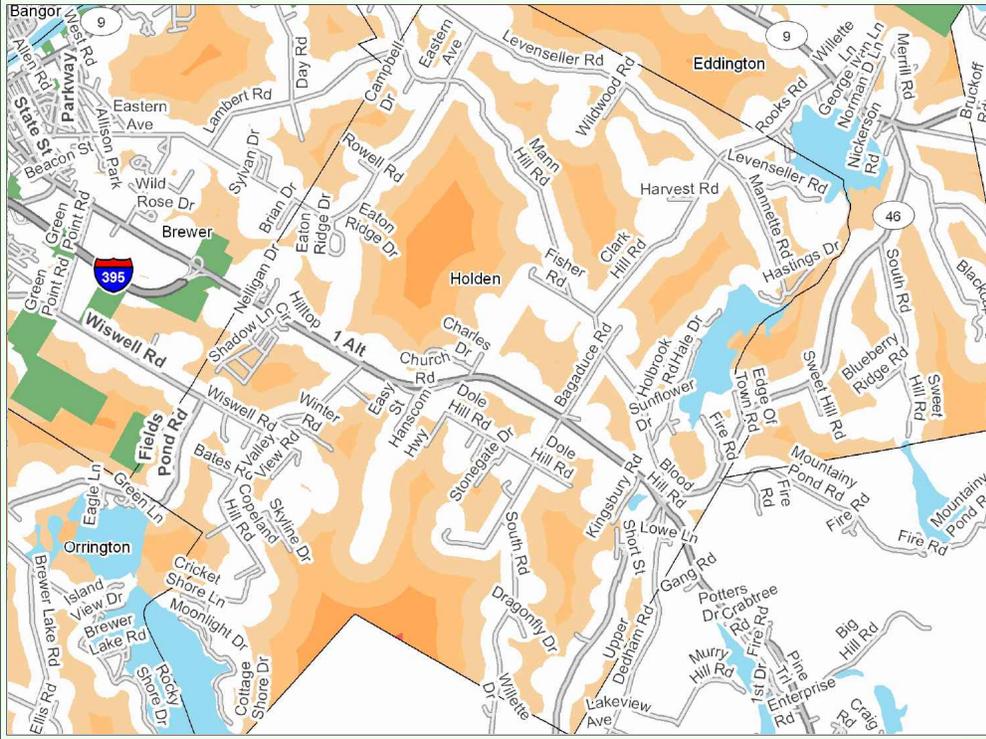


0 1.66 3.3 Miles **Map Notes:** Greenprint Priority Areas

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Penobscot Valley Community Greenprint

REMOTE SPACES MAP



- Legend**
- Towns
 - Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - Remote Spaces
 - High
 - Moderate
 - Toc/Symbol 0
 - Low

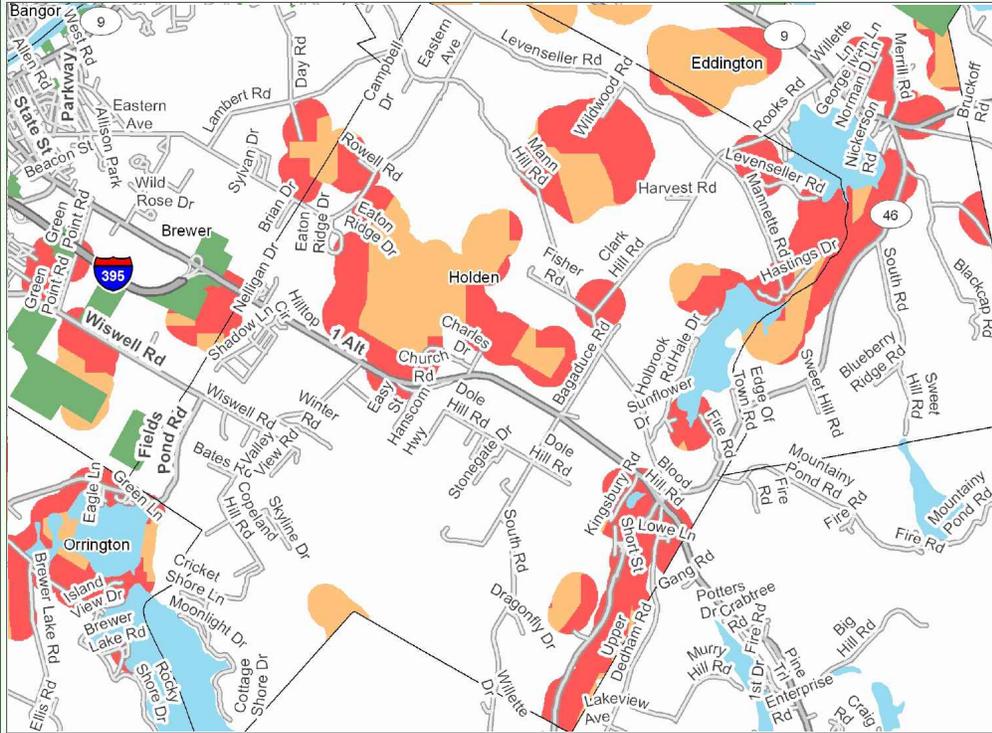


0 1.58 3.2 Miles **Map Notes:**

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Penobscot Valley Community Greenprint

AREAS FOR WILDLIFE OBSERVATION & LOW IMPACT RECREATION



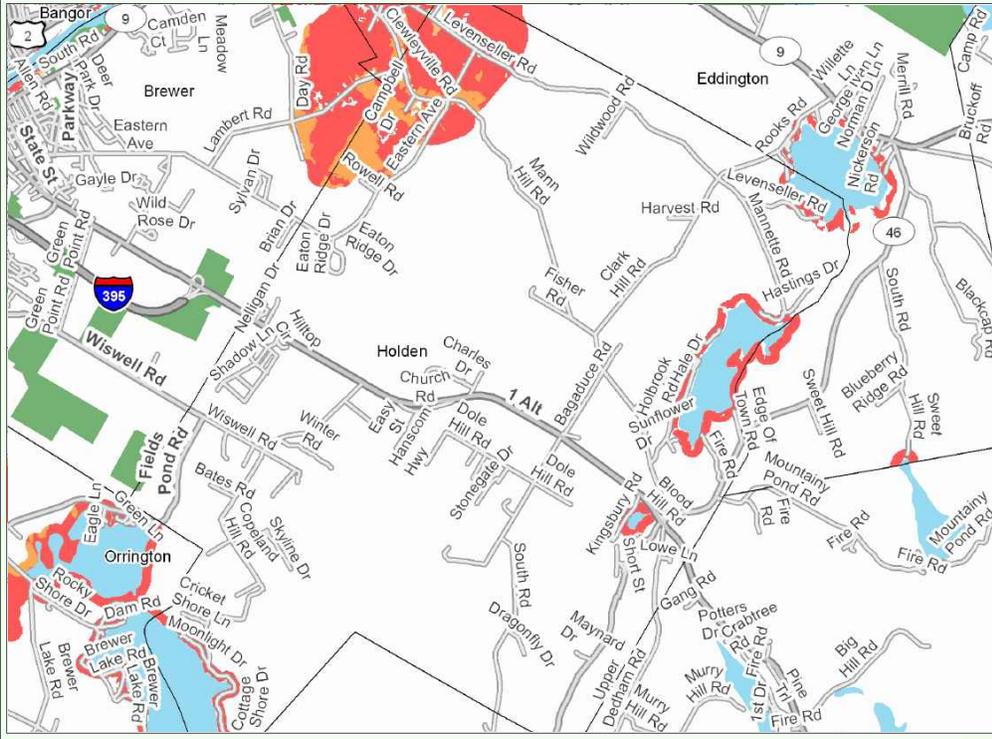
0 1.58 3.2 Miles **Map Notes:**

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Penobscot Valley Community Greenprint

ACCESSIBLE OPEN SPACE ALONG WATERWAYS MAP



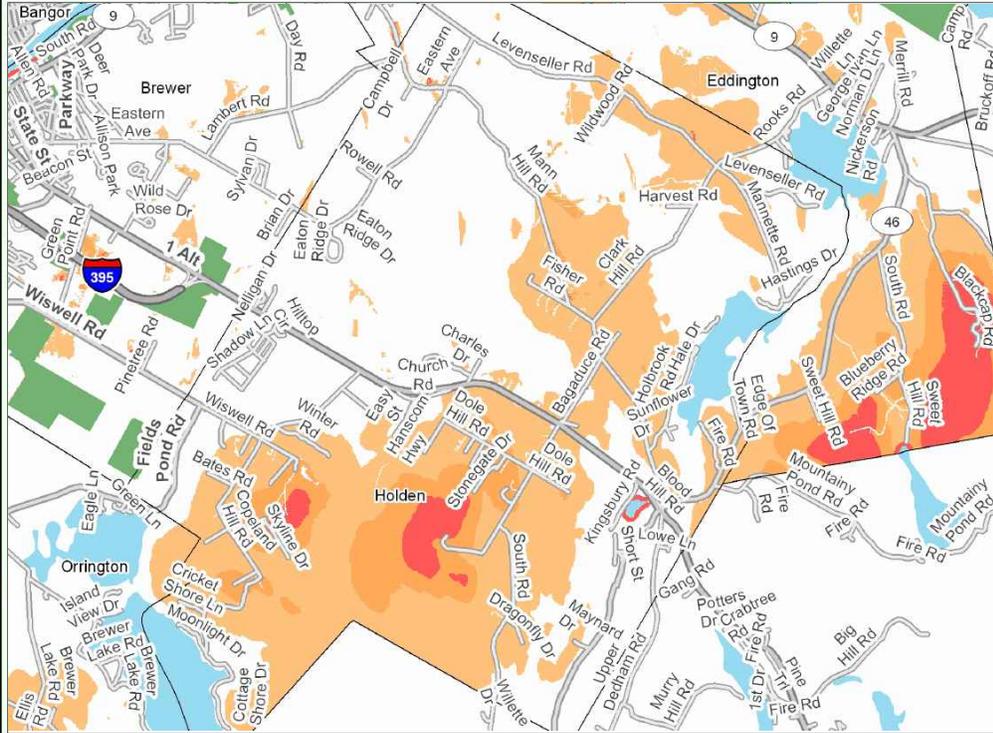
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Penobscot Valley Community Greenprint

MAINTAINING SCENIC VIEWS PRIORITIES



- Legend**
- Towns
 - Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - Overall Results: Maintain Scen Protect Scenic Vistas
 - High
 - Moderate



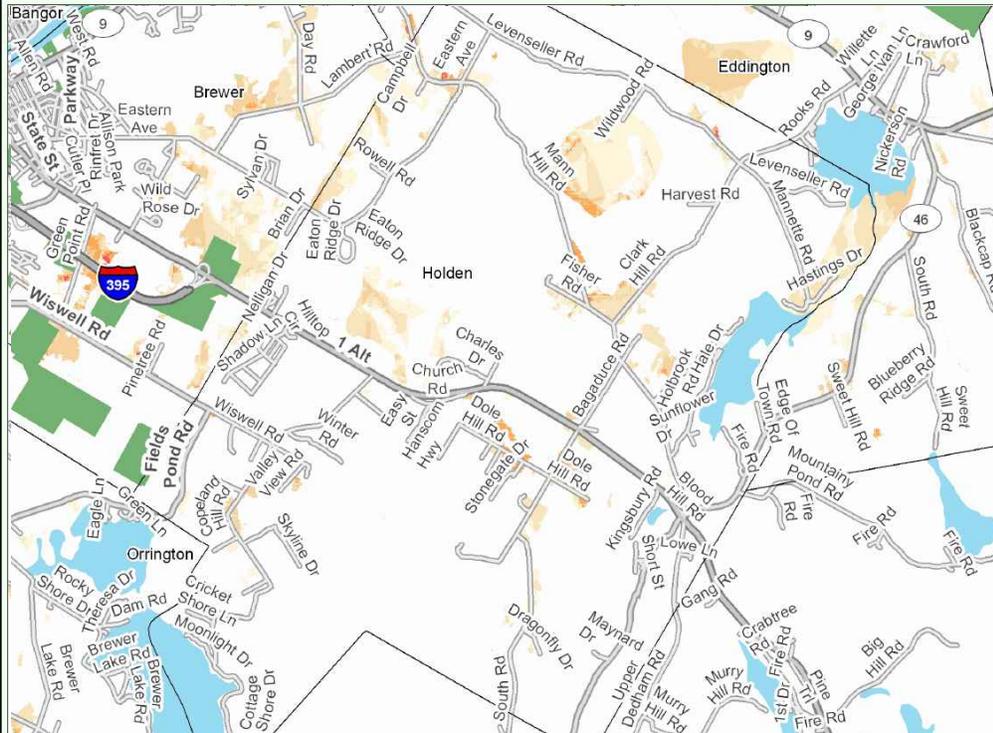
0 1.58 3.2 Miles **Map Notes:**

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Penobscot Valley Community Greenprint

SCENIC LANDSCAPES, OPEN LAND ALONG FARMS AND WATER



- Legend**
- Towns
 - Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - Scenic Landscapes - Open Land Rivers
 - High
 - Moderate To High
 - Moderate
 - Moderate To Low
 - Low



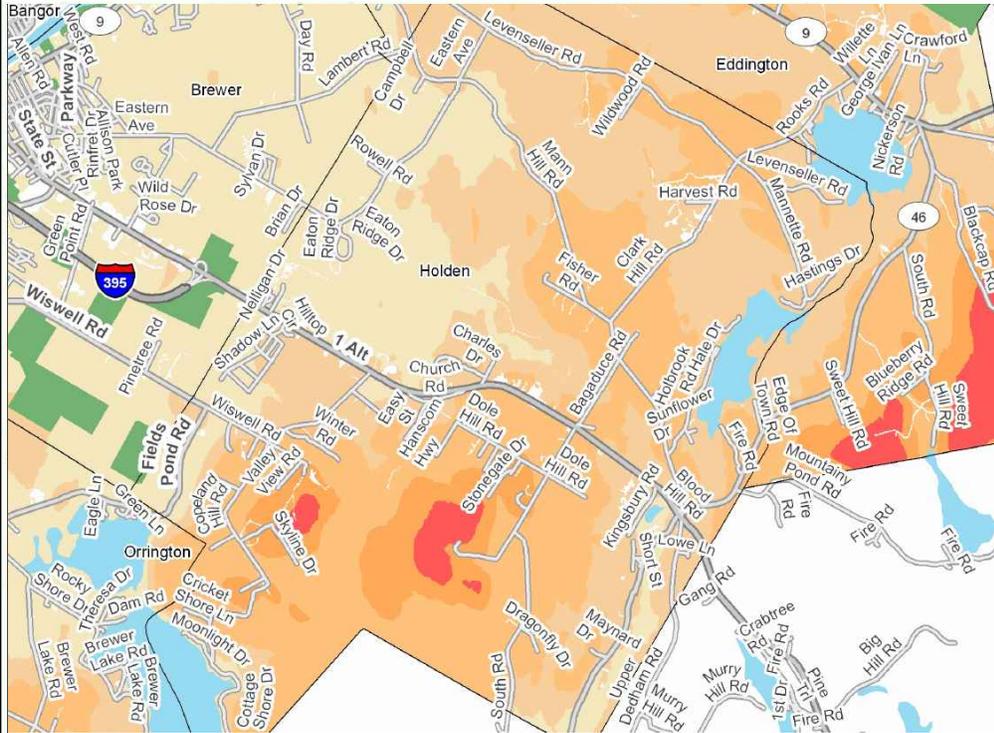
0 1.53 3.1 Miles **Map Notes:**

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Penobscot Valley Community Greenprint

SCENIC HILLS, RIDGES AND HIGH POINTS MAP



Legend

- Towns
- Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
- Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
- Airports
- Waterbodies
- Conserved Lands
- Hills, Ridges, and High Points
 - High
 - Moderate
 - TocSymbol 0
 - Low

0 1.53 3.1 Miles **Map Notes:**

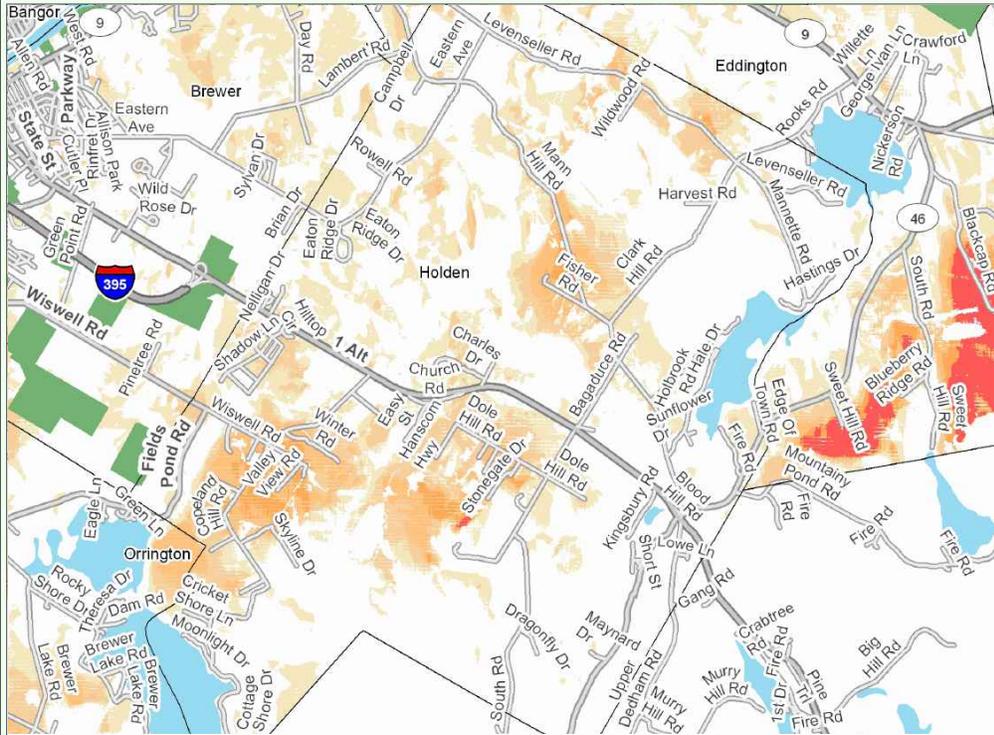
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Area of Interest

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Penobscot Valley Community Greenprint

VIEWS OF SIGNIFICANT LANDMARKS



Legend

- Towns
- Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
- Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
- Airports
- Waterbodies
- Conserved Lands
- Views of Significant Landmarks:
 - High
 - Moderate
 - TocSymbol 0
 - Low

0 1.53 3.1 Miles **Map Notes:**

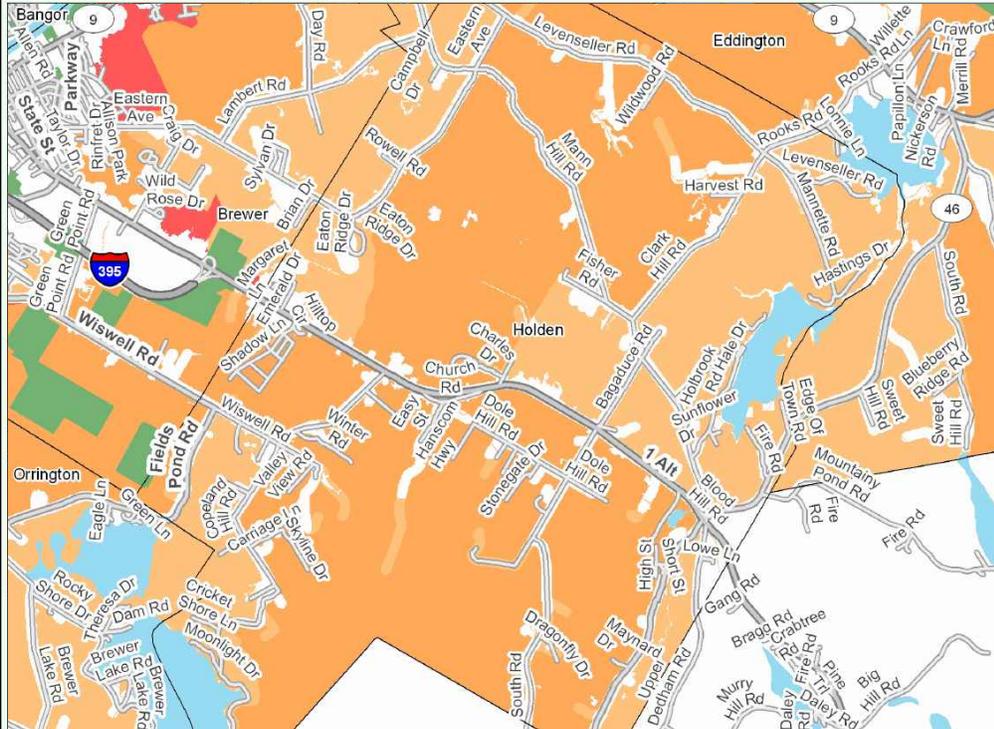
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Area of Interest

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Penobscot Valley Community Greenprint

UNFRAGMENTED NATURAL AREAS MAP



- Legend**
- Towns
 - Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - Overall Results: Protect Habitat Unfragmented Natural Areas
 - High
 - Moderate



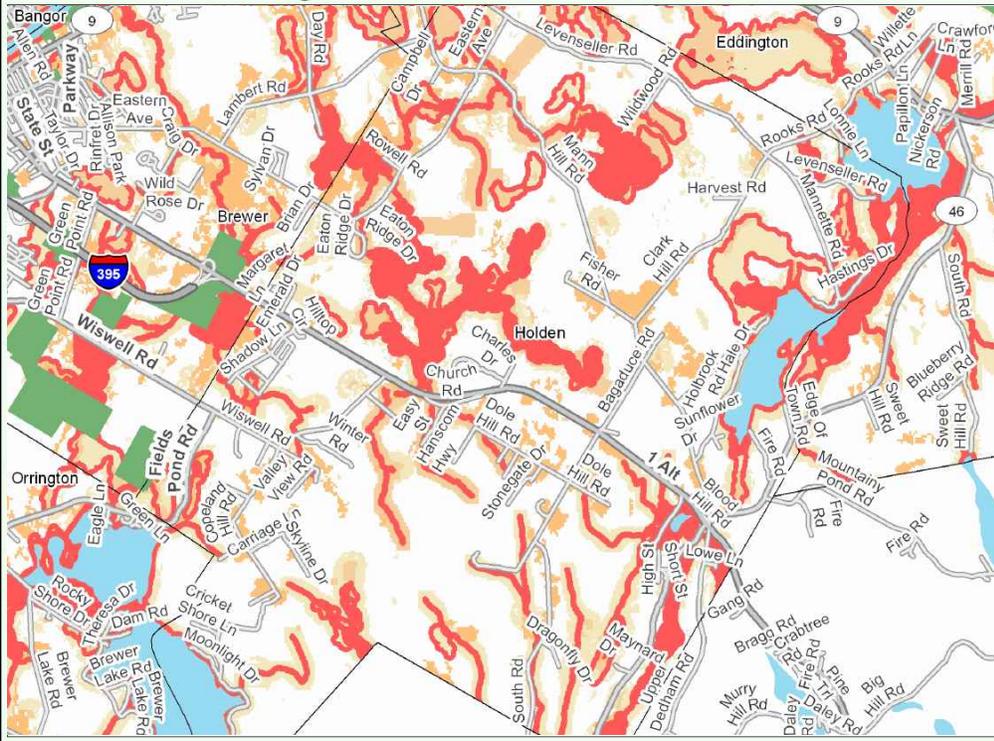
0 1.48 3.0 Miles **Map Notes:**

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Penobscot Valley Community Greenprint

AQUATIC WILDLIFE HABITAT MAP



- Legend**
- Towns
 - Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - Aquatic Wildlife Habitat
 - High
 - Moderate
 - Toesymbol 0
 - Low

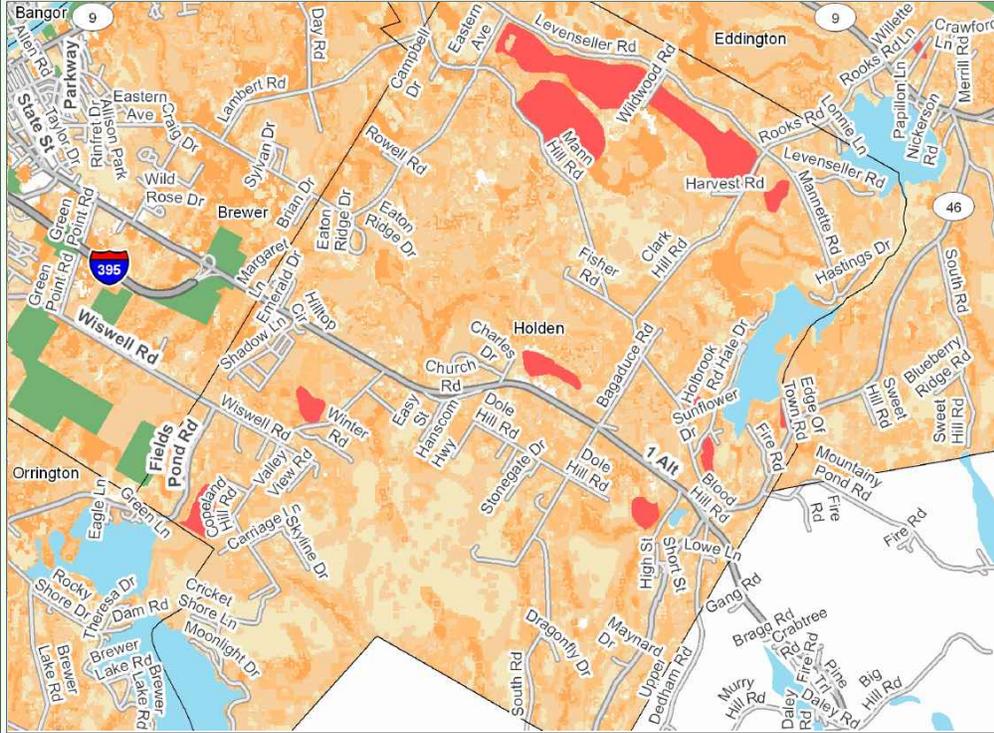


0 1.48 3.0 Miles **Map Notes:**

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Penobscot Valley Community Greenprint TERRESTRIAL WILDLIFE HABITAT VALUES MAP



- Legend**
- Towns
 - Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - Terrestrial Wildlife Habitat
 - High
 - Moderate
 - Low

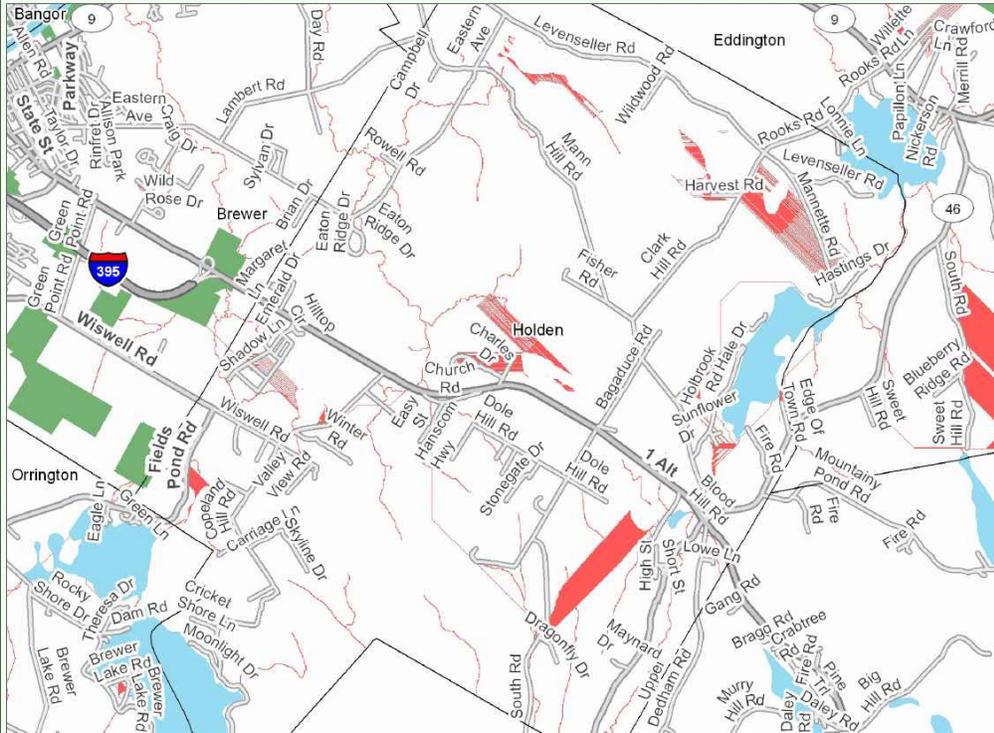


0 1.48 3.0 Miles **Map Notes:**

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Penobscot Valley Community Greenprint HABITAT CORRIDORS AND CONNECTIVITY MAP



- Legend**
- Towns
 - Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - Habitat Connectivity Corridors



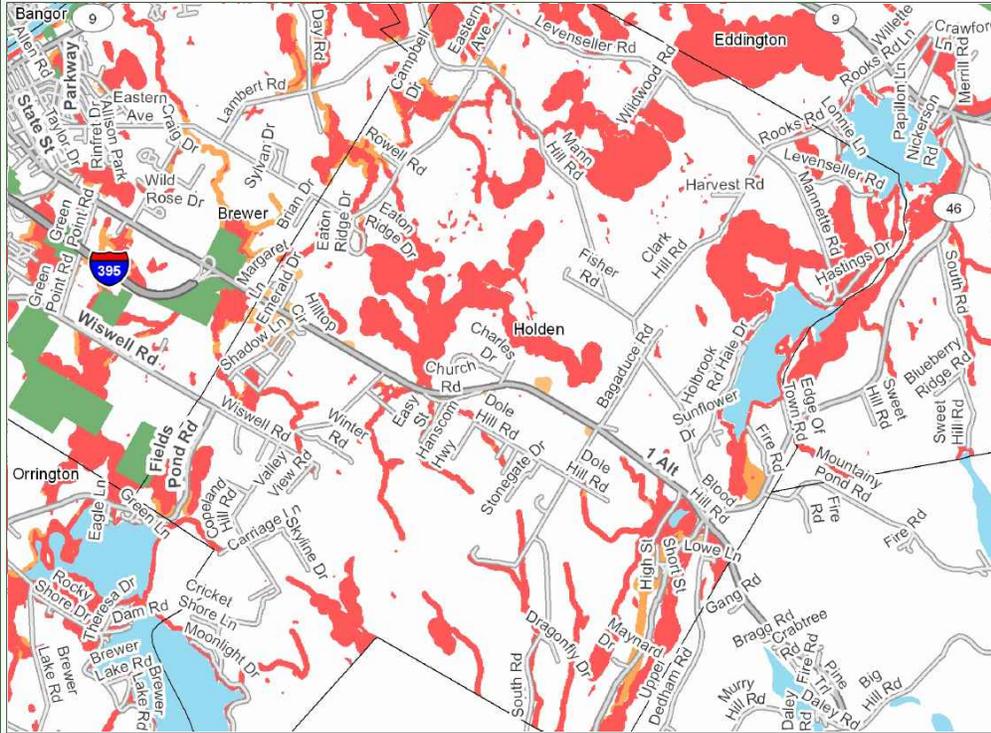
0 1.48 3.0 Miles **Map Notes:**

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Penobscot Valley Community Greenprint

WATER QUALITY PROTECTION PRIORITIES



Legend

- Towns
- Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
- Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
- Airports
- Waterbodies
- Conserved Lands
- Overall Results: Protect Water
 - High
 - Moderate

0 1.48 3.0 Miles **Map Notes:**

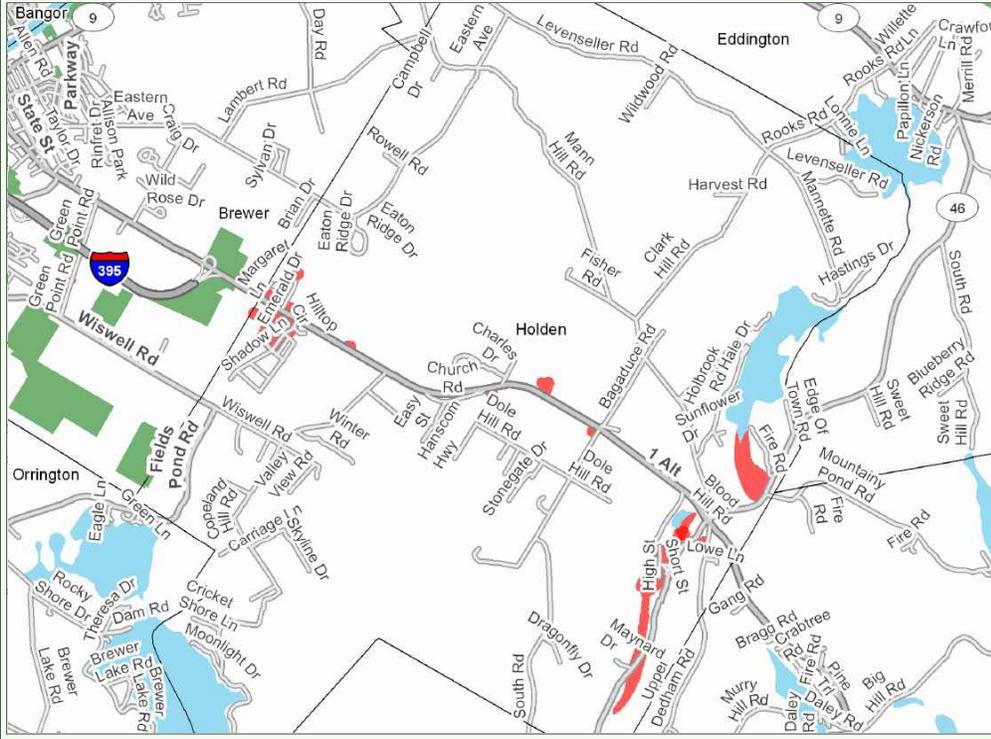


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Penobscot Valley Community Greenprint

WELLHEAD PROTECTION AREAS AND AQUIFERS MAP



Legend

- Towns
- Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
- Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
- Airports
- Waterbodies
- Conserved Lands
- Groundwater
- Wellhead Protection Areas
 - High
 - Moderate

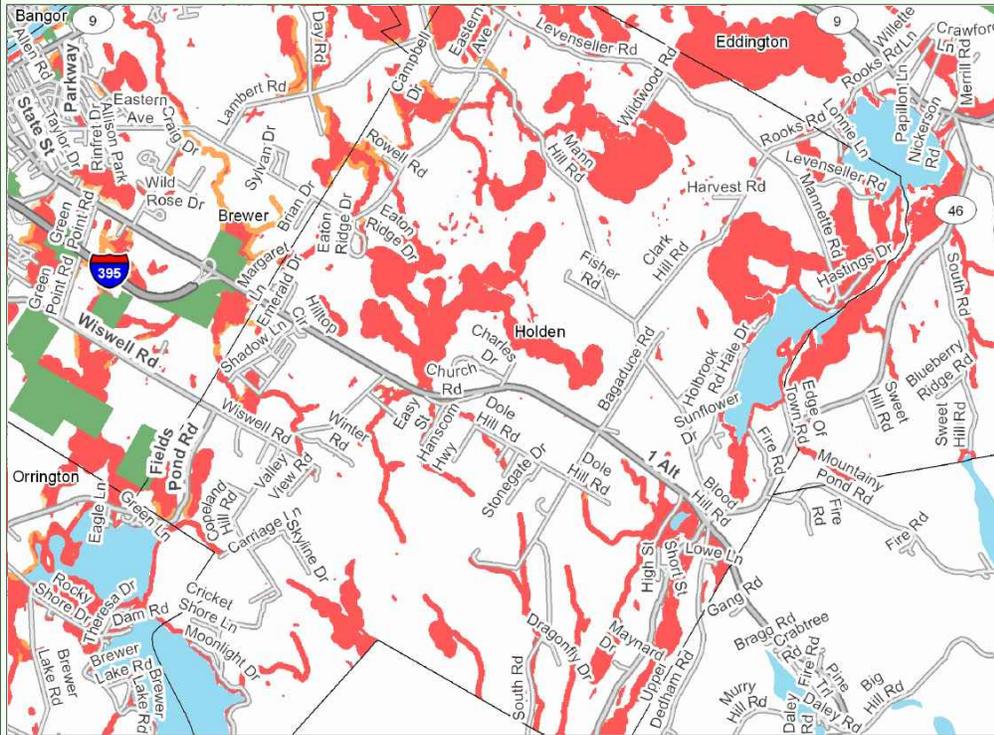
0 1.48 3.0 Miles **Map Notes:**



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Penobscot Valley Community Greenprint RIPARIAN BUFFERS, WETLANDS AND STREAMS MAP



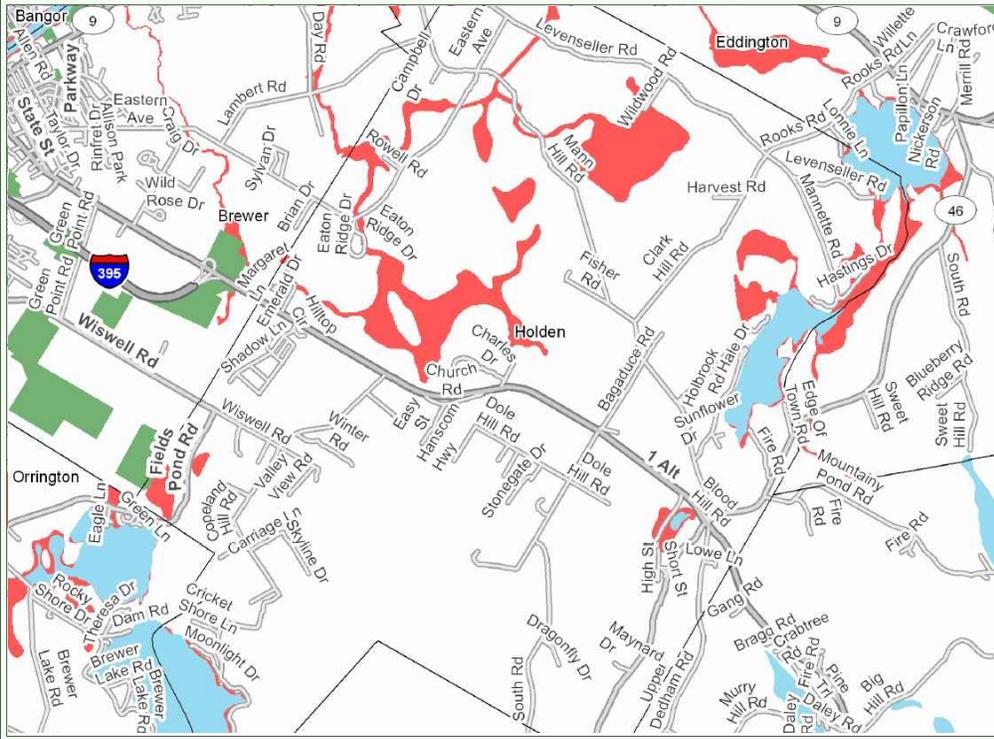
- Legend**
- Towns
 - Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - Riparian Buffers, Wetlands and Streams
 - High
 - Moderate
 - TocSymbol 0
 - Low

0 1.48 3.0 Miles **Map Notes:**



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Penobscot Valley Community Greenprint FLOOD ZONES MAP



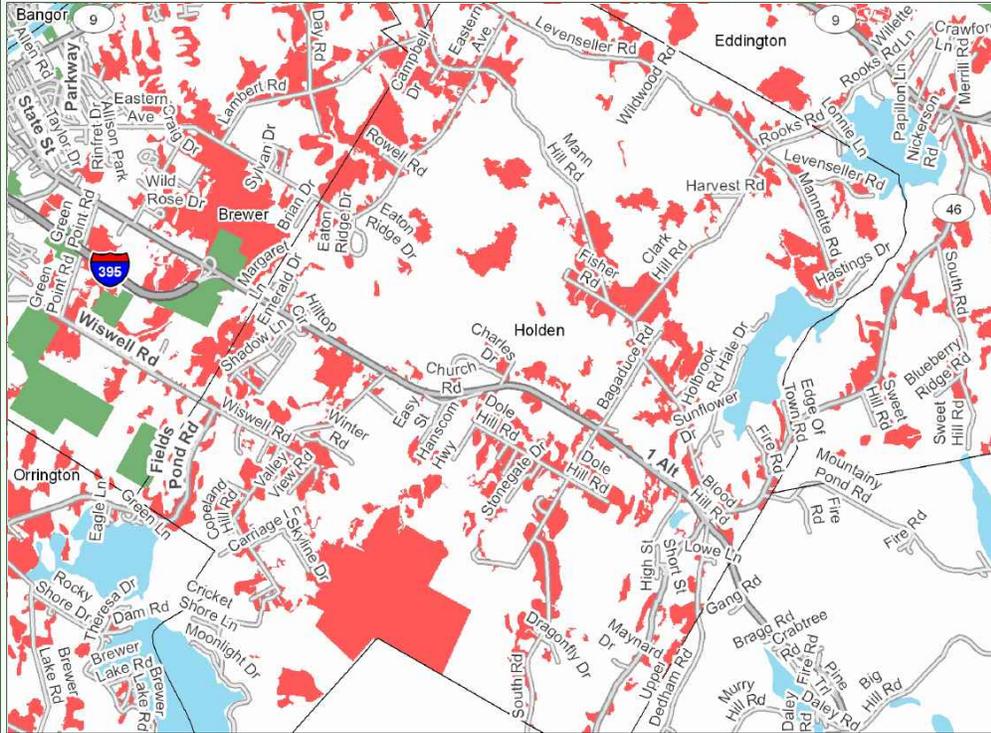
- Legend**
- Towns
 - Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - Flood Zones

0 1.48 3.0 Miles **Map Notes:**



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Penobscot Valley Community Greenprint WORKING LANDS PROTECTION PRIORITIES



- Legend**
- Towns
 - Transportation (250k to 325k)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250k)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - Overall Results: Protect Working Lands

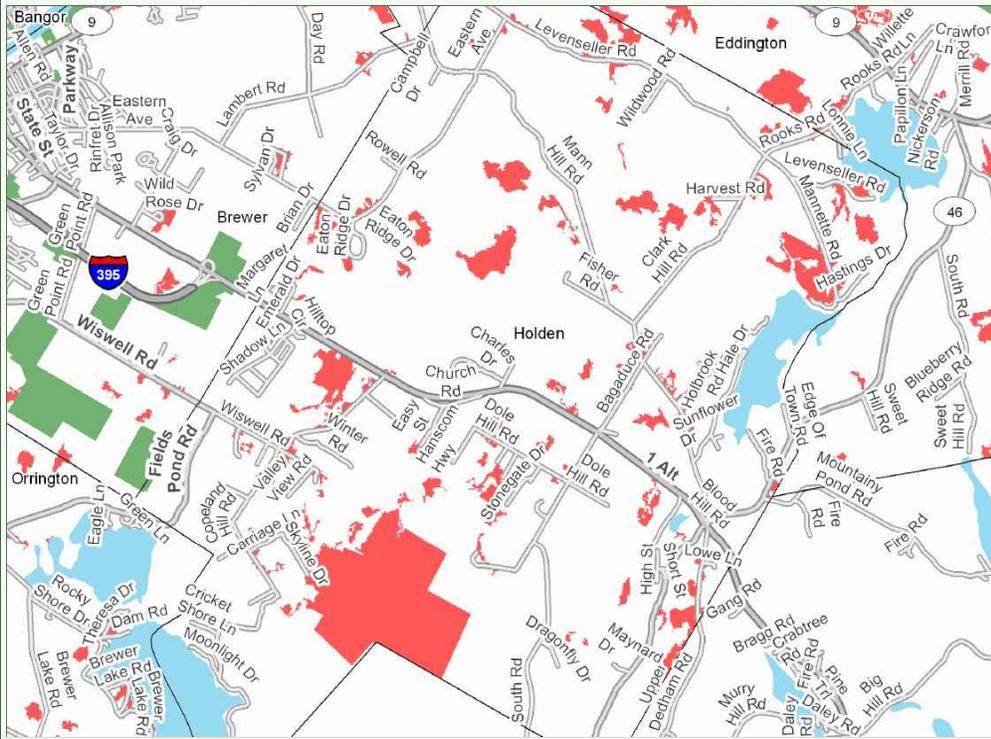


0 1.48 3.0 Miles **Map Notes:**

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Penobscot Valley Community Greenprint WORKING FORESTS MAP



- Legend**
- Towns
 - Transportation (250k to 325k)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250k)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - Working Forests

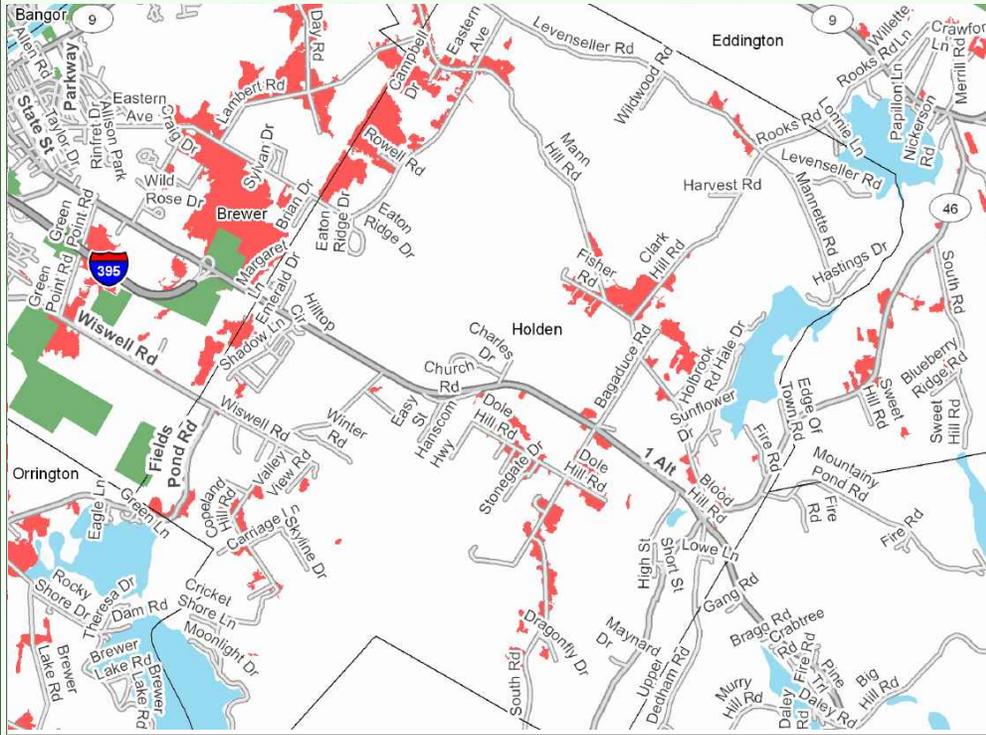


0 1.48 3.0 Miles **Map Notes:**

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Penobscot Valley Community Greenprint FARMS AND FIELDS MAP



- Legend**
- Towns
 - Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - Farms and Fields



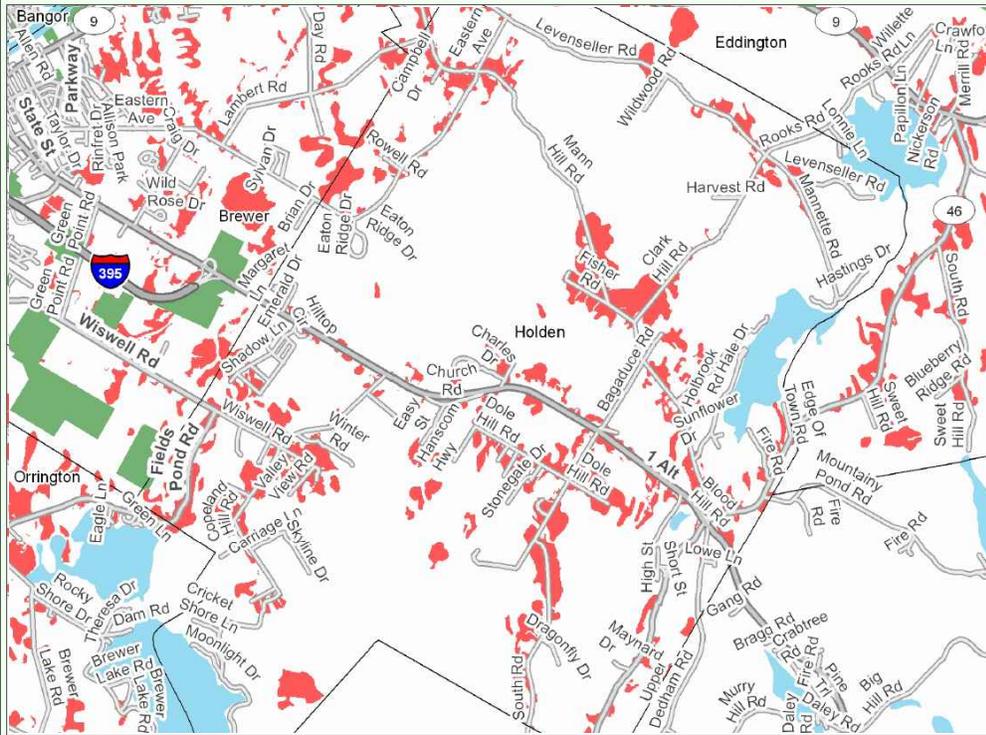
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Penobscot Valley Community Greenprint POTENTIAL FARMLAND (SOILS) MAP



- Legend**
- Towns
 - Transportation (250k to 325K)
 - Interstate
 - Highway
 - Major Road
 - Transportation (75k to 250K)
 - Interstate
 - Highway
 - Major Road
 - Local Road
 - Ramp
 - Airports
 - Waterbodies
 - Conserved Lands
 - Potential Farmland



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August 18, 2009



LEGEND

The purpose of this map is to highlight those areas that are likely to provide the best opportunities locally to conserve large relatively undisturbed blocks of habitat. By showing the further fragmentation of these areas, towns, and land trusts, can effectively keep locally common species common and maintain traditional outdoor recreation opportunities for future generations. By depicting a 500' wide buffer around riparian roads and areas identified as developed (representing the general extent of direct and indirect habitat disturbance) this map highlights large areas of relatively intact habitat. Blocks > 100 acres are labeled with their size in acres. Local knowledge of the condition and use of roads should be used to more accurately evaluate habitat block size and extent of disturbance.

Within the Undeveloped Habitat Blocks, the general landcover/cover is shown (refer to legend). Areas shown as being forested are likely to contain multiple stand types, stand ages, and conditions.

Organized Township Boundary
 Unorganized Township (beginning with Habitat does not provide data for unorganized townships)
 Developed: Area of impervious surfaces including buildings and roads
 Streams and Brooks
 Ocean, Lakes, Ponds, and Rivers

HABITAT BLOCKS

Undeveloped Habitat Block
 These habitat blocks will contain several different habitat types (see habitat types listed below). Acreage within each block is listed on the map with red text.
 Development Buffer (white transparency)
 500' buffer of roads

LANDCOVER CATEGORIES WITHIN UNDEVELOPED HABITAT BLOCKS

Agricultural/Grassland/Barren Lands
 Landcover types where human intervention maintains an open landscape dominated by grasses, me crops, or bare/rock substrates

Wetlands
 Wetlands as identified in the 1980s by the National Wetland Inventory of the U.S. Fish & Wildlife Service. Wetlands delineated by aerial photo interpretation and may be locally misrepresented.

Forest Area < 300 feet from other (non-forest) habitat OR < 800 acres
 This category is likely to contain a greater edge to interior habitat ratio.

Forest Area ≥ 300 feet from other (non-forest) habitat AND ≥ 800 acres
 This category is likely to support the most interior habitat.

Development (white solid)
 Road areas that are not covered by the above Developed type.

Other
 Exposed rockface, alpine tundra, may include industrial gravel pits.

REGIONAL Undeveloped Block Sizes:

Development Area Buffer
 0-250 acres
 250-500 acres
 500-1,000 acres
 1,000-5,000 acres
 > 5,000 acres

Inset Scale: 1:500,000

Data Sources

DATA SOURCE INFORMATION
 These datasets were either downloaded from Maine Office of GIS
TOWNSHIP BOUNDARIES
 Maine Office of GIS (2005); shp244
ROADS
 Maine Office of GIS, Maine Department of Transportation (2005); medotshp
HYDROLOGY
 Maine Office of GIS, U.S. Geological Survey (2004); hyd24
WETLANDS
 Maine Office of GIS, Maine Department of Environmental Protection (contact agency for the multiple agency collaboration) (2005); wetshp
LANDCOVER CATEGORIES WITHIN UNDEVELOPED HABITAT BLOCKS
 Maine Dept. of Inland Fisheries & Wildlife, Maine Natural Areas Program
ROADS/COAST
 Maine Office of GIS, Maine Department of Environmental Protection (contact agency for the multiple agency collaboration) (2005); medot

DATA SOURCE CONTACT INFORMATION
 Maine Office of GIS: <http://papiis.ogis.state.me.us/mw/mw.htm>
 Maine Natural Areas Program: <http://www.maine-naturalareas.org>
 Maine Dept. of Inland Fisheries & Wildlife: <http://www.maine.gov/difw>
 Maine Department of Transportation: <http://www.maine.gov/medot/>
 Maine Department of Environmental Protection: <http://www.maine.gov/dep/>

DIGITAL DATA REQUEST
 To request digital data for a town or organization, visit our website: http://www.beginningwithhabitat.org/the_map.asp?site_request.html

Beginning With Habitat Maps
 3 of 7
 UNDEVELOPED HABITAT BLOCKS



LEGEND

Protected parcels depicted on this map represent the most complete information available from the State of Maine databases at the time of map creation. The State of Maine's conserved lands database includes lands in federal, state, and non-profit ownership. The database does not include many privately owned conservation lands, especially those protected by local land trusts. This database also does not typically include municipally owned conservation lands. For the most accurate and current information about land ownership, consult with the local assessor and/or other local land management agencies. If public access is desired to a parcel, landowners should be contacted to determine if permission is necessary.

Factors are taken into account to show aerial imagery below. Aerial imagery is often the best tool available to visualize existing patterns of development and resulting changes to the natural landscape. These aerial photos, when used with other Beginning with Habitat maps, can provide a more complete understanding of existing conditions and potential habitat values. By depicting conserved lands with aerial photos, the map user can more easily identify adjacent undeveloped lands that could be considered for expansion of the size and ecological effectiveness of the protected habitat.

Different types of aerial imagery are available for different parts of Maine. The medium color vs. black & white, resolution (pixel size), and age affect their use as a map for discerning landscape features. Photos are the "grain" that make up the image, the larger the pixel, the "bigger" the image. The image types currently available for Maine are described below. The best image available for the area shown in this map was used. High quality images that are only partially available may be developed in lesser quality images.

Organized Township Boundary

- Organized Township Boundary
- Unorganized Township Boundary

Streams and Brooks

- Streams and Brooks
- Ocean, Lakes, Ponds, and Rivers

Ownership Type (transparent layers)

- Federal
- State
- Municipal
- Private Conservation
- Easement

Data Sources

DATA SOURCE INFORMATION
 Data collected for names can be downloaded from Maine Office of GIS
CONSERVED LANDS
 Maine Office of GIS (2008); maine04
ROADS
 Maine Office of GIS, Maine Department of Transportation (2005); maine04
BOUNDARIES
 Maine Office of GIS, U.S. Geological Survey (2004); hyd04
TOPOGRAPHY
 Maine State Planning Office (2006); maine04
SCALE, MAGNITUDE
 (Note: Coverage varies throughout the state for each type of aerial imagery. Per map, imagery with the highest resolution is used. Multiple types of imagery may be overlaid per map.)
 Maine Office of GIS, Maine Library of Geographic Information; U.S. Geological Survey (2008-2009); ortho_1f_ortho_2f_ortho_3f_ortho_4f

DATA SOURCE CONTACT INFORMATION
 Maine Office of GIS: 100 Phillips Ave., Suite 100, Augusta, ME 04330
 Maine Department of Transportation: 100 Lewis Maine government
 Maine State Planning Office: 100 Lewis Maine government

DIGITAL DATA REQUEST
 To request digital data for a file or organization, visit our website: http://www.beginningwithhabitat.org/mehp_data_request.html

Beginning With Habitat Maps 4 of 7 PUBLIC AND CONSERVATION LANDS

The Penobscot Valley Community Greenprint

A Regional Vision for Environmental and Economic Opportunity

A Project of the Maine CommunityScape Initiative



THE TRUST *for* PUBLIC LAND

CONSERVING LAND FOR PEOPLE

THE
TRUST
for
PUBLIC
LAND



Founded in 1972, The Trust for Public Land is a national non-profit organization that conserves land for people to enjoy as parks, gardens, and other natural places, ensuring livable communities for generations to come.

THE PENOBSCOT VALLEY COMMUNITY GREENPRINT PROJECT TEAM

National Project Manager: **Kelley Hart**
Local Project Manager: **Jim Gooch**
GIS Developer: **Brenda Faber**
Cartography: **Mitchell Hannon**

Acknowledgments

The Trust for Public Land (TPL), the Bangor Land Trust (BLT) and the constituent communities of the Penobscot Valley Community Greenprint gratefully acknowledge the individuals and organizations that contributed their time, energy, and ideas toward the creation of the Penobscot Valley Community Greenprint. Numerous citizens attended public listening sessions and participated in telephone surveys and interviews. The convening organizations above greatly appreciated the candid observations that informed the Greenprint.

THE PENOBSCOT VALLEY COMMUNITY GREENPRINT STEERING COMMITTEE

Ensured quality control and guided the Greenprint process.

Bethany Atkins, Beginning with Habitat
Ed Barrett, Bangor, City Manager
Jan Beckett, Milford, Planning Board
Steve Bost, Brewer, City Manager
Steve Condon, Holden, Town Planner
Chris Cronan, Veazie, Planning Board
Peggy Daigle, Old Town, City Manager
Clint Deschene, Hermon, Town Manager
Jim Gooch, The Trust for Public Land
Ken Hanscom, Brewer, Parks and Recreation
Ron Harriman, Hermon, Economic Development Director
Gretchen Heldmann, Hampden, GIS
Linda Johns, Brewer, Planning Director
Sue Lessard, Hampden, Town Manager
John Manter, Veazie, Conservation Commission
John Noll, EMDC/PVCOG
Lucy Quimby, Bangor Land Trust
Evan Richert, Orono, Town Planner
Jim Ring, Bangor, Director of Infrastructure
Susan Dunham Shane, Eddington, Planning Board
Steve Walker, Beginning with Habitat
Tracy Willette, Bangor, Recreation Director
Don Wiswell, Town of Orrington

THE PENOBSCOT VALLEY COMMUNITY GREENPRINT STAKEHOLDER GROUP

Represented broad community interests, refined Greenprint goals, and provided input on implementation steps.

Kevin Allcroft, Town of Orrington
Charles Baker, Town of Eddington
Ed Barrett, City of Bangor
Jan Beckett, Town of Milford
Jen Boothroyd, EMDC/PVCOG
Frank Bragg, City of Bangor
Tom Brann, Town of Hampden
Ellen Campbell, Town of Holden
Elaine Clark, University of Maine
Stephen Condon, Town of Holden
Chris Cronan, Town of Veazie
Peggy Daigle, City of Old Town
Sue Dawes, Town of Holden
Clint Deschene, Town of Hermon
Chris Dorion, Town of Orono and Orono Land Trust
Susan Dunham Shane, Town of Eddington
Jim Ecker, Maine Forest Service
Rand Erb, Bangor Land Trust
Sally Fischel, Holden Land Trust
Merry Gallagher, Maine Department of Transportation
Judy Gates, Maine Department of Transportation
Geoff Gratwick, City of Bangor
Bob Guerett, Bangor Insurance Group
Scott Hall, PPL Maine
Ken Hanscom, City of Brewer
Ron Harriman, Town of Hermon Economic Development
Jack Heineman, Town of Milford

Jim Hinds, Orono Land Trust
Sally Jacobs, Orono Land Trust
Linda Johns, Brewer City Planning and Brewer Land Trust
John Manter, Veazie Conservation Commission
Judy Markowsky, Maine Audubon
Chis Matson, Town of Milford
John Noll, EMDC/PVCOG
Paul Pasquine, Trust Company of Maine
John Peckenham, University of Maine/Mitchell Center
Norman Poirior, Town of Orono Parks and Recreation
Lucy Quimby, Bangor Land Trust
Dave Ramsay, Town of Hermon
Evan Richert, Town of Orono
Dick Ruhlin, Eddington Salmon Club
Misa Saros, University of Maine
Joan Saxe, Sierra Club
Steven Shepard, Aquatic Science Associates, Inc.
Russell Smith, Town of Eddington
Ed Steltzer, Hampden Conservation Commission
Mark Whiting, Maine DEP
Chip Wick, IF&W
David Wight, City of Old Town
Tracy Willette, City of Bangor
Don Wiswell, Town of Orrington
Carl Young, Town of Orrington
Gayle Zydlewski, Lower Penobscot Watershed Coalition

TECHNICAL ADVISORY TEAM

Local experts provided scientific and technical expertise to develop Greenprint models.

Bethany Atkins, Beginning With Habitat
Gretchen Haldemann, GIS Specialist, Hampden
John Noll, EMDC/PVCOG
Jerry Longcore, Biologist, Orono Land Trust
Steve Shepard, Aquatic Science Associates
Gordon Longworth, College of the Atlantic
Stephen Engle, Center for Community GIS
Stephanie Phillips, University of Maine, Bangor Citizen
Chris Cronan, University of Maine, Veazie Planning Board

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Executive Summary

To preserve a cherished heritage that is tied intimately to the landscape and to support a vibrant economy, twelve Penobscot Valley communities collaborated to address land use and conservation on a regional scale. Bangor, Bradley, Brewer, Eddington, Hampden, Hermon, Holden, Milford, Old Town, Orono, Orrington, and Veazie put their heads and hearts together between March 2007 and June 2009 for the Penobscot Valley Community Greenprint, a project led by The Trust for Public Land, the Penobscot Valley Council of Governments and the Bangor Land Trust.

The Greenprint presents a first-ever effort to identify the characteristics of the region that make it special, sustain its quality of life, and attract people and businesses; to map these characteristics; and to prioritize strategies for their protection. From a conservationist's perspective, the landscape of the Penobscot Valley is a rich gateway to the Great Northern Forest, a landscape dotted with both active working lands and forests, knit together with acres of verdant open space and clear water. In the eyes of planners and economic development professionals focused on an "asset based" approach to progress, the character of this landscape represents the region's chief asset, a foundation for revitalized economic prospects.

With this Greenprint, the communities of the Penobscot Valley have sought to identify their unique Quality of Place. With this knowledge in hand, that character can be protected and enhanced to support continued economic development while ensuring the landscape they bequeath to their grandchildren is the landscape they love today.

Greenprint leaders conducted in-depth analyses of the region's demographics, economic indicators, and infrastructure in concert with its natural resources, parks and trails. They reviewed local- and state-level planning policies. Based on phone surveys, one-on-one interviews, public listening sessions, and a stakeholder outreach process, the Greenprint identifies key conservation goals for the Penobscot Valley:



- Protect habitat and unfragmented natural areas
- Maintain scenic values and protect scenic vistas
- Protect working landscapes
- Protect water quality
- Establish areas for public access and recreation
- Create multi-purpose trails

Technical experts and stakeholders refined these goals, taking into account how the goals could be mapped across the regional landscape and what data were available to support them. The project team developed opportunity maps for each goal, showing which lands could be conserved to best meet that goal, and a composite map, showing the land that met multiple goals. Stakeholders considered action strategies – from private landowner incentives to a framework for greater regional cooperation – to implement the Greenprint goals, including knitting together a “funding quilt” of public finance options to realize the park and recreation opportunities identified through the Greenprint.

The Penobscot Valley Community Greenprint Process and Timeline

At-a-Glance
March 2007 – June 2009

RESEARCH AND DATA COLLECTION

Current Conditions Research and Analysis – March–May 2008

Public Opinion Telephone Surveys – May–June 2008

CONSTITUENCY BUILDING

Steering Committee Established – Ensure municipal funding and concert of purpose – March 2008

Stakeholder Group Workshop 1 – Confirming Process and Participants – March 20, 2008

Public Listening Sessions – Gather direct constituent input – May 28 and 29, 2008

Stakeholder Group Workshop 2 – Greenprint Goal Refinement – June 5, 2008

CONSERVATION GOAL MAPPING

Technical Advisory Committee Meeting 1 – October 27, 2008

Stakeholder Group Workshop 3 – Discussion of Non-Mappable Conservation Community Goals – November 13, 2008

Technical Advisory Committee Meeting 2 – November 17, 2008

Technical Advisory Committee Meeting 3 – December 1, 2008

Technical Advisory Committee Meeting 4 – January 16, 2009

Technical Advisory Committee Meeting 5 – February 19, 2009

Stakeholder Group Workshop 4 – Goal Prioritization Exercise – March 12, 2009

Technical Advisory Committee Meeting 6 – March 24, 2009

IMPLEMENTATION STRATEGIES

Stakeholder Group Workshop 5 – Finalizing Maps and Conservation Action Steps – April 30, 2009

FINAL REPORT AND BROCHURE

What is a Greenprint?

A Greenprint is both the process of creating a strategic planning, communication, and decision-making tool, and the powerful Geographic Information System (GIS) tool that is the result of that effort. It is based on local input, priorities, and data sources that are interpreted into a set of maps and interactive computer analyses tools that demonstrate opportunities to effectively and efficiently target public resources toward those areas that meet the greatest community needs.

Greenprinting uses The Trust for Public Land's (TPL) unique application of GIS modeling technology. It helps local governments and communities make informed decisions for rational growth, while promoting and protecting their cherished natural resources.

Greenprinting identifies the best opportunities for new park creation, greenway development, natural resource protection, and connectivity. A Greenprint is not a set of static maps; rather, it is a dynamic, interactive web-based tool that guides actions that will result in healthier, more vibrant and green communities.

TPL's Greenprint process fosters collaboration within the community by bringing together diverse community stakeholders who create easy-to-understand priorities for land conservation. The process then considers these community priorities in combination with broader community-wide environmental, social, economic, educational, cultural and recreational interests and uses them as input along with state and local data to produce graphic results that illustrate the best opportunities for green and open space acquisition. The process involves these key steps:

CONSTITUENCY BUILDING

- Identifying Community Values
- Establishing Conservation Goals and Criteria to Express Community Values

DATA GATHERING AND ANALYSIS

- Understanding Existing Conditions
- Assembling Local GIS Data
- Creating Models
- Ranking Goals and Criteria
- Translating Models into Opportunity Maps

IMPLEMENTATION STRATEGIES

- Identifying Practical Strategies for Implementation
- Developing an Interactive, Internet-based Mapping and Analysis Service

TPL works with communities to fulfill their conservation visions. In so doing, TPL works closely with local leaders, residents and technical experts to ensure that the final recommendations have broad community support and incorporate the best available data and science. TPL begins with local input and information, analyzes the data, and delivers strategic recommendations and tools to engage and inform the recreation and open space policies of elected officials, planning boards, and community leaders.

A GREENPRINT IS NOT

- A map of land-use prohibitions
- Determined by a single perspective
- Limited to only protecting wildlife and biodiversity
- For condemning or taking land



Photo: The Old Town Dam, by Asgeir J. Whitney.

Introduction

Residents of the Penobscot Valley region enjoy a remarkably high quality of life. According to one, there are “lots of small town features, but we’re not missing any of the creature comforts.” Another observes, “The quality of life has to do with the community—large enough to give you what you need but small enough that nine people in a room can make a difference.” Most residents take pleasure in walking around town and running into people they know; being close to shopping, beautiful outdoor space, and all sorts of destinations; and living in a place that is often characterized as peaceful.¹

Residents also describe recent changes to their communities, such as increasing traffic associated with more retail stores and services built outside traditional downtowns. Others talk of the need to more quickly connect trails and protect special places in the face of growth. Some believe development has occurred before communities have had time to fully consider and evaluate its effects. Looking ahead, residents anticipate challenges in the years to come, such as:

- Rising energy costs that are nonnegotiable in a region with bitter winters and the year-round need for automobiles to travel between home and most destinations
- The need for more employment opportunities
- The struggle for municipal financial survival because local governments are strapped for funding to maintain public infrastructure and public safety and educational services
- Environmental concerns related to the loss of open space and increasing water quality threats
- An obesity epidemic. In the words of one resident, “Health care costs are going to be a tremendous issue ... and to have a system of open land that can encourage recreation and access for walking or biking to work or easy access for children to a relatively safe path should be a priority.”

The Penobscot Valley Community Greenprint

The Penobscot Valley’s landscape, recent growth pressures, and the interconnected nature of its communities have inspired The Trust for Public Land (TPL), the Bangor Land Trust (BLT), and the

Penobscot Valley Council of Governments (PVCOG) to spearhead a regional comprehensive open space visioning project called “Greenprinting.” The Greenprint began in 2007 when City of Bangor leaders affirmed the need for a new open space plan but recognized that no single municipality could address what has quickly become a more widespread issue:

Dispersed development patterns will take their own course unless a regional initiative can channel them appropriately.

With guidance from TPL, the Eastern Maine Development Corporation (EMDC), BLT, and PVCOG, the municipalities of Bangor, Bradley, Brewer, Eddington, Hampden, Hermon, Holden, Milford, Old Town, Orono, Orrington, and Veazie joined forces to create the Penobscot Valley Community Greenprint. To preserve both their landscape heritage and their economic future, these communities worked together (and will continue to do so) to address the question of land use on a regional scale.

A number of state- and local-level zoning reforms, Comprehensive Planning elements, economic strategies, and legislative actions direct development patterns and seek to preserve natural amenities within the region. (See **Appendix B** for a comprehensive list.) Two of the more recent state-level planning initiatives show a greater integration of land use, public-directed investment, and natural resources preservation, such as drinking water source protection.

CHARTING MAINE’S FUTURE

In October 2006, the Brookings Institution – a non-partisan, non-profit public policy research organization – produced a report, *Charting Maine’s Future: An Action Plan for Promoting Sustainable Prosperity and Quality of Place*, that called upon the state to take bold action and focus its limited resources on a few critical investments.² At the heart of this report was its conclusion that “as the search for quality places grows in importance, Maine possesses a globally known ‘brand’ built on images of livable communities, stunning scenery, and great recreational opportunities.” Since its release, the report has driven numerous state initiatives, ranging from educational consolidation to continued (Land for Maine’s Future began in 1998)

¹ Project staff interviewed more than two dozen individuals on a range of topics to provide context for this initiative. Their opinions are reflected here. See **Appendix A** for a list of interviewees.

² *Charting Maine’s Future: An Action Plan for Promoting Sustainable Prosperity and Quality of Place* (Washington, DC: Brookings Institution, 2006). All quotations in this section reference this report.

bond issues in support of the Land for Maine's Future program and targeted research and development funding.

Of particular relevance to the Greenprint, the report called attention to the rapid suburbanization of Maine and the resulting conversion of rural fields and woodlands into residential uses, higher public service costs due to greater population dispersion, barriers to development in traditional regional hubs combined with weak local and regional growth management, and an inconsistent stance toward economic development that has weakened the state's efforts to improve its economy. The report made a number of recommendations, some of which have been acted upon and many of which remain under discussion. Most important, however, the report emphasized Maine's brand, its quality of place based on its natural beauty and the historic character of its built places.

- **Building Codes**

The Brookings Institution report described the current building code situation as a "crazy quilt of code regimes" resulting in projects that cost more as each building and project is customized by developers to fit the specific needs of the municipality. The report also stated that "Maine's lack of a uniform statewide building code seriously hinders redevelopment by injecting uncertainty into investors' decision-making, consuming time, and making clear guidance from a central source impossible to obtain." As a result, the state has now adopted statewide building and energy codes that will go into effect in 2010. All communities with a population of over 2,000 will be required to enforce these codes.

- **Preservation and Economic Development**

As noted above and as called for in the Brookings Institution report, Maine's tax credit for the rehabilitation of historic structures has been expanded to support efforts to reuse historic structures located throughout the state, many of which are clustered in traditional downtowns and town centers. In addition, bond issues have been approved to fund the Land for Maine's Future program and targeted research-and-development efforts, supporting both preservation of open space



A covered bridge at historic Leonard's Mills in Bradley, by Asgeir J. Whitney.

and investments in economic development compatible with Maine's brand and quality of life. Finally, the report recommended that regional land use planning in Maine be strengthened. It is hoped that this regional open space planning effort will be a strong first step in that direction.

THE GOVERNOR'S COUNCIL ON MAINE'S QUALITY OF PLACE

As a follow-up to the Brookings Institution study, the Governor's Council on Quality of Place was established and released its second and final report in May 2008. It called for a coordinated state and local effort to use Maine's Quality of Place as the basis for an overall job creation and investment strategy. This built upon the council's first report, which put forward 15 recommendations on regional landscape protection and community and downtown revitalization. The governor has now issued an executive order setting the Maine Quality of Place investment strategy as well as a new State Quality of Place Council to help coordinate the efforts of state agencies, establish standards for regional Quality of Place investment plans, and monitor and report on these efforts.

These and various other efforts to implement the report's recommendations are continuing to inform the overall public policy debate in Maine and provide the context for this unprecedented regional open space planning effort.

The Penobscot Valley Community Greenprint Process

The Penobscot Valley Community Greenprint will achieve two critical community objectives.³ One is improving regional collaboration in recognition that natural features do not respect political boundaries. Many residents point out that if community leaders know more about what their neighbors are doing, they may find efficiencies and better build on existing regional projects. One person explained, “You are able to have something much larger as a whole than you could have as fragmented units. You get linkages and excitement from the possibilities that come from being part of a larger group. There’s more knowledge and impetus.”

A second objective is achieving a healthy balance between economic development and conservation. Some residents are dissatisfied with recent developments, notably “big box” growth and franchises; others commend this development because it brings jobs to the region. Some worry that most recent development is too generic and that if this type of development pervades the Penobscot Valley, its unique character will be overshadowed, reducing its desirability as a place to live and work.

Many local planning efforts, as well as statewide reports by the Governor’s Council on Quality of Place and the Brookings Institution, recommend a twofold approach: (1) concentrate development in existing downtowns and other carefully designated job centers/corridors, and (2) promote open spaces, working lands, and unique natural features that will attract tourists and new businesses. Using the Greenprint as a guide, the region can determine what to protect and where to develop, thus promoting economic development while preserving the region’s unique and appealing character.

GREENPRINT CONSTITUENCY

The Greenprint process started with building a local constituency to direct and inform the convening organizations.

- **The Penobscot Valley Community Greenprint Steering Committee**
Composed of one or two representatives from each of the 12 member communities and the four organizing groups, the Steering Committee guided the Greenprint process,

ensuring that it employed a comprehensive community engagement process while keeping in sync with individual community plans and priorities.

- **The Penobscot Valley Community Greenprint Stakeholder Group**
The Stakeholder Group included members of the Steering Committee as well as broad-based representation from economic, environmental, recreational, historical, and other community interests. This group refined potential goals identified through the data gathering phase, ranked goals in relationship to one another, provided quality control, and recommended strategic action steps for Greenprint implementation.

The committee and community stakeholders represented a cross-section of interests in the Penobscot Valley and included many people who are locally active or able to represent the views of a larger group.

DATA GATHERING AND ANALYSIS

Through interviews, public meetings, and surveys, residents articulated their preferences and priorities for conservation and use of open space. Then, hard data about the land base was married to these preferences and priorities. Using computer modeling and geographic information system (GIS) mapping technology that considered multiple factors (e.g., topography, trail networks, location of key waterways, and population trends), colorful maps were developed that clearly pinpoint community priorities. This information gathering stage involved:

- **One-on-one Interviews**
TPL project staff interviewed more than two-dozen individuals who offered a range of perspectives on the historical, political, economic, and other aspects of living and working in this region. (See **Appendix A** for a description of community interview and a list of interviewees.) Some of these findings have provided context in this report and were used to structure and prepare for the Greenprinting process.

³These objectives emerged during interviews, public listening sessions, and a community survey.

- **Current Conditions**

TPL conducted an in-depth analysis of the region's demographics, economics, transportation, and historic and natural resource features, focusing also on the distinct characteristics of each of the 12 member communities. (See **Appendix C** for full Current Conditions Report.)

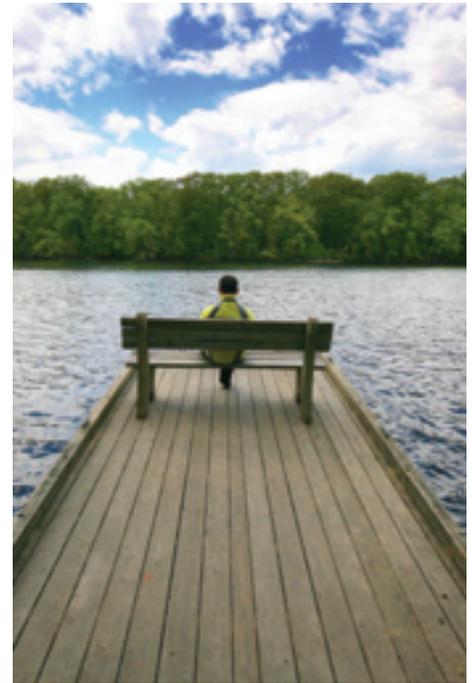
- **Public Listening Sessions**

In two public listening sessions held in May at the Hampden Academy and Old Town High School, more than 100 people gathered to share ideas about the future of the region. (See **Appendix D** for public outreach strategies.) Participants discussed what they value about local landscapes and generated a list of land conservation goals for the region.

- **Public Opinion Survey**

Between May 21 and June 5, 2008, Critical Insights of Portland, Maine, conducted a survey of more than 600 voters⁴ across the Penobscot Valley to gauge residents' current level of satisfaction with living in their town, particularly as it related to land-use considerations; to identify which park and open space activities residents believe should be a top priority for their town; and to identify the current recreational activities respondents engage in and their participation rates in those activities. The survey found:

- **Satisfaction levels are high** – Residents of the 12 towns making up the Penobscot Valley study area reflect a high degree of satisfaction with their experience of living in their respective towns. Approximately 80 percent of the voters surveyed indicated that they are satisfied with their residential experience, and of these, fully 43 percent are “highly satisfied.”
- **Voters are actively involved in outdoor recreational activities** – Only about one in six residents indicated



*Enjoying the Stillwater River view in Orono,
by Jeff Kirlin.*

that they are not at all active in terms of recreational activity within the local area. Although activity tends to skew to slightly younger residents, a solid core of those 65 and older characterize their activity levels as frequent.

- **Demand varies** – There is not a strong level of demand associated with any activity that is currently inaccessible within 20 miles of home.
- **Trails are a high priority** – Walking is the recreational activity cited most frequently, but residents also cited a wide variety of other outdoor pursuits.
- **Land and water preservation and protection lead the list of purposes that would generate strong support** – In particular, residents are more likely to support initiatives that protect existing entities (such as working forests and farms)

⁴The sample is representative of the population distribution by community in the 12-town footprint. Only reported voters were sampled. Initial refusal rates were limited to just 3.9 percent overall, indicating that the sample was not tainted by any discernable nonresponse error. To assure quality data capture and professional interviewing, a portion of all interviews was verified with callbacks within 24 hours of the actual interview.

Greenprint Opportunity Maps

before they are likely to support new initiatives (such as building playgrounds and ball fields).

- **Eighty percent agree** – The chief rationale cited by eight in ten residents for supporting park and open space programs is reflective of the Maine mind-set:
 - Assuring public access to the land
 - Improving the quality of life of the community
 - Maintaining sensitivity to landowner rights

Goal-setting

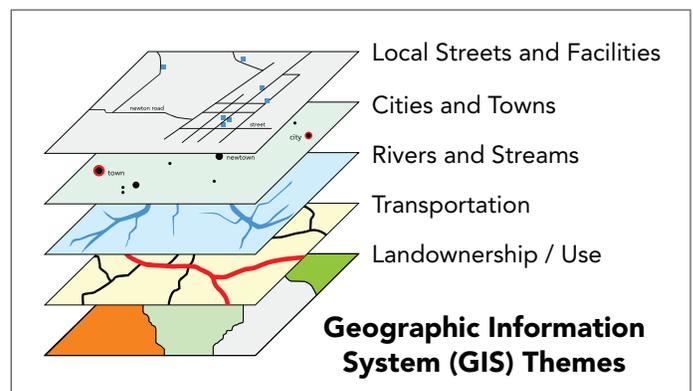
TPL staff worked with the Penobscot Valley Community Greenprint Stakeholders to group the goals identified in the public listening sessions into categories, cross-referencing participant priorities with findings from the randomly administered telephone survey. These goals and the sub-goals were then refined based on technical constraints and other considerations such as what could be mapped and what data were available:

- Protect habitat and unfragmented natural areas
- Maintain scenic values and protect scenic vistas
- Protect working landscapes
- Protect water quality
- Establish areas for public access and recreation
- Create multi-purpose trails

TPL developed individual maps for each of the six goals the Stakeholders drew from the community response. Each community can use these maps to determine where to prioritize land conservation and where to favor growth. TPL, with assistance from the Steering Committee and Stakeholder Group, as well as a Technical Advisory Team (TAT), reviewed the list of community-generated goals, conducted a data inventory, and compiled GIS layers to construct a GIS database model and land conservation opportunity maps, which all member communities will be able to access. PVCOG will maintain a web-based system on behalf of the municipalities involved.

The benefit of the Greenprint computer model is that the underlying data maps and layers are accessible and transparent, so that users and viewers can drill down underneath the images and identified areas to determine what goals or criteria are met by those lands. The conservation of these identified lands will ensure the biggest ‘bang for the buck’ for the region. The maps are color-coded based on the criteria weightings that identify where the Penobscot Valley communities can most efficiently and effectively direct their resources to meet the Greenprint goals. The most intense colors indicate the best opportunities:

- Dark Red = High Opportunity
- Dark Orange = Moderate – High Opportunity
- Orange = Moderate Opportunity



Graphic 1 depicts how GIS data layers are overlaid to build Greenprint models.

ESTABLISH AREAS FOR PUBLIC ACCESS AND RECREATION PRIORITIES

This map indicates areas that provide the best opportunity for improving recreational access in the Penobscot Valley communities. (See Map 1, p.14, Establish Areas for Public Access and Recreation.)

These types of lands were prioritized: accessible open space along the Penobscot River, park service gaps in areas of greatest need, natural areas within a walkable distance to urban centers, opportunities for wildlife observation and low impact recreation,⁵ community gardening opportunities,⁶ and remote spaces. (See Model Criteria in Appendix E for more detail on the data sources and GIS methodology for all six goals.)

The primary intent of this goal was to identify potential recreation areas that are within a walkable or bikeable distance from where people live. As one can see by looking at the map, most opportunities are near the urban areas, which are generally along the river. There is also a sizeable dark red area where Brewer, Holden, and Eddington meet. Large blocks of medium-priority (orange) appear in Hermon, Hampden and Holden, furthest from the river.

This map identifies more than 106,000 acres of the study area as potential priority recreation land. But almost 10 percent of those acres are already conserved. For the purposes of the Greenprint, “conserved” land is defined as: state, federal, and land trust holdings; municipal greenspaces; and the University of Maine’s preservation lands. Tribal Lands, the University of Maine Campus, and the Penjajawoc Marsh are not included in the “conserved” land calculations. Please see **Appendix C** Table C for a list of conserved land in each municipality.

About 96,000 acres are now priority opportunities for reaching this Greenprint goal, which represents 40 percent of the study area.

PROTECT HABITAT AND UNFRAGMENTED NATURAL AREAS PRIORITIES

This map illustrates in dark red lands that could be conserved in order to protect special natural habitats in the study area. (See Map 2, p.15, Protect Habitat and Unfragmented Natural Areas.) To accomplish this, the map suggests targeting natural lands that are large contiguous patches,⁷ areas with habitat diversity, rare and endangered species habitat, habitat connectivity corridors, aquatic wildlife habitat, terrestrial wildlife habitat, and undeveloped buffers surrounding natural land.

Almost 60 percent, or 140,700 of the 239,000 acres of unfragmented natural areas and habitat connectivity corridors in the study area have not yet been protected. The total land identified as high priority for habitat protection is quite a bit more land than appears on the Public Access and Recreation Priorities map described first, but it is important to note that some of the land conserved to benefit flora and fauna will also be appropriate for certain types of human recreation.

PROTECTING WORKING LANDSCAPES PRIORITIES

This map shows in dark red the areas that ought to be preserved as working lands. (See Map 3, p.16, Protect Working Landscapes.) Underpinning this goal is the desire of many to preserve a traditional economy and culture. In surveys, interviews, and public listening sessions, several people also mentioned the importance of local food production for environmental and health benefits. Some properties show up as high priority because they are existing farms and fields, others because they are working forests, and still others because their soils suit them to serve as potential farmland.

Almost 70,000 acres, not yet conserved, are identified as high priority (about 30 percent of the study area)

⁵ Determined by selecting areas within 1/8 mile of major wetlands, waterfowl and wading bird habitat that are also close to roads; also prioritized locations of moose crashes with vehicles that were on local or minor roads.

⁶ Determined as potential agricultural land (based on Soil Survey Geographic data) and bare ground that is located within one half mile of developed areas.

⁷ Determined as at least 150 acres in size in rural areas (and at least 50 acres in urban areas), that are not interrupted by paved roadways. Habitat types used to define “natural areas” include: Grassland/Herbaceous, Deciduous Forest, Evergreen Forest, Mixed Forest, Shrub/Scrub, Wetland Forest, Wetlands, Blueberry Field, Unconsolidated Shore, Recent Clearcut, Light Partial Cut, Heavy Partial Cut, Regenerating Forests, and Agriculture. Note: this model uses the same methodology used in the “Beginning with Habitat” Undeveloped Habitat Blocks model, but includes smaller blocks.

for this Greenprint goal. Much of this is comprised of large contiguous tracts in Milford, Bradley, and Old Town, but there appear to be good opportunities for farm and working woodlot preservation in each of the towns and cities in the study area.

CREATE TRAILS PRIORITIES

This map displays the results of the “Create Trails” analysis. (See Map 4, p.17, Create Trails.) The high priority areas in dark red on this map indicate potential connections to various types of destinations from the labeled trails already planned or existing.

The model uses the Penobscot River and the East Coast Greenway as the primary pathway. It identifies possible connections from those trails to parks and open space, river access points, town centers, and historic districts. Connection opportunities considered include (in priority order): existing trails and bridges, the priorities identified in the Orono Land Trust Open Space Corridor Plan, proposed trails and bridges, utility corridors (electric and telephone lines), railroads, stream corridors, undeveloped lands, and low traffic roads.

It is important to note that this analysis identifies a number of potential trail connection opportunities. It is not a trail plan.

Before taking into account land already conserved, the model identified almost 4,000 acres as high priority opportunity for meeting this Greenprint goal. However, about 1,000 of those acres have already been conserved, so only about one percent of the study area presents a high priority opportunity.

PROTECT WATER QUALITY PRIORITIES

On this map, areas in dark red represent the best opportunities for conserving land that will protect drinking water quality. (See Map 5, p.18, Protect Water Quality.) To accomplish this Greenprint goal, the map suggests targeting riparian buffers, wetlands, and shorelines for conservation. Aquifer recharge areas are also identified, as well as wellhead protection area buffers and headwater buffers. Some land in flood zones also appears as high priority for protection to meet water quality objectives.

Like the working landscape and unfragmented habitat goal maps, Bradley, Milford, and Old Town have large



Annual Kenduskeag Stream Canoe Race in Bangor; by Ásgeir J. Whitney.

tracts of high priority opportunity land. Hermon, Hamden, Holden, Orono, and Eddington also have ample opportunities to conserve land that will benefit water quality, more so than Bangor, Veazie, and Brewer. More than 20,000 acres identified as high priority for this Greenprint goal have already been conserved, but almost 60,000 remain as an opportunity. This leaves about 25 percent of the study area as high priority.

MAINTAIN SCENIC VALUES AND PROTECT SCENIC VISTAS PRIORITIES

This map identifies in dark red land as high priority for protection: specific hills, ridges and high points identified during the public listening sessions; scenic views from the Penobscot River; natural land cover along the Penobscot River; and scenic areas (open lands, farms and rivers) as viewed from high elevation points. (See Map 6, p.19, Maintain Scenic Values and Protect Scenic Vistas.) Some significant landmarks and historic places are also included. Roughly 40,000 acres of land not already conserved is identified as high priority opportunity for this Greenprint goal. It comprises 17 percent of the study area.

OVERALL REGIONAL PRIORITIES

The Stakeholder Group elected to create one map that highlights areas on the landscape where multiple goals can be accomplished. (See Map 7, p.20, Overall Regional Priorities.) On this map, the darker the red, the more individual community goals would be met by some level of conservation in that area. The computer model assigned “weights” at the direction of the Stakeholder Group in order to allow some goals described above to have more emphasis than others. The Steering Committee and Stakeholder Group decided to distinguish the urban areas from the

rural areas, applying a different combination of goal weightings to each (see Table A). For example, in the rural areas, emphasis is put on finding natural areas and working landscapes. In the urban areas, emphasis is put on finding areas where public access/recreation is appropriate and creating trails. The Stakeholders selected the weights for both the urban and rural areas, and the Steering Committee reviewed and approved them.

About 7,000 acres are identified as opportunity lands inside the urban growth areas (that are not already conserved). This represents slightly more than 20 percent of the urban study area. In contrast, 61,000 acres are identified in the rural areas, which represents about 30 percent of those areas.

Ample priority landscapes are identified in all 12 municipalities. There are many opportunity lands that

have not yet been conserved, as depicted in Table B both by total acreage and the percentage of land in the municipality that the acreage represents.

When considering the entire study area, about 75 percent of the land that is already conserved was identified by the model as high-priority. If the community decided to protect all of the remaining opportunity areas identified on the “overlap map” they would still need to protect nearly 70,000 acres, which is almost 30 percent of the study area. For most communities that is not a realistic goal, given the desire and need to balance conservation with growth. Accordingly, this is intended to be an opportunity map not a prescriptive map, indicating good places for land conservation that meets the region’s goals.

Table A. Regional Goal Priority Weights

| Goal | Urban Weighting | Rural Weighting |
|--|-----------------|-----------------|
| Protect Habitat & Unfragmented Natural Areas | 19% | 28% |
| Maintain Scenic Values & Protect Scenic Vistas | 2% | 18% |
| Protect Working Landscapes | 9% | 26% |
| Protect Water Quality | 18% | 10% |
| Public Access & Recreation Areas | 27% | 14% |
| Create Trails | 25% | 15% |

Table B. Percentage of High Priority Lands that are Overall Regional Priorities

| | Non-Conserved High Priority Acres | Percentage of High Priority Acres |
|------------------------|-----------------------------------|-----------------------------------|
| Study Area | 68,111 | |
| Bangor | 5,416 | 24.2% |
| Bradley | 12,291 | 37.8% |
| Brewer | 2,824 | 28.3% |
| Eddington | 4,282 | 25.2% |
| Hampden | 7,665 | 30.7% |
| Hermon | 6,608 | 28.2% |
| Holden | 4,183 | 20.4% |
| Milford | 10,056 | 34.3% |
| Old Town | 7,738 | 28.3% |
| Orono | 3,324 | 26.5% |
| Orrington | 3,355 | 19.1% |
| Veazie | 369 | 18.6% |
| | | |
| Inside Urban Boundary | 7,101 | 21.6% |
| Outside Urban Boundary | 61,010 | 29.5% |

THE PENOBSCOT VALLEY COMMUNITY GREENPRINT OPPORTUNITY MAPS

Milford

The following seven pages contain maps that provide visual analyses of The Penobscot Valley Community Greenprint Goals, which are described in detail beginning on page 9.



Penobscot Valley Community Greenprint

Establish Areas for Public Access and Recreation Priorities



Legend

Establish Areas for Public Access and Recreation Priorities

- High
- Moderate - High
- Moderate
- Parks and Conservation Land*

Transportation

- Interstate
- Principal arterial
- Major Road
- Minor Road
- Railroad

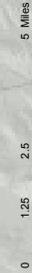
Water Features

- Waterbody
- River
- Major Wetlands

Township Boundary

County Boundary

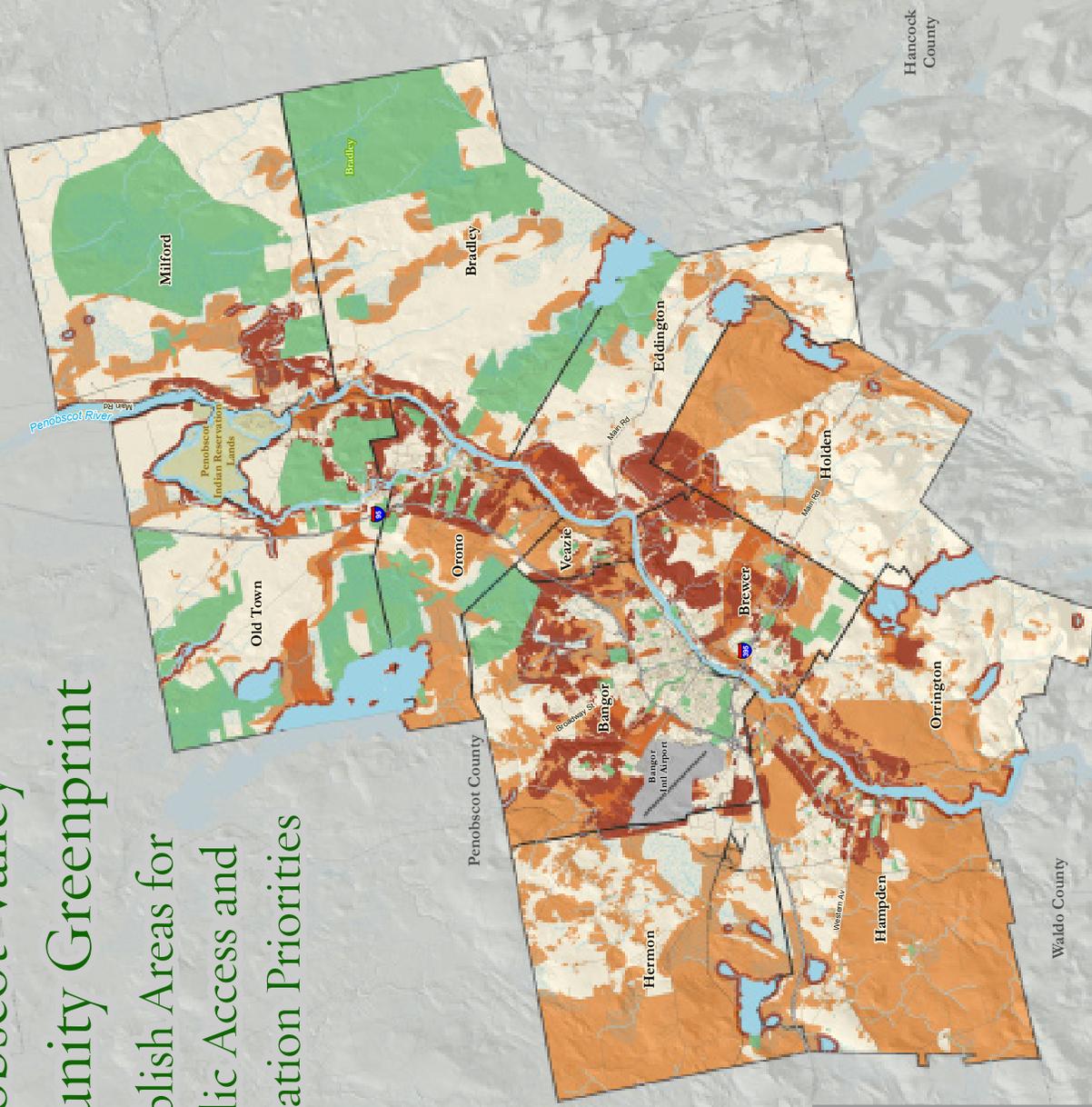
* Conservation Land includes areas managed by federal and state agencies, land trusts, municipal greenways and the University of Maine preservation lands.



This map displays the results of the Establish Areas for Public Access and Recreation Priorities analysis, a conservation goal within the Penobscot Valley Community Greenprint. The degree of priority for each area is shown with a color scale with dark red representing high priority and orange representing moderate priority.

These priorities are the result of a weighted analysis on the following criteria:

| | |
|--|------|
| Park Equity Analysis | 23 % |
| Natural Areas Near Urban Areas | 23 % |
| Accessible Open Space Along Waterfront | 23 % |
| Community Garden Opportunities | 12 % |
| Wildlife Observation and Low Impact Recreation | 12 % |
| Remote Spaces | 7 % |



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Penobscot Valley Community Greenprint

Protect Working Landscapes Priorities



Legend

Protect Working Landscapes Priorities

- High
- Moderate
- Parks and Conservation Land*

Transportation

- Interstate
- Principal arterial
- Major Road
- Minor Road
- Railroad

Water Features

- Waterbody
- River
- Major Wetlands

Boundaries

- Township Boundary
- County Boundary

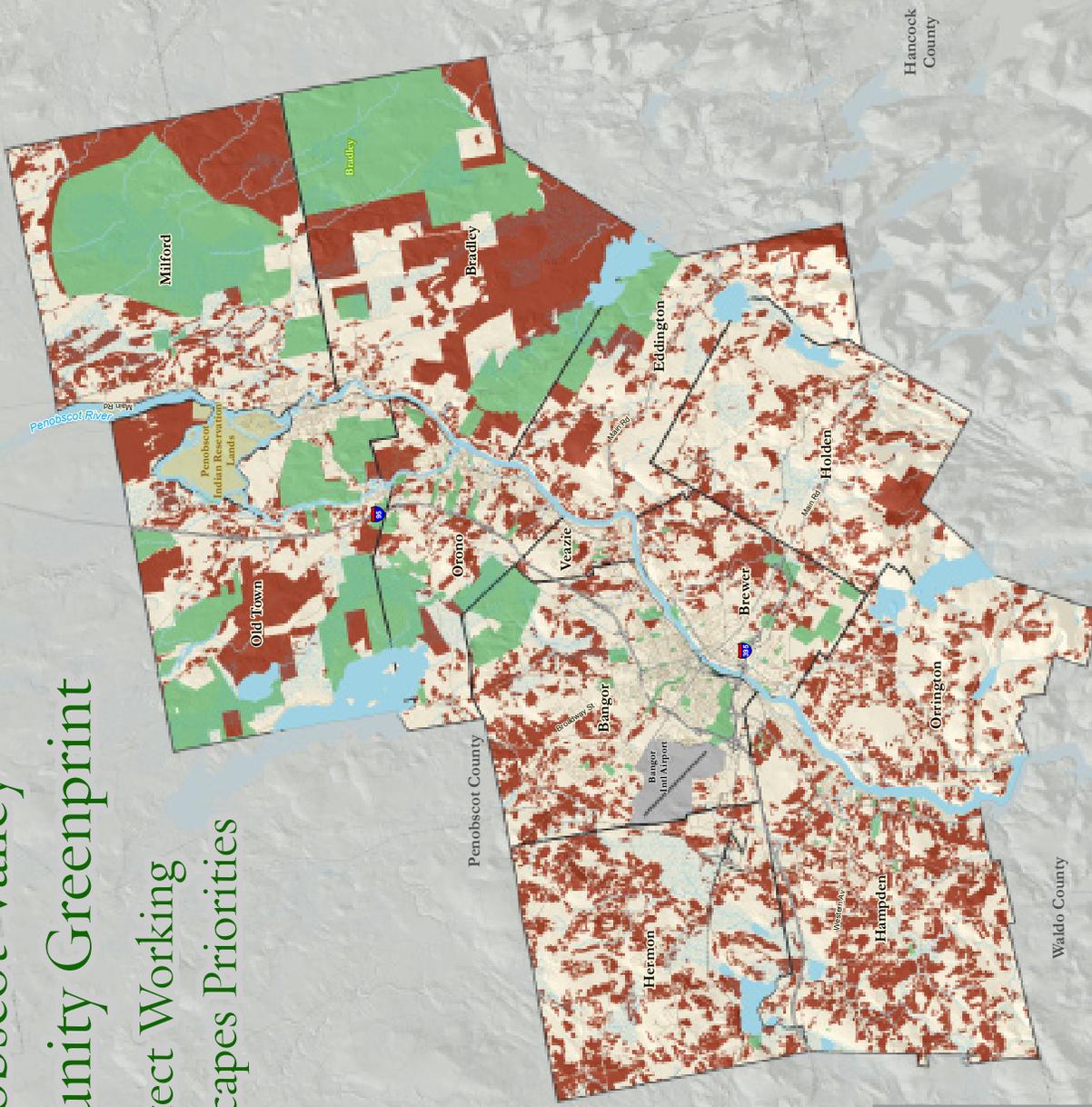
* Conservation Land includes areas managed by federal and state agencies, land banks, municipal green spaces and the University of Maine's Forest Watch Units.



This map displays the results of the Protect Working Landscapes Priorities analysis, a conservation goal within the Penobscot Valley Community Greenprint. The degree of priority for each area is shown with a color scale with dark red representing high priority and orange representing moderate priority.

These priorities are the result of a weighted analysis on the following criteria:

| | |
|--------------------|------|
| Farms and Fields | 33 % |
| Potential Farmland | 33 % |
| Working Forests | 33 % |



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Penobscot Valley Community Greenprint

Create Trails



Legend

Create Trails
 Selected Path

Opportunities
 East Coast Greenway
 Existing Trail
 Proposed Trail

Destinations
 Town Center
 River Access
 Parks and Conservation Land*

Transportation
 Interstate
 Principal arterial
 Major Road
 Minor Road
 Railroad

Water Features
 Waterbody
 River
 Major Wetlands

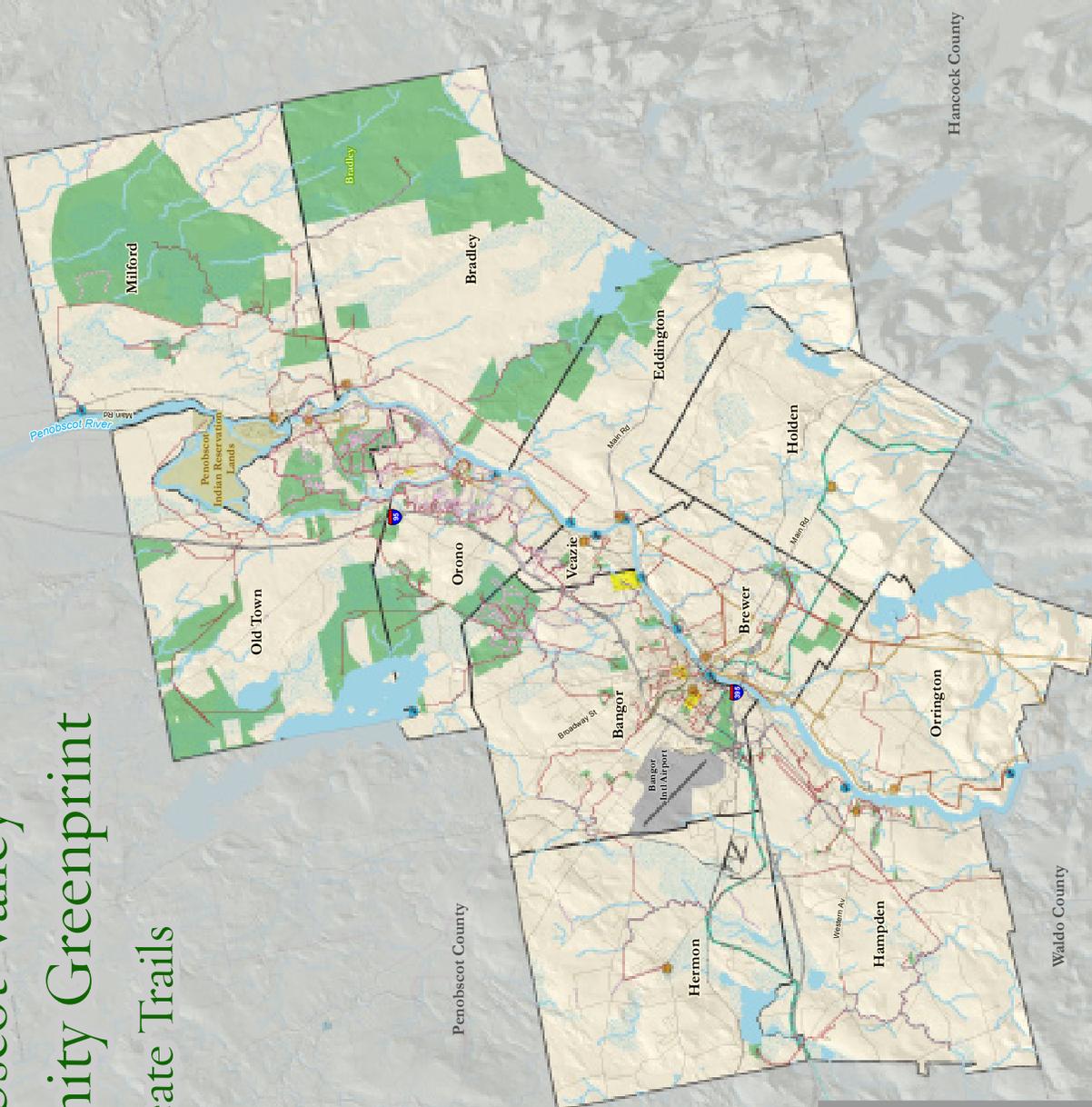
Township Boundary



This map displays the results of the Create Trails analysis, a conservation goal within the Penobscot Valley Community Greenprint. Using the Penobscot River and the East Coast Greenway as the primary pathway, this model identifies possible connections to parks and open space, river access points, town centers and historic districts.

Connection opportunities considered include in priority order:

- Existing Trails and Bridges
- Orono Land Trust Open Space Corridor plan
- Proposed trails and bridges
- Utility corridors - electric and telephone lines
- Railroads
- Stream corridors
- Undeveloped lands
- Low traffic roads



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Penobscot Valley Community Greenprint

Protect Water Quality Priorities



Legend

Protect Water Quality Priorities

- High
- Moderate - High
- Moderate
- Parks and Conservation Land*

Transportation

- Interstate
- Principal arterial
- Major Road
- Minor Road
- Railroad

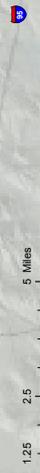
Water Features

- Waterbody
- River
- Major Wetlands

Other Features

- Township Boundary
- County Boundary

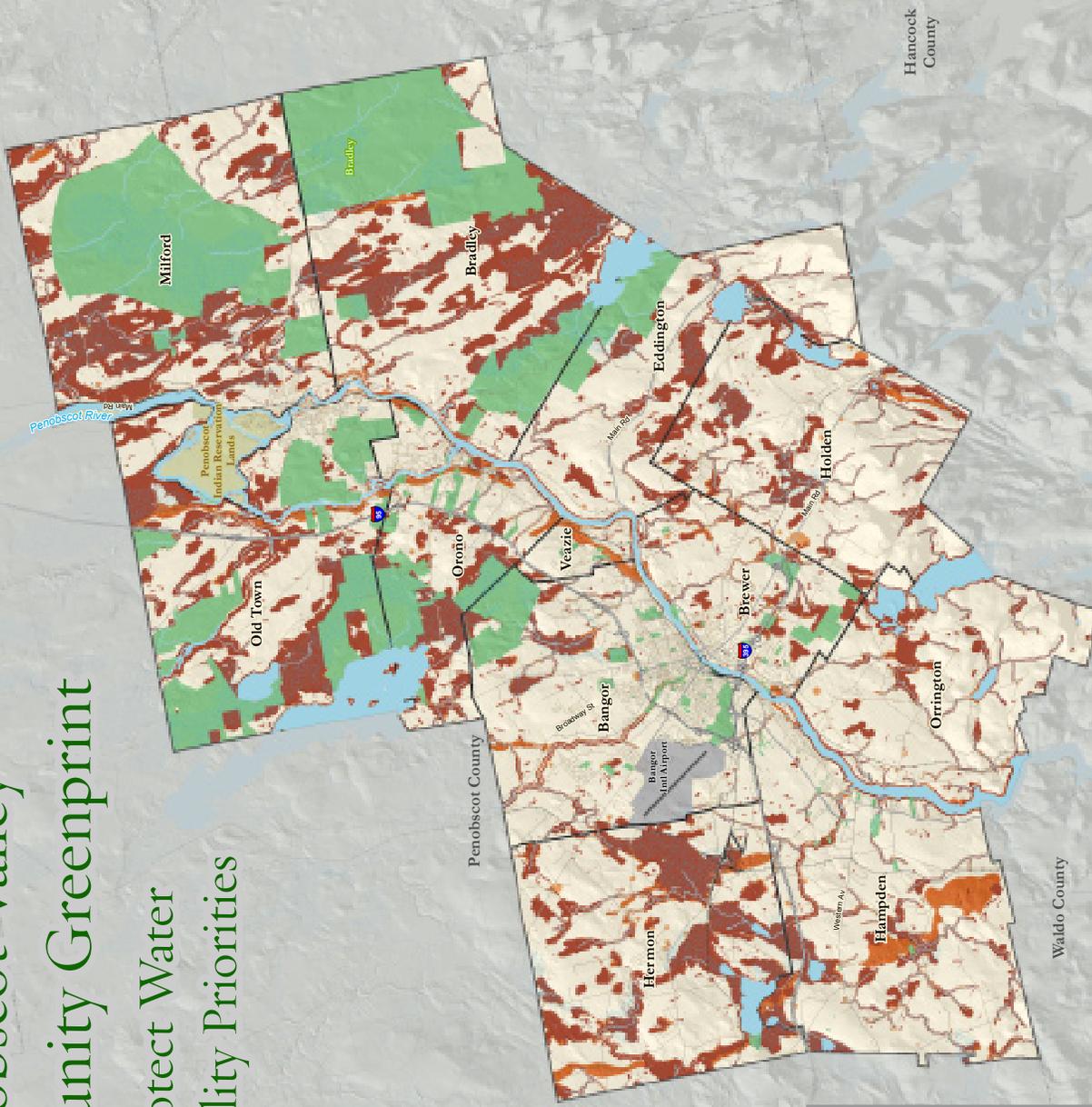
* Conservation Land includes areas managed by federal and state agencies, land trusts, municipal governments and the University of Maine preservation lands.



This map displays the results of the Protect Water Quality Priorities analysis, a conservation goal within the Penobscot Valley Community Greenprint. The degree of priority for each area is shown with a color scale with dark red representing high priority and orange representing moderate priority.

These priorities are the result of a weighted analysis on the following criteria:

| | |
|---|------|
| Riparian Buffers, Wetlands and Shorelines | 30 % |
| Groundwater | 25 % |
| Headwaters | 20 % |
| Wellhead Protection Areas | 20 % |
| Flood Zones | 5 % |



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Penobscot Valley Community Greenprint

Maintain Scenic Values and Protect Scenic Vistas Priorities



Legend

Maintain Scenic Values and Protect Scenic Vistas Priorities

- High
- Moderate - High
- Moderate
- Parks and Conservation Land*

Transportation

- Interstate
- Principal arterial
- Major Road
- Minor Road
- Railroad

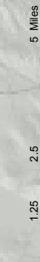
Water Features

- Waterbody
- River
- Major Wetlands

Other Features

- Township Boundary
- County Boundary

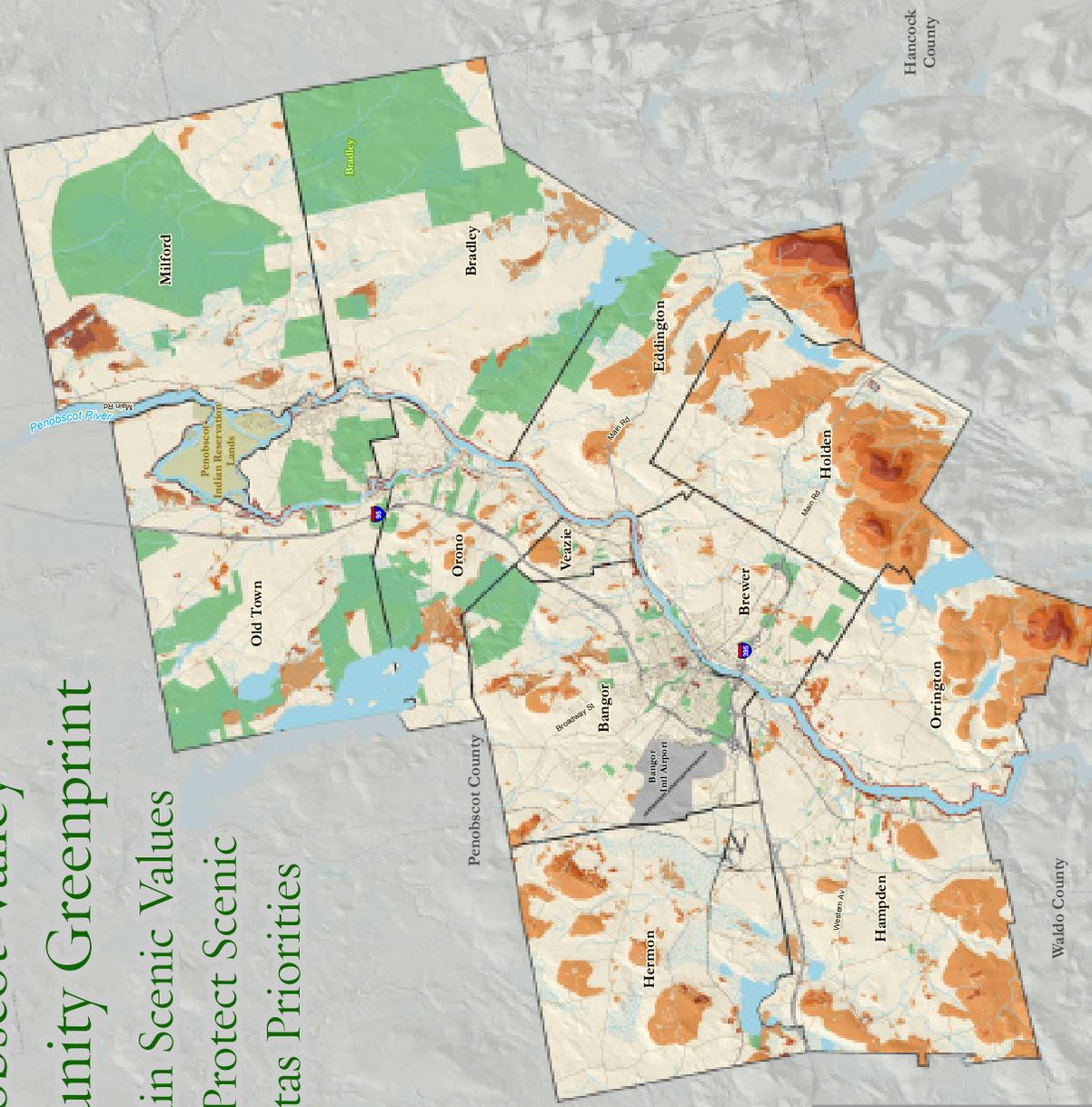
*Conservation Land includes areas managed by federal and state agencies, land trusts, municipal governments and the University of Maine preservation lands.



This map displays the results of the Maintain Scenic Values and Protect Scenic Vistas Priorities analysis, a conservation goal within the Penobscot Valley Community Greenprint. The degree of priority for each area is shown with a color scale with dark red representing high priority and orange representing moderate priority.

These priorities are the result of a weighted analysis on the following criteria:

| | |
|---|------|
| Scenic Landscapes - Open Lands, Farms, and Rivers | 22 % |
| Hills, Ridges, and High Points | 22 % |
| Views from the Penobscot River | 22 % |
| Penobscot River Corridor | 22 % |
| Historic Places | 6 % |
| Views of Significant Landmarks | 6 % |



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Penobscot Valley Community Greenprint Overall Regional Priorities



Legend

Overall Regional Priorities

- High
- Moderate - High
- Moderate
- Parks and Conservation Land*

Transportation

- Interstate
- Principal arterial
- Major Road
- Minor Road
- Railroad

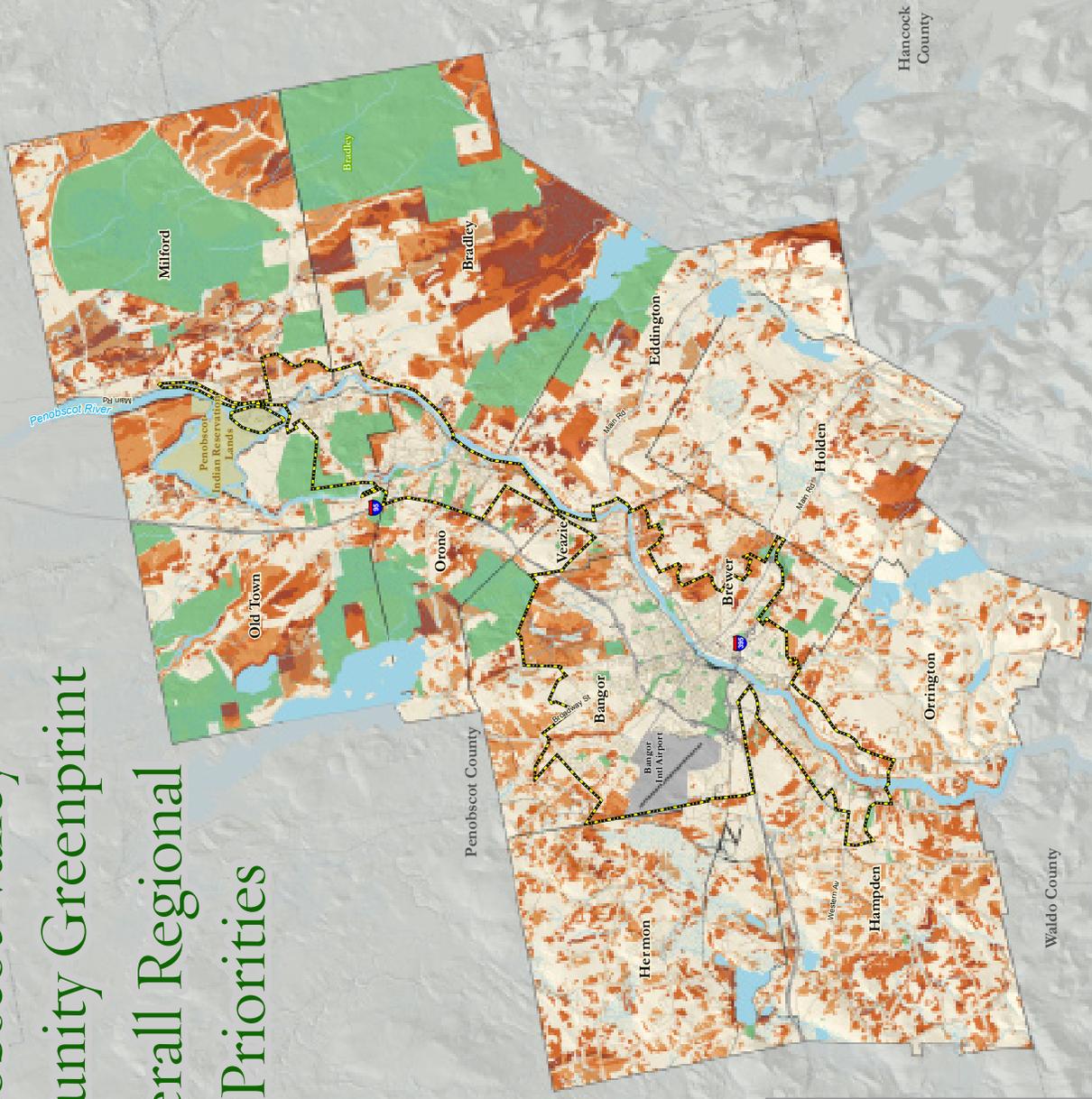
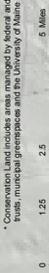
Water Features

- Waterbody
- River
- Major Wetlands

Urban Boundary

- Township Boundary
- County Boundary

* Conservation Land includes areas managed by federal and state agencies, land trusts, municipal greenprints and the University of Maine preservation lands.



This map displays the Overall Regional Priorities results for the Penobscot Valley Community Greenprint. These results reflect priorities for urban and rural areas by assigning unique relative weights to urban priorities inside the Urban Boundary and rural priorities outside the Urban Boundary. The degree of priority for each area is shown with a color scale with dark red representing high priority and orange representing moderate priority.

These priorities are the result of a weighted analysis on the following criteria:

| | Urban | Rural |
|--|-------|-------|
| Protect Habitat and Unfragmented Natural Areas | 19 % | 28 % |
| Maintain Scenic Values and Protect Scenic Vistas | 2 % | 18 % |
| Protect Working Landscapes | 9 % | 26 % |
| Protect Water Quality | 18 % | 10 % |
| Establish Areas for Public Access and Recreation | 27 % | 14 % |
| Create Trails | 25 % | 15 % |

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Implementation Strategies

In reading these maps, it is important to note that they show areas of opportunity to protect lands through a variety of conservation tools that meet the goals of the Penobscot Valley Community Greenprint. These maps do not make any suggestions or statements about land-use changes and should not be construed as having any impact on land values. The model and resulting maps provide a guide for how to effectively and efficiently allocate human and financial resources to meet the goals of the region. The maps also offer utility for:

- Identifying future areas for greening when redevelopment occurs
- Directing growth toward less environmentally sensitive areas by transferring development densities away from lands needed for recreational connectivity and resource preservation
- Siting required green space and water quality features in areas identified as important to meet the Greenprint goals
- Planning for new recreation facilities to meet population needs near new or planned development
- Targeting areas for beautification to enhance business retention and recruitment

LAND CONSERVATION

Land conservation is both the notion of protecting a piece of the earth for certain purposes and the set of real estate, legal, and financial tools designed to make that notion a tangible reality.

Regulations, incentive policies, and land conservation are each important and often complementary. However, land conservation differs from regulations or incentives, which are subject to frequent changes based on politics, policy, and the science of the day. As a general rule, land conservation has broader support because it is achieved through the mutual agreement of willing landowners and willing buyers of land or easements and has perpetual benefits to the public. Often, a fair price for value foregone is a critical element to successful land conservation, and sources of funding to provide such compensation are a necessary condition for success.

Land conservation provides many opportunities for considering community needs and desires because it can be applied to natural resources, parks, habitat, forests, farmland, and more. It can be said of the Penobscot Valley that there is so much important land that one would have difficulty finding an undeveloped parcel that is not worthy of conservation. Indeed, this assertion is very nearly borne out because of the rich resources found here, but neither the money nor the will exists to protect every parcel and it is clear that many unprotected parcels will be developed soon. Thus, a primary goal of this process is to facilitate an acceleration of both the pace and the quality of land conservation in the Penobscot Valley by bringing many voices to conservation, employing the best technology available, and taking steps to assure that implementation is both efficient and effective.

The practice of effective land conservation requires the employment of a variety of both public and private tools to protect land for public enjoyment. The common thread woven among these conservation tools, listed below, is the value of conserving the lands most important to the recreational, environmental and economic needs of the Penobscot Valley:

- Fee Simple Land Acquisition
- Donated or Purchased Conservation/Preservation Easements
- Purchase or Donation of Development Rights
- Land or Improvements Value Donations
- Developer Incentives

CONSERVATION ACTIONS

Land conservation is one of the key, but not the only, tool in the box for preserving important landscapes and water resources while sustaining and improving economic vitality. Stakeholders have identified a number of other action items to implement the Greenprint goals. Each action item is explored in greater detail in this section. The descriptions beneath each action plan goal include specific strategies suggested by Stakeholders that could be taken to realize the goal.

ACTION ITEM 1. PURSUE LAND CONSERVATION IMPLEMENTATION STRATEGIES THAT WILL UTILIZE GREENPRINT MAPS

1. Determine custodial duty. Establish an entity to take charge of the Greenprint maps and this action plan. It may be PVCOG, an independent entity, or even the land trust(s).
 - a. Member committees to consider continuing funding for implementation to cover or offset costs of custodian and ensure that a regional group continues to convene.
2. Update maps on a regular basis.
3. Use Greenprint as a tool for all land agencies (e.g. planning boards, comprehensive plan committees, etc.).
 - a. For example, coordinate adoption of subdivision ordinances with 50 percent open space requirements. From that, begin to use Greenprint to determine which 50 percent of the subdivision should be set aside on case by case basis as part of subdivision process.
4. Create private landowner incentives.
 - a. Utilize incentive zoning based on the composite Greenprint map. For example, allow increased density of development in non high-priority areas in exchange for community improvements to undeveloped high-priority areas in order to support compact, low-impact development.
5. Identify high-priority properties that may be conserved through public-private partnerships.
 - a. Pursue partnerships between governmental and institutional landowners for conservation of lands and development of improvements



Outdoor recreation along a bike path in the Penobscot Valley, by Jeff Kirlin.

- i. Identify the key partners
 1. Schools/Universities (joint-use agreements)
 2. Churches (joint-use agreements)
 3. Corporate Headquarters
 4. Hospitals
 5. Others?
 - ii. Identify key messengers and messages to convey
 - iii. Determine mechanism for governance, maintenance and operations
6. Pursue land conservation funding. Identify appropriate public finance mechanisms to raise local dollars to leverage county, state, and federal resources for land acquisition, conservation, greenway and trail development, and park improvements.
- a. The Penobscot Valley municipalities could issue general obligation bonds.
 - b. Municipalities could create tax increment financing (TIF) districts.
 - c. Seek grants from state, federal, and private partners.

ACTION ITEM 2. INTEGRATE REGIONAL COORDINATION AND PLANNING. BRING COMMUNITIES TOGETHER FOR PROBLEM SOLVING AROUND ECONOMIC, TRANSIT, DEMOGRAPHIC AND ENVIRONMENTAL ISSUES.

1. Strengthen the Penobscot Valley Council of Governments or develop a regional planning commission that will convene the coalition of towns/cities.

- a. Must have a regional entity adept at this type of work to discuss areas available for development and coordinate specific projects with abutting communities, among other things.
 - b. A regional planning coalition may proceed by:
 - i. Elected officials and town managers/ administrators from each local government attend an informational meeting with a facilitator/ consultant and vote on a resolution to continue as part of the group (“regional planning coalition”) with description of time commitment, such as quarterly meetings.
 - c. Regional planning coalition membership could consist of one to two people from each member town.
 - i. Members could be the elected officials, town managers, citizen advisors and/or delegates currently involved in this project
 - ii. Important that municipal managers and local elected officials are involved in some way.
 - iii. Planning board representation is paramount.
 - d. Regional planning coalition mission could be to achieve better working relationships among individual communities and better integration of planning.
2. Regional coordinating entity would prioritize, and possibly add to, the following list of tasks. They may consider prioritizing those that require little to no funding or tax dollars.
- a. Generating media pieces in print and video to foster dialogue. Enlist elected state legislators to encourage this idea.
 - b. Work on zoning/planning
 - i. Review and revise comprehensive plans.
 - ii. Cooperate regionally to determine best location for various land-uses.
 - iii. Enter into a regional agreement to do joint planning for where things go: retail, residential, industry.
 - iv. Consider a new zoning model that will attract businesses. One stakeholder commented: “Sprawled out industrial parks and cookie-cutter residential subdivisions are not attracting new business. The future in rural Maine is small businesses. Proximity to conserved land, trails, parks and natural resources are a huge draw. They also want vibrant, hip town centers.”
 - c. Subdivision ordinances should seek to require a percentage of open space.
 - i. It may be more appropriate to encourage open space (as opposed to require it) depending on whether there is a distinction between minor and major subdivisions, the location of the development, or other factors.
 - ii. See, e.g., Holden’s subdivision ordinance or Hampden’s subdivision ordinance for rural areas.
 - d. Restrict further lake, river and shore development. Identify river corridor shorelines that should remain undeveloped.
 - e. Tax incentives for cluster housing.
 - f. Cooperate on Dark Sky lighting ordinances.
 - g. Form stormwater management districts.
 - h. Compensate towns that give up tax base in order to meet vision.
 - i. Discuss whether there should be landfill expansion for out-of-state waste.
 - j. Develop community forests as a means toward preserving rural communities.
 - k. Create more town land trusts.
 - l. Create formal relationships between land trusts and municipalities.
 - i. This will require breaking down misconceptions and being attuned to financial realities.

ACTION ITEM 3. FOSTER BETTER COOPERATION BETWEEN ALL USERS (TRADITIONAL/NON-TRADITIONAL, HIGH/LOW IMPACT, MOTORIZED/NON-MOTORIZED, CURRENT/DESIRED USE, PUBLIC/PRIVATE LANDOWNER) TO HELP ADDRESS CONFLICTS. ALSO, IMPART RESPONSIBLE STEWARDSHIP TO PEOPLE OF ALL AGES.

Note: The Stakeholders recognized that these conflicts are real and growing in a Maine landscape that has changed hands with greater rapidity than at any time in the history of the state. They wrestled with how to resolve this question of conflicting uses. It was explicitly recognized that everyone has some claim on the landscape: it is a common resource. The struggle, as always, is in deciding where non-compatible uses can best be pursued. The Stakeholders concluded that the key to solving these problems is to maintain an open, inclusive and ongoing conversation among the many users of the land, and to recognize that compromise will be necessary on all sides.

1. Foster more communication and involvement of Sportsman Alliance of Maine (SAM), Maine Snowmobile Association, local snowmobilers clubs, ATV groups, hikers, water/fishing groups, historical societies, campers, landowners, and farmers in the Penobscot Valley Community Greenprint.
 - a. Create list of possible uses and organizations that provide these uses.
 - b. Broadly advertise festivals and events to reach all types of recreational users. E.g. The Penobscot “River Fest.”
2. Hold a well-publicized town(s)-wide meeting on trails and open space policies to help address user conflicts. Have maps prepared for permitted uses, landowner contacts, etc.
 - a. Include education about existing state law protecting landowners from liability. There may currently be unwarranted fears.
3. Involve children in open space activities and outdoor education; in promoting outdoor space on scale appropriate to region.
 - a. Scouts and 4-H could assist.
 - b. Educators could be involved: explore potential tie-in to school science programs.
4. Create incentives for allowing appropriate public access on private lands, and consider ways to reduce liabilities for private landowners.

- a. Analyze existing state law regarding landowner liability to see if modification is warranted.
5. Develop a regional landowner relations committee, modeled after the State of Maine, to provide a liaison between user groups and landowners.
 - a. This ensures any landowner that is, or wants to be, involved in a trail program knows there is a concerted effort to protect their lands. Tasks could also include providing public education/communication related to sustainability.
 - b. This could be structured so there is one for each municipality and/or one for the region. If regional, this could be a county government entity, a regional planning commission, or the regional planning coalition described above. It may be a possible role for PVCOG.

ACTION ITEM 4. INCREASE THE NUMBER OF MAPS AND MARKERS FOR EXISTING TRAILS.

1. Eastern Maine Development Corporation (EMDC) to develop a map that includes all existing trails by
 - a. Surveying each town and cataloging the trails in the study area and how they are used.
 - b. Overlaying the cataloged trails on a map of the region. This could later be used to identify ways the trails may connect.
 - c. Producing comprehensive regional recreational maps that are easy to read and easy to access online and in print.
2. Increasing maps and trail markers could involve municipal planning departments, municipal parks and recreation departments, conservation commissions, land trusts, other NGOs with interest (e.g. Bangor Trails, Maine Outdoor Adventure Club, Audubon, Maine Bike Coalition, snowmobile clubs, Boy Scouts, ATV clubs), regional tourism board, the Maine Department Transportation (bicycle trail coordinator), and Maine Fish and Wildlife.
3. Procure funding:
 - a. Consult with EMDC-Bangor Area Comprehensive Transportation System for

information on federal funding for trail systems

- b. Lobby Maine legislature and/or Maine DOT to increase state spending on development and maintenance of local trails.
 - c. Raise dollars through public-private partnerships and grants.
 - d. Encourage town funding for trail development.
4. Land trusts and municipalities could acquire rights of way. Scouts, conservation groups, high school students, and Student Conservation Corps could assist with clearing and trail marking. Local control of these projects can be most effective.
5. When the Penobscot River Restoration Trust transitions into becoming river steward as anticipated, trail work along the river could be within their purview.

ACTION ITEM 5. PERMIT SITE-APPROPRIATE RIVER DEVELOPMENT THAT WILL CONTRIBUTE TO PUBLIC APPRECIATION OF THE RIVER.

- 1. Agree on consistent rules along the entire river.
- 2. Develop a model river zoning ordinance.
 - a. This could be led by the existing River Group within PVCOCG that consists of all municipalities with the river connection. It should include all municipalities with river frontage.
 - b. It may be useful to involve the existing river groups and consult with the state agencies that have expertise and authority on these topics.
 - c. Potential model zoning ordinance content:
 - i. Define site-appropriate river development
 - ii. Identify high-priority areas along river for conservation/open space and high priority areas for development.
 - iii. Include language that requires evaluation of the economic benefit with the aesthetic/recreational value over a long term basis when considering development of



Kenduskeag Trail, by Joni Dunn.

- river frontage.
 - iv. Encourage water dependent or water related business development along the river (e.g. utilizes the view or actual use of the water). Tax incentives may be a tool for this.
 - v. Consider maximizing public use, and create a narrow definition for allowable development. For example, permit improvements to be made such as launch sites and picnic areas.
 - vi. Allow river development that protects the river and allows for tax base growth.
 - vii. Develop special requirements for the permit process to make sure that soils, wetlands, etc. are considered.
- d. Review with state and ensure consistency with state rules regarding shoreland zoning, as individual towns are authorized to make their rules more stringent than the state model but never less stringent than the state model.
- e. Municipalities with jurisdiction over land along the river would each adopt the model ordinance.

3. Improve code enforcement of development that is going in along river.
4. Towns and city planning boards (with help from citizenry) to review their town ordinances and comprehensive plans to make sure they reflect the need to permit site-appropriate river development that will contribute to public appreciation of the river.
 - a. Each town along the river to adopt Maine Department of Environmental Protection Best Management Practices for shoreline stabilization and buffers. (These riverbank stabilization methods improve slope stability, filter stormwater runoff, promote safer access, cool river water, and provide river-side “parks,” with large shade trees and opportunities for picnic, relaxing, walking, etc.
5. Towns, planning boards, and other organizations (EMDC) to evaluate possibility of developing tax increment financing for improvements/ redevelopment along waterfront.
6. Develop an ecotourism plan for the area with education. For example, the Penobscot River could be a gateway for outdoor adventures, including regional history education on tours.
7. Encourage the federal government to expand the Federal Wild and Scenic Rivers program to include historic rivers. If the program recognized the Penobscot River, it would enhance public perception and interest. The New England Governor’s Conference could work on this.

ACTION ITEM 6. ENHANCE LOCAL FARMING/FOOD PRODUCTION INCENTIVES.

1. Regional partner group to seek education on the current market challenges for farming in Maine.
 - a. University of Maine students in Sustainable Agriculture Program, under supervision from Chris Cronan, to gather data about existing extent and finances of working farms, including determining how they are currently assessed.
 - b. Municipal tax assessors to assist in financial assessments.
2. Propose a uniform assessment method for all the communities.

3. Structure incentive program. It is necessary to determine the type of incentive. For example, tax credits (instead of deductions) for production on working commercial farms. Determining the details of the incentive program could be accomplished by:
 - a. Municipal representatives working with the Maine Department of Agriculture and Cooperative Extension to ascertain needs of the farming community.
 - b. Engaging key players (i.e. current farmers, new farmers, co-ops, organic farmers, developers, etc) in frank discussion and analysis of needs – acreage, access, etc., and discussion of competing interests.
 - c. Municipalities to establish a database of family/working farms and determine what current property taxes are on that farmland.
 - d. Municipalities to review valuations placed on land and decide with farmers what is realistic. (Note: in many areas land is valued at a “residential rate” with no appeal process for land used as farmland, which does not give as high a return).
 - e. Tax assessors to keep this database updated on a municipal level.
4. Provide recommendations to the state farm bureau. Lobby the state legislature to pass a state law codifying these tax incentives.
5. Local town planning boards and land trusts to facilitate conservation of working farms.
 - a. Expand land trust work with agricultural landowners.
 - b. Land trusts to help educate town officials and residents on Maine Farmland Trust program.
6. Consider opportunities for more partnerships between educators and farmers (e.g. teaching labs for animal husbandry, alternative crop production, etc.). Utilize the Cooperative Extension Service in these discussions of collaborative opportunities.
7. Support/expand local farmers markets and promote the “eat local” movement.

Funding

An overarching theme to achieve broad implementation of the Greenprint or any plan is sufficient financial resources. A number of potential public funding options can be knit together into a “funding quilt” to create park and recreation opportunities in the Penobscot Valley. A funding quilt is the combination of funding sources—state, local, federal, and private—that are brought together to help achieve park and recreation objectives. **Appendix F** contains a compendium of the information and analyses used to develop this synopsis of finance opportunities, including:

- A description of the Penobscot Valley’s fiscal background
- A detailed analysis of the possible alternatives for funding a parks and recreation land acquisition and management program, including legal authority and revenue-raising capacity
- A summary of relevant federal and state funding programs that may be leveraged by the Penobscot Valley municipalities
- Pertinent election information, such as voter turnout history and voter reaction to Land for Maine’s Future measures, because most revenue options require approval by voters and/or landowners

LOCAL FUNDING OPTIONS

The most reliable form of funding to achieve park and recreation objectives over the long term is local funding. Owing to the competition for state, federal, and private funding, these sources must be viewed as supplements or incentives but not as the central funding source for a program.

Nationwide, a range of local public financing options have been utilized to fund parks and recreation. These include the property tax, the local sales tax, general obligation bonds, and less frequently used mechanisms such as special assessment districts, the real estate transfer tax, impact fees, and income taxes. The Penobscot Valley communities have several funding options that, if implemented, would generate revenues for parks and open space:

- **Issuance of general obligation bonds by the Penobscot Valley municipalities.**

At a cost to the typical homeowner of an average

of \$30 per year over the 20-year life of the bond, the Penobscot Valley municipalities could issue \$15.3 million in general obligation bonds.⁸ Using the same assumptions, four cities and towns could issue bonds in excess of \$1 million: Bangor (\$6.34 million), Brewer (\$1.76 million), Old Town (\$1.45 million), and Hampden (\$1.19 million). The remaining cities and towns could issue amounts between \$180,000 (Bradley) and \$845,000 (Orono). While bonding capacity in these cities and towns is more modest, purchasing easements and leveraging bonded monies could stretch this money much further.

- **Creation of impact fees by the Penobscot Valley municipalities.**

At a cost of \$150 per new resident, the Penobscot Valley municipalities could raise approximately \$98,600 each year in impact fees for open space, assuming all new housing in the region results in population growth. Based on growth projections from the U.S. Census Bureau, it is unlikely that all municipalities in the region will experience population growth; therefore, this report likely overestimates the total regional revenues generated by impact fees.

- **Creation of tax increment financing (TIF) districts.**

Bangor created a TIF district for new commercial development near the Penjajawoc Marsh and Stream. The TIF is expected to generate revenues in the range of \$1 million over the next 15 to 20 years. These funds, combined with leveraged funding from non-municipal sources, will be used to purchase property or conservation easements, public access projects, and water quality improvement efforts. This report does not evaluate the revenue-raising capacity of other potential TIF districts.

- **Seek grant funds from state, federal, and private partners.**

PRIVATE FUNDING

Private funds from foundations, nonprofit land trusts, corporations, and individuals are often used to complement local funding for the creation of park and recreation opportunities. Land trusts in

⁸ All numbers are rounded to three significant digits unless otherwise specified.

particular have been very active in the Penobscot Valley communities. This section reviews the missions and accomplishments of land trusts in the region. Although not discussed in detail, there are likely to be foundation, corporate, and individual donor opportunities as well.

The cumulative total of land protected by Maine's 85 private local and regional land trusts is 1.72 million acres protected by direct actions (i.e., land acquisitions, conservation easements, transferred purchase options, and management agreements). Maine's land trusts own 84,300 acres, hold conservation easements on 1.49 million acres, and directly helped protect another 141,000 acres by other means. There are four local and ten state and national land trusts operating in the Penobscot Valley.⁹

Bangor Land Trust¹⁰

The Bangor Land Trust was founded in 2001. Its mission is to “[p]rotect in perpetuity for public benefit significant lands and waters and their natural, agricultural, scenic, and traditional values and characteristics; [p]romote general and scientific understanding of the region's natural resources and the need for their preservation; and [c]ollaborate with organizations having related missions.” The Bangor Land Trust has protected several significant lands, including: South Penjajawoc Overlook, West Penjajawoc Grasslands, Walden-Parke Preserve, Levant Wetlands project, and Northeast Penjajawoc Preserve.

Brewer Land Trust¹¹

The Brewer Land Trust was founded in 2006. The Brewer Land Trust's mission is “[t]o cooperatively protect and preserve the natural and scenic resources of the City of Brewer and State of Maine, to encourage open space and green areas, to increase public awareness and understanding of the importance in conservation of natural resources and the interrelationships that exist among them, and to foster a trail system connecting to public areas and regional trails with all of the above for the enjoyment and benefit of present and future generations.” The Brewer

Land Trust owns one parcel of 4.2 acres and has 7.66 acres under a conservation easement.

Holden Land Trust¹²

The mission of the Holden Land Trust is to identify and conserve wildlife habitats, agricultural and forested areas, and natural areas that are an integral part of the area's traditional rural character for the benefit and enjoyment of current and future generations.

Orono Land Trust¹³

The Orono Land Trust (OLT) was incorporated in 1986 with the mission of preserving Orono's trail system for public use and integrating it into any plans for town development. Recently, OLT welcomed the Veazie Land Association as an affiliate dedicated to preserving conservation lands in the Town of Veazie. OLT has procured conservation easements for more than 300 acres, and has acquired more than 175 acres in fee simple, including the Cota Trail property, Hsu Preserve, Marsh Island Preserve, Newman Hill Preserve, Penobscot Shores, Pushaw Inlet Property, and Pushaw View Property. OLT has assisted with several other transactions, and report stewarding more than 1300 acres.¹⁴

Other Land Trusts Operating in Penobscot County¹⁵

According to the Maine Land Trust Network, the following ten state and national land trusts are operating in Penobscot County: Forest Society of Maine, Landmark Heritage Trust, Maine Audubon, Maine Coast Heritage Trust, Maine Farmland Trust, New England Forestry Foundation, Inc., Northeast Wilderness Trust, Small Woodland Owners Association of Maine, The Nature Conservancy, and The Trust for Public Land.

⁹ Land Trust Alliance, http://www.lta.org/census/census_tables.htm.

¹⁰ Bangor Land Trust, <http://www.bangorlandtrust.org>.

¹¹ Brewer Land Trust, http://www.brewerme.org/land-trust/brewer_land_trust.htm.

¹² Maine Land Trust Network, <http://www.mln.org/>.

¹³ Orono Land Trust, <http://www.oronolandtrust.org/>.

¹⁴ Orono Land Trust, “Orono Land Trust Properties,” <http://www.oronolandtrust.org/properties.htm>.

¹⁵ Maine Land Trust Network, <http://www.mln.org/>.

Conclusion

Maine is changing, as is the Penobscot Valley. While the traditional close ties between residents and our environment remain strong, they are showing signs of strain. Population growth today is centered outside our regional hubs, leading to increasing suburbanization, the loss of rural fields and forests, and increasing costs of providing government services. Traditional uses of private land for public recreation are threatened as landownership patterns change and more private land is posted. Unlike some areas in Southern Maine, however, these changes have not yet dramatically restricted the ability of our residents to take advantage of accessible and varied open spaces—ranging from urban parks to undeveloped natural areas.

As the Penobscot Valley continues to grow and develop, it must plan for the future to ensure that those things that make the area unique—be they the historic character of its town centers, the continuing sense of safety and community, or access to natural places—remain available both to present and to future generations.

The Penobscot Valley is a special place. Working together, its citizens can take the steps necessary to preserve that which is special and to capitalize on the Penobscot Valley's Quality of Place to ensure a bright economic future.



The setting moon along Stillwater River in Old Town, by Ásgeir J. Whitney.

Holden Comprehensive Plan 2007

Excerpts Relating to Open Space & Natural Resources

Natural Resources Chapter

Holden consists of 30.93 square miles of land area and 1.18 square miles of water area, for a total of 32.11 square miles, or 20,550 acres. The Town's two major roads are State Route 1A, which runs from the northwestern to the southeastern border of the Town, and State Route 46, which runs south to north for a short distance along the Town's southeastern boundary. Most of the economic development in Holden is located along State Routes 1A and 46, and to a lesser extent along the Town's major roads.

The terrain is gently rolling with some moderate hills that provide views to surrounding communities. There are a number of small hills especially in the southeast corner of the community. Two of the highest points in town are Rider Bluff (elevation 813 feet) and Copeland Hill (elevation 802 feet).

Holden has a number of significant natural resources that help define its rural character. These include:

1. Scenic Areas and Views. Scenic areas and views are places in the community that provide expansive views and/or recreational opportunities that enhance the quality of life for residents. Examples of identified scenic areas in Holden include:
 - Looking east from Mann Hill and Clark Hill Roads;
 - Looking west from Mann Hill and Fisher Roads;
 - Hart Farm on Copeland Hill Road; and
 - South Road looking towards the Dedham hills.
2. Road Segments that Capture Rural Character. Road segments that capture the rural character of the community are stretches of road typically at least half a mile in length that are lined with woods or fields and have farms or minimal development visible from the road. Examples of these types of road segments in Holden include:
 - Mann Hill Road, the lower stretch from just past Clewleyville Corners to the Faulkner Farm and the shorter stretch from Bagaduce Road to Whitcomb Road;
 - Whitcomb Road fields; and
 - Wiswell Road heading down from the intersection with Copeland Hill Road.
3. Off-Road Regions. Off-road regions that provide recreational opportunities and/or are home to a variety of wildlife plant species include:
 - Burton Mill Stream, flowing from the Village Center and Town-owned picnic area south to the Dedham line;
 - Various streams/waterfalls that flow beside lower Mann Hill Road, and through beaver bogs and forests to comprise Eaton Brook;
 - The railroad bed trail, which looks out upon wetlands and deer wintering yards ;
 - The full network of connected trails maintained by the Eastern Maine Snowmobile Club;.
 - The nature trails behind Holden School; and
 - The largely uncut forest within the triangle formed by Route 1A, Bagaduce Road and the railroad.

Soils

Knowledge of the types of soils which exist in Holden can be helpful in planning and/or reviewing land use activities. The various characteristics of soil types present different limitations for development which can often be overcome through special planning, design, construction and/or maintenance.

The Medium Intensity Soil Survey of Penobscot County, Maine, published by the U.S. Soil Conservation Service (now the U.S. Natural Resources Conservation Service, hereinafter referred to as NRCS) describes the different soil types which exist in the County and provides information on their limitations. The soil map displays the predominant soil types for an area, although there may be pockets of other soils. Therefore, a high intensity soil survey is needed for individual site planning. As of this writing, these soils have not been digitized and are therefore not yet in the State's GIS data base.

The NRCS has prepared a guide entitled "Soil Survey Data for Growth Management," which rates each of the soils in Penobscot County for its suitability for development purposes. Based on a review of a composite soil survey map for Holden utilizing the ratings guide, approximately 60% of the soils in Holden have medium or high potential for low density development, 20% have low potential, and 20% have very low potential. Many of the soils with low or very low potential are hydric soils. A hydric soil is a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil. Many of the soils with very low potential for development are zoned Resource Protection under the provisions of the Town's Zoning Ordinance.

Prime Farm Land.

The NRCS has identified certain soils as prime agricultural soils and additional agricultural soils of statewide importance. These soils, within Holden and the nation, are irreplaceable, finite and dwindling resources. They have evolved over thousands of years. Once they have been developed, they cannot be reclaimed for agricultural production. In Holden, the most common prime agricultural soils and their identifying symbols on the soils map include Buxton silt loam (BuA and BuB), Plaisted Gravelly Loam (PgB and PgC), and Howland Gravelly Loam (HoB and HoC). Prime agricultural soils are not extensive in Holden, but there are some small areas of prime farmland along South Road and in the southwest corner of town in the vicinity of Wiswell Road, along Fields Pond Road and along Copeland Hill Road south of Wiswell Road. As of this writing, there are only two farms in Holden.

Erosion and Sedimentation.

Common land use and development practices, including agriculture, site development and timber harvesting, can often increase erosion, with consequent increases in sedimentation and the loss of valuable topsoil. Eroded sediment and topsoil can clog culverts, storm drains and ditches. It also contains phosphorus that will ultimately raise the phosphorus concentration and contribute to decline of lake water quality. For agricultural soils, poor soil conservation practices allow excessive erosion of both topsoil and with it, fertility.

To help minimize erosion and sedimentation, the Town of Holden has included erosion and sedimentation control requirements in its Site Plan Review, Shoreland Zoning, and Subdivision Ordinances.

Watersheds

Watersheds areas are defined by ridge lines that direct the runoff from precipitation into brooks, streams, lakes, rivers and eventually to the ocean. The entire land surface is, in fact, a series of

watersheds which abut one another. The delineation of watersheds shows how water runs off the land, where it accumulates and how it ultimately collects into larger bodies of surface water.

Holden contains parts of the watersheds of eight lakes and ponds, not all of which are located in Holden. They are:

1. George's Pond
2. Holbrook Pond
3. Brewer Lake
4. Davis Pond
5. Fields Pond
6. Fitts Pond
7. Long Pond
8. Chemo Pond

George's Pond and most of Holbrook Pond are located within Holden. Only parts of Brewer Lake and Davis Pond are within the Town's boundaries. Additionally, parts of Holden drain into Field's Pond (Orrington), Fitts Pond (Clifton), Long Pond (Bucksport), and Chemo Pond (Eddington). Likewise, parts of the watersheds of Holden's ponds, except for George's Pond, are located in other towns. Thus, protecting water quality in Holden's streams and ponds necessarily has regional implications.

Lakes and Ponds

The Maine Department of Environmental Protection classifies all lakes and ponds with over 10 acres as Great Ponds and classifies them as GP-A. They are considered to be high quality fisheries habitats and to have excellent water quality suitable for wildlife, fishing, swimming, and other water contact recreation. The water is potable but DEP does recommend treatment before drinking. Great Ponds which are not high quality are listed as "non-attaining" or "threatened" water bodies.

| Lake Water Quality Information for Phosphorus Control | | | | | | | |
|---|--------------|---|--------------------------|--|------------------------|------------------------------|------------------------|
| Lake or Pond | Surface Area | Direct Drainage Area in Acres In Holden | % of Watershed in Holden | Phosphorus Allocation in Pounds Per Acre | Water Quality Category | Location | Watershed Shared By |
| Brewer Lake | 916.7 Acres | 901 Acres | 30 | 0.049 | Mod-Sensitive | Holden, Bucksport, Orrington | Bucksport Orrington |
| Davis Pond | 417 Acres | 946 Acres | 15 | 0.040 | Mod-Sensitive | Holden, Eddington | Eddington |
| George's Pond | 13.35 Acres | 1,423 Acres | 100 | 0.031 | Mod-Sensitive | Holden | N.A. |
| Holbrook Pd | 303.9 Acres | 2,309 Acres | 75 | 0.045 | Mod-Sensitive | Holden Eddington | Dedham Eddington |

Source: Maine Department of Environmental Protection

Parts of Holbrook Pond, Davis Pond and Brewer Lake, and all of George's Pond are located in Holden. The table above provides information about these water bodies including physical characteristics, phosphorus loading and water quality. The following paragraphs provide additional information on each of these water bodies.

Brewer Lake.

Brewer Lake lies at the southwest corner of Holden. Approximately 30% of Brewer Lake's total surface area is located within Holden. Holden also holds 30% of the lake's watershed. Public road access in Holden is available through Copeland Hill Road and Lake Shore Drive. The surface area of the lake is 916.7 acres and the direct drainage area is 6.298 square miles. The maximum depth is 48 feet and the mean depth is 23 feet.

The Maine Department of Environmental Protection (DEP) and citizens involved in the Volunteer Lake Monitoring Program have collaborated in the collection of lake data to evaluate water quality, track algae blooms, and determine water quality trends. Water quality monitoring data has been collected on the lake since 1974. During this period, nine years of basic chemical information was collected, in addition to Secchi Disk Transparency readings.

The water quality of Brewer Lake is considered by DEP to be average, based on measures of Secchi Disk Transparencies, total phosphorus, and Chlorophyll-a. The potential for nuisance algal blooms is low. Water quality appears to have been fairly stable since 1984.

Water quality includes the following parameters:

- Color: Brewer Lake is an uncolored lake with an average color of 17 Standard Platinum Units (SPU). Lakes with an SPU reading in excess of 30 can have reduced transparency readings and increased phosphorus values.
- Secchi Disk: Brewer Lake has an average Secchi Disk Transparency (SDT) reading of 4.9 meters (16 feet). SDT is a measure of water clarity, or transparency, of the pond. SDT values in Maine vary from .5 meters to 15.5 meters, with the average being 4.9 meters. Unless a lake is highly colored, SDT readings of 2 meters or less indicate a water quality problem that has resulted in an algal bloom.
- Total Phosphorus: The range of water column total phosphorus in Brewer Lake is 6-12 parts per billion (ppb), with an average of 9 ppb. Total phosphorus is one of the major ingredients needed for plant growth. As phosphorus increases, the amount of algae increases. In Maine, total phosphorus varies from 2 ppb to 134 ppb, with the average being 12 ppb. The potential for total phosphorus to leave the bottom sediments and become available to algae in the water column is low.
- Chlorophyll-a. Chlorophyll-a ranges from 1.4 to around 10 ppb, with an average of 3.7 ppb. Chlorophyll-a is a measurement of the green pigment found in all plants including microscopic plants such as algae. It is used as an estimate of the algal biomass, with higher numbers indicating higher levels of algae. Chlorophyll-a measurements in Maine range from 1.1 ppb to 51.5 ppb, with the average being 4.7 ppb.
- Dissolved Oxygen. Recent dissolved oxygen profiles show very slight dissolved oxygen depletion in the deep areas of the lake. Dissolved oxygen levels below five parts per million are considered so stressful that most cold water fish will avoid these areas. Anoxic (no oxygen) conditions can also promote the release of total phosphorus from bottom sediments.

| Brewer Lake Water Quality Summary | | | | |
|--|-------------------------|-----------------------------|-------------------------------|----------------------------|
| | Mean Color (SPU) | Mean Secchi Disk (m) | Total Phosphorus (ppb) | Chlorophyll-a (ppb) |
| 1974 | not collected | 4.7 | not collected | 2.4 |
| 1975 | 10 | 4.0 | not collected | 9.1 |
| 1976 | 20 | 4.0 | 12 | 4.8 |
| 1977 | 25 | 4.1 | not collected | not collected |
| 1978 | not collected | 4.8 | not collected | not collected |
| 1979 | not collected | 4.7 | not collected | not collected |
| 1980 | not collected | 4.4 | not collected | not collected |
| 1981 | 20 | 4.7 | 12 | 2.9 |
| 1982 | not collected | 4.5 | not collected | not collected |
| 1983 | 15 | 5.4 | not collected | 2.3 |
| 1984 | not collected | 5.3 | not collected | not collected |
| 1996 | 30 | 4.4 | 14 | not collected |
| 1997 | 10 | 5.8 | 6 | 2.0 |
| 1998 | not collected | 5.9 | not collected | not collected |
| 1999 | 8 | 6.2 | 8 | 2.6 |
| 2000 | not collected | 6.6 | not collected | not collected |
| 2001 | not collected | 6.4 | not collected | not collected |
| 2002 | not collected | 6.8 | not collected | not collected |
| 2003 | not collected | 6.1 | not collected | not collected |
| 2004 | not collected | 5.3 | 9 | 4.8 |
| Summary | 17 | 5.3 | 9 | 3.9 |

Source: Department of Environmental Protection, 2005

Brewer Lake has high value cold-water landlocked salmon and rainbow smelt populations as well as moderate value warm-water fisheries for white perch and chain pickerel. Brewer Lake also has the following fish species: yellow perch, hornpout, American eel, white sucker, fallfish, banded killifish and pumpkinseed sunfish. It has also been confirmed that this pond has recently been invaded by non-native smallmouth bass. In the future, smallmouth bass may adversely affect the numbers of native fish species in Brewer Lake.

Holbrook Pond.

Holbrook Pond lies at the eastern border of Holden, and nearly all of it is in the Town of Holden. 75% of the pond's watershed is located in Holden. The surface area of the pond is 303.9 acres and the direct drainage area is 5.74 square miles. The maximum depth is 28 feet and the mean depth is 18 feet.

The Maine Department of Environmental Protection (DEP) and citizens involved in the Volunteer Lake Monitoring Program have collected data on the lake since 1977. During this period, five years of basic chemical information was collected, in addition to Secchi Disk Transparency readings.

The water quality of Holbrook Pond is considered by DEP to be slightly below average, based on measures of Secchi Disk Transparencies, total phosphorus, and Chlorophyll-a. The potential for nuisance algal blooms is low.

Water quality includes the following parameters:

- Color: Holbrook Pond is a colored lake with an average color of 30 Standard Platinum Units (SPU).

- Secchi Disk: Holbrook Pond has an average Secchi Disk Transparency (SDT) reading of 4.4 meters (14.4 feet).
- Total Phosphorus: The range of water column total phosphorus in Holbrook Pond is 6-12 parts per billion (ppb), with an average of 9 ppb.
- Chlorophyll-a. Chlorophyll-a ranges from 2.9 to 4.5 ppb, with an average of 3.8 ppb.
- Dissolved Oxygen. Recent dissolved oxygen profiles show low dissolved oxygen in the deep areas of the lake.

| Holbrook Pond Water Quality Summary | | | | |
|--|-------------------------|-----------------------------|-------------------------------|----------------------------|
| | Mean Color (SPU) | Mean Secchi Disk (m) | Total Phosphorus (ppb) | Chlorophyll-a (ppb) |
| 1977 | not collected | 5.0 | not collected | not collected |
| 1978 | 30 | 4.6 | not collected | 3.1 |
| 1979 | not collected | 4.6 | not collected | not collected |
| 1980 | not collected | 4.4 | not collected | not collected |
| 1981 | 30 | 4.4 | 9 | 4.0 |
| 1982 | not collected | 4.6 | not collected | not collected |
| 1983 | not collected | 4.6 | not collected | not collected |
| 1984 | not collected | 4.2 | not collected | not collected |
| 1985 | 35 | 4.4 | 6 | not collected |
| 1986 | not collected | 4.1 | not collected | not collected |
| 1987 | not collected | 4.4 | not collected | not collected |
| 1988 | not collected | 4.3 | not collected | not collected |
| 1989 | not collected | 3.8 | not collected | not collected |
| 1990 | not collected | 4.0 | not collected | not collected |
| 1991 | 28 | 4.1 | 9 | 4.5 |
| 2000 | 30 | 4.7 | 12 | 2.9 |
| 2002 | 28 | 4.8 | 7 | 4.5 |
| Summary | 30 | 4.4 | 9 | 3.8 |

Source: Department of Environmental Protection, 2005

Holbrook Pond is a moderate value warm water fisheries for smallmouth bass, white perch and chain pickerel. In addition, it has the following other fish species: yellow perch, hornpout, American eel, white sucker, minnows and sunfish. It has also been confirmed that this pond has recently been invaded by non-native largemouth bass that may adversely affect the present warm-water fisheries.

Davis Pond (Eddington Pond).

Davis Pond is located in the northeastern corner of town, but most of the pond is actually in Eddington. It is connected to Holbrook Pond by a marshy area known as the "Thoroughfare." Davis Pond has a surface area of 417 acres and a maximum depth of 14 feet.

The water quality classification of Davis Pond is "moderate-sensitive." Water quality data is not available for this pond. Davis Pond has a moderate value as a warm water fishery. Its principal fisheries are smallmouth bass, white perch and chain pickerel. Additionally, yellow perch, hornpout, eel, white sucker, minnows and sunfish live in the pond. It has recently been confirmed that the non-native species, largemouth bass, has invaded the pond and may adversely affect the present warm-water species.

George's Pond.

George's Pond has a surface area of 13.35 acres and is located entirely within Holden. Its water quality is classified as "Moderate-Sensitive." Water quality data is not available for this pond. The watershed of the pond is 1.98 square miles.

Of all the ponds in Holden, George's Pond seems most vulnerable to an algae bloom. It is a very small, shallow pond which likely has a slow flushing rate. There is a mobile home park with septic systems on its shore. The pond is a low value warm-water fishery for stunted chain pickerel. The Route 1A inlet to George's Pond is a high value eastern brook trout habitat as it contains a good population of eastern brook trout. The main inlet to George's Pond still needs to be surveyed for possible cold-water game species.

Threats to Lake Water Quality

Development within lake watersheds and the use of the lakes themselves pose several kinds of threats to stream and lake water quality. The threats to groundwater listed above are also threats to stream and lake water quality in that lakes and streams are fed partially by groundwater flow. Beyond this however, there are several kinds of land use and development impacts that can have an adverse effect on both streams and lakes. Erosion and sedimentation from agriculture, timber harvesting, existing and new roads, ditches, building sites and driveways can add to both the sediment loading and phosphorus loading of lake waters. Failing, poorly designed and/or maintained septic systems can add unacceptable nitrate and other nutrient loads plus bacterial and/or viral contaminants to surface waters. Pesticides and fertilizers in storm water runoff can pose a hazard to lake water quality. Gas, oil, and human waste discharges from boats on lakes can also pollute lake waters. Heavy powerboat use and/or poor regulation of water levels in lakes can erode shorelines and beaches. In recent years, a new threat has been added to the list: Invasive aquatic (plant) species. This threat includes milfoil and several other species.

Lake Phosphorus.

One of the most potentially serious impacts on lake water quality is the gradual increase in phosphorus concentrations in lake water due to additional phosphorus loading from development in lake watersheds. Relatively small additions of phosphorus essentially "fertilize" a lake and cause more of the microscopic algae to grow. Increased algae reduces water clarity, uses up oxygen at the bottom of the lake as it decomposes and can eventually lead to nuisance algae blooms. In the absence of oxygen at the bottom of a lake, a chemical reaction can also occur that can cause additional phosphorus to be released from the bottom sediments. If a lake is allowed to reach this stage, it can be very difficult and expensive to restore. Lake decline can also damage a lake's cold water fishery and cause shorefront property values to plummet.

The experience of China Lake in Maine is instructive in this regard. The lake historically supported trout, togue and lake salmon, but these cold water fisheries were lost over the course of about three years when the cumulative increase in lake phosphorus concentration suddenly made itself apparent. According to the China Region Lakes Alliance web site, "In the mid-1980's, China Lake gained national notoriety as the lake with the most rapidly declining water quality ever documented in the State of Maine. The cause of the problem was over-enrichment from phosphorus-laden runoff to this 3,850-acre lake from its 32 square mile watershed. Rapid population growth and increased land use activities during the last two decades caused increased runoff to the lake with a resultant increased growth of algae. Internal recycling of phosphorus from the sediments was triggered, causing annual nuisance algae blooms and resulting in a devastating commercial and recreational loss to the area. The once healthy population of salmon lake trout has been replaced by the odor of decay from floating mats of algae."

Invasive Aquatic Species.

Lake ecosystems in the United States and Canada face threats from at least 11 “invasive aquatic species” of plants, only one of which has yet appeared in any Maine lakes. That one species is called variable milfoil. The other ten invasive plant species, not yet established in Maine, include Eurasian milfoil, parrot feather, Brazilian elodea, hydrills, fanwort, water chestnut, curly leaf pond weed, European naiad, European frog-bit, and yellow floating heart. Each of these species is established in at least one state or province adjacent or near to Maine.

Invasive plants, alien to local lake ecosystems, where they become established, grow rapidly and can be spread by boaters who may unknowingly, or even knowingly, carry plant fragments on boats, trailers or fishing equipment from one lake to another. They can have severe impacts on lake ecosystems by displacing similar species, decreasing biological diversity, changing habitat and biotic communities and disruption of the food chain. These changes can have socioeconomic consequences, such as the impairment of fishing and other forms of recreation.

DEP List of Lakes Most at Risk from New Development.

DEP maintains a list of lakes which are considered to be at greatest risk from new development. Davis Pond and Holbrook Pond are on that list.

Wetlands

Wetlands are considered those areas where water is the primary factor controlling the plant and animal life found there. Although often overlooked as simply unbuildable land, wetlands play a significant role in the overall ecological balance of the environment. Wetlands provide many functions beneficial to humans because they:

1. Act as filters by slowing water flow, absorbing nutrients and thus enhancing water quality;
2. Absorb excess water during high flows and reduce peak period flows, thus reducing the dangers of flooding;
3. Often are aquifer discharge areas which release stored waters during periods of low flow;
4. Provide critical breeding, nesting and feeding areas for a wide range of fish and wildlife; and
5. Provide important open space and passive recreation opportunities.

Because wetlands are ecologically important in all the ways described above, and because they are vulnerable to filling, dredging, draining or other alterations to make them suitable for or supportive of development, these activities are regulated at the federal, state and local levels of government. The Army Corps of Engineers and the Maine Department of Environmental Protection regulate activities in wetlands of all sizes.

Based on the National Wetlands Inventory maps for Holden, roughly 20% of the Town consists of wetlands. Wetlands of 10 or more acres exist in low-lying areas along Mill Stream and Route 46 south of Route 1A, within a band running parallel to and north of Route 1A in the vicinity of the rail line, areas west of Eastern Avenue, an area south of Levenseller Road, several areas north of Levenseller Road and an area to the northwest of Holbrook Pond.

The Department of Inland Fisheries and Wildlife has rated Holden’s wetlands from the standpoint of their value as inland waterfowl and wading bird habitats. For the most part, the wetlands that the Town has zoned Resource Protection have been rated as high to moderate value wetlands; these are the wetlands that the Town is required to protect through a municipal shoreland zoning ordinance or its equivalent.

Rivers and Streams

The Maine Department of Environmental Protection classifies all surface waters that are not great ponds into four categories: Class AA, A, B, and C. These classifications are defined by legislation with Class AA being the highest classification, with outstanding and high levels of protection. Class C, on the other end of the spectrum, is suitable for recreation and fishing, yet higher levels of bacteria and lower levels of oxygen are allowed. Title 38 MRSA Section 465 contains a complete description of water quality classifications and specifications.

There are numerous small streams and brooks in Holden. Those which drain into the Penobscot River are classified as Class B, Minor Tributaries, and are expected to have moderately high water quality. While there is no information available on many of these streams, others are known to have high value fisheries.

Mill Stream, which follows Route 46 from Phillips Lake to the southwest corner of town, has a high value fishery for native eastern brook trout and is also high value because of its reproduction of landlocked salmon and anadromous runs of American Alewife.

Dane Brook, in the southern part of town, has a high value fishery for native eastern brook trout.

Copeland Brook, also in the southern part of town, has a high value fishery for native eastern brook trout.

Eaton Brook, which flows out of the western side of town into the Penobscot River in Brewer, has a high value fishery for native eastern brook trout as well as a high value Atlantic salmon population.

Felts Brook, which also flows out of the western side of town into the Penobscot River in Brewer, has a high value fishery for native eastern brook trout as well as a high value Atlantic salmon population.

Floodplains

The enormous public costs involved in flood damage and flood control nationwide resulted in the establishment of a National Flood Insurance Program which helps the victims of floods to rebuild their homes and businesses and reduce the future risk of flood losses. The Town of Holden participates in the National Flood Insurance Program.

Participation in the NFIP involves the adoption by the Town of a Flood Insurance Resolution, which Holden did in 1975. Under this Resolution, the Town agreed to enact land use controls to prevent unsafe development from occurring in designated flood hazard zones. It is the building inspector's duty to, in the review of building permit applications, determine that proposed building sites are "reasonably safe from flooding" or that the development is constructed so as to minimize the possibility of flood damage.

The Flood Insurance Rate Maps of the National Flood Insurance Program for Holden were published in 1978 and revised in July of 1995. Identified flood hazard areas, which cover roughly 20% of the Town, are concentrated in the northern part of the community and seem to coincide with the major wetlands. The revised Flood Insurance Study noted that "No record of significant, widespread flooding in the Town of Holden could be found." Based on data obtained from the Maine State Planning Office, there are only five flood insurance policies issued in Holden. There have been no claims since 1978.

Groundwater

Ground water is defined as subsurface water found in the saturated soils and water-bearing bedrock cracks. It's upper level, which rises and falls seasonally, is called the water table. An aquifer is a sand, gravel or porous rock formation which contains recoverable volumes of water. Precipitation and surface water infiltrate into the soil and replenish the aquifers. Ground water moves through this saturated zone by gravitational forces and discharges as springs or into wetlands, lakes and ponds.

According to information obtained from the Maine Geological Survey, bedrock wells in Maine most often yield relatively small quantities of water. The median yield for a bedrock well is between three and six gallons per minute. Approximately 35% of bedrock wells drilled in Maine yield 10 or more gallons per minute. The Maine Geological Survey has data on 17 bedrock wells in Holden. Most of these wells are between 5 and 90 feet deep. Yields vary from less than five gallons per minutes to between 50 and 100 gallons per minute.

Sand and Gravel Aquifers.

A sand and gravel aquifer is considered a significant aquifer when a well in that deposit is capable of being pumped continuously at a rate of 10 gallons per minute (gpm) or more. The Maine Geological Survey has identified two significant sand and gravel aquifers on their sand and gravel aquifer maps dated 2001.

The first sand and gravel aquifer follows Route 46 and Mill Stream from George's' Pond to the southeast corner of town. It is composed of sand and gravel with cobbles and boulders and has potential yields of 10-50 gpm. It has been mined for gravel in several locations.

The second is a much smaller aquifer extending off the southern end of Holbrook Pond. It is composed of sand and gravel, some cobbles and boulders, some clay at 25 feet, and has a minimum thickness of 20 feet. Two gravel pits exist on this aquifer.

There are no known sources of pollution near these aquifers.

Public Water Suppliers.

There are approximately 12 privately owned public water suppliers in Holden that are licensed by the Department of Health and Human Services. Public water suppliers are defined as serving 25 or more people and/or having 15 or more service connections. Under State rules adopted pursuant to the federal Safe Drinking Water Act, public water suppliers in Maine must periodically test their water for a long list of chemical and biological contaminants. Maine's Water Quality Classification System requires that all of the State's groundwater be Class GW-A in order to be used for public water supplies. Water quality standards used to assess whether groundwater meets federal safe drinking water standards are those of the federal Safe Drinking Water Act.

In Holden, public water suppliers include:

- Cedar Haven Mobile Home Park
- Greenwood Garden Apartments
- Holden Square Apartments
- Island Green Golf Center
- Lakeview Trailer Court
- MSAD 63 Holden School
- MSAD 63 Holbrook School
- Pine Cone Mobile Home Park
- Red Barn Campground
- Red Barn Diner
- Sinclairs Log Cabin
- Town and Country Motel

A new state law now requires each town in Maine to notify public water suppliers of proposed developments that would be located within the area that their well uses to obtain its source water. This area is known as a source water protection area. To assist towns with determining where the source water protection area of each public water supplier in their town is located, the Maine Drinking Water Program has provided a map (available at the Town Office) that delineates these areas.

At the same time, public water suppliers are eligible to voluntarily participate in the Maine Wellhead Protection Program. Under this program, a public water supplier, sometimes with technical assistance from the Drinking Water Program, delineates the area contributing to its well, takes inventory of any existing and potential threats within this area, and works with neighboring property owners, and sometimes, with the municipality, to develop management and contingency plans that will help limit hazards from existing or potential land uses and activities within the wellhead protection area.

Forest Resources

Except for developed areas adjacent to Route 1A and in other parts of the community, as well as the Town's great ponds and wetland areas, most of the Town consists of woodland at various stages of maturity. Stands of hardwood (oak, beech, maple, birch) can be found on higher, drier land while stands of softwood (pine, fir, hemlock, spruce) cover the lower, wetter areas with a lot of mixing in between. The forested areas of Holden provide numerous benefits, including:

- Economic benefits to landowners when timber is harvested;
- Recreational benefits including hunting, snowmobiling, cross country skiing and other winter sports;
- Wildlife habitat including deer wintering habitat;
- Aesthetic enjoyment; and
- Protection of the Town's streams (the canopy provided by trees and the understory aid in breaking the force of precipitation, thereby decreasing erosion).

Wildlife Habitat

Holden has always had an abundance of wildlife and a diverse range of habitats for plants and animals. This level of abundance and diversity have historically been supported by the large areas of undeveloped land and the many riparian and wetland habitats that link these larger undeveloped blocks. With the potential for rapid development in the future, including new roads to support the new residential development in Holden and surrounding towns, a phenomenon known as habitat fragmentation can take place. The size of the large blocks of unbroken habitat can decrease as new roads extend into or cross them. Similarly, the links between such blocks, the riparian areas along streams, lakeshores, and associated wetlands can become more narrowed or interrupted and less able to function effectively as wildlife travel corridors between habitat areas.

Beginning with Habitat Program.

A number of State agencies and conservation organizations are working together to secure Maine's outdoor legacy through a program called "Beginning with Habitat." The program is a habitat-based landscape approach to assessing wildlife and plant conservation needs and opportunities. The goal of the program is to maintain sufficient habitat to support all native plant and animal species currently breeding in Maine by providing each Maine town with a collection of maps and accompanying information depicting and describing various habitats of statewide and national significance found in the town. These maps provide communities with information that can help guide conservation of valuable habitats.

The agencies participating in the Beginning with Habitat program include the Natural Areas Program of the Department of Conservation, the Department of Inland Fisheries and Wildlife, the Maine Audubon Society, the State Planning Office, the United States Fish and Wildlife Service, and the Maine Cooperative Fish and Wildlife Service. As the Town develops and revises ordinances, the Town should consider consulting with the Beginning with Habitat Program, the Maine Natural Areas Program and similar programs.

Types of Habitat in Holden. The Beginning with Habitat Program has identified three general types of habitat in Holden:

1. Riparian habitat. Riparian habitat is the transitional zones between aquatic habitats and wetlands and dry or upland habitats and includes the banks or shores and streams, rivers, ponds and lakes, and the upland edge of wetlands. Riparian habitat provides habitat for many plants and animals occurring in Maine. Towns have the opportunity to protect a large portion of riparian habitat simply by fully enacting and enforcing Maine's shoreland zoning provisions. This includes a 75-foot buffer around larger streams and a 250-foot buffer around rivers, lakes, ponds and non-forested wetlands greater than 10 acres. There are extensive areas of riparian habitat adjacent to wetlands of 10 or more acres as identified on the National Wetlands Inventory. Most of these wetlands have been zoned Resource Protection by the Town, while the adjacent land areas have been placed in the Shoreland/Flood Hazard Zone.
2. Large habitat blocks. Large habitat blocks provide habitat for certain plants and animals not already included in riparian habitat (number 1, above) or high value habitats (number 3, below). Large habitat blocks are relatively unbroken areas of habitat which includes forest, grassland/agricultural, water or wetlands. "Unbroken" means that the habitat is crossed by few roads, and has relatively little development and human habitation. These blocks are especially important to species with large home ranges, such as bobcat, and other species such as the black-throated blue warbler, who may have small home ranges but will only be successful over the long term in larger habitat blocks. Large blocks are also more likely to include a wider diversity of species than smaller blocks.

Blocks between one and 19 acres are home to species typical of urban and suburban landscapes (e.g. raccoons, skunks, squirrels). Blocks of 250 acres begin to provide habitat for area-sensitive birds that are uncommon in smaller forests and grasslands such as the veery and scarlet tanager and the grassland species upland sandpiper and grasshopper sparrow. Moose, bald eagles, goshawks and similar species usually require 500 to 2,500 acres while blocks greater than 2,500 acres may hold the full complement of species expected to occur in Maine.

With the exception of land areas within 500 feet of improved roads and developed areas, the entire town of Holden is considered to consist of a series of large habitat blocks. Holden's large block habitat is significant in that communities to the west have less of this component. It also contributes greatly to the rural atmosphere of the Town. Being on the fringe of an urban area, this habitat type, which is not regulated to the same extent as other habitats, is most likely to be impacted by future development unless adequate conservation measures are implemented.

3. High value plant and animal habitats. High value plant and animal habitats include rare plant locations and rare or exemplary natural habitat (for deer, waterfowl and wading birds, heron rookeries), and rare animal locations (for endangered species and species of special concern),

as identified and mapped by the Natural Areas Program and the Department of Inland Fisheries and Wildlife. High value habitat for United States Fish and Wildlife Service priority trust species is also included. Several of these habitats are offered some degree of protection under State law but may warrant further local protection. High value plant and animal habitats in Holden include the following:

Essential wildlife habitats. These are areas that are protected by Maine's Endangered Species Act. They include areas currently or historically providing physical or biological features essential to the conservation of an endangered or threatened species in Maine and which may require special management considerations. These areas have been identified and mapped by the Department of Inland Fisheries and Wildlife through rulemaking procedures following Maine's Administrative Procedures Act. Since 1989, designation criteria and protection guidelines have been developed for bald eagles, roseate terns, least terns and piping plovers.

The Maine Endangered Species Act prohibits state agencies or municipal governments from permitting, licensing, funding or carrying out projects that would significantly alter a designated Essential Habitat or that would violate its protection guidelines. If a project site is partly or wholly within an Essential Habitat, it must be evaluated by IFW before state/municipal permits can be approved or project activities can occur.

Holden's single essential habitat is a bald eagle habitat located adjacent to Brewer Lake opposite King Island.

Natural Resource Protection Act (NRPA) Habitats. Title 38 MRSA Section 480 identifies habitats protected under the Natural Resources Protection Act (NRPA). Included in the definitions section (480-B) is "Significant wildlife habitat," which means areas that have been mapped by IFW or are within any other protected natural resources including:

- Habitat for listed endangered/threatened animal species;
- High/moderate value deer wintering areas;
- High/moderate value waterfowl/wading bird habitat;
- Shorebird nesting, feeding, and staging areas; and
- Seabird nesting islands.

Although all of these habitats are mapped by IFW, to date, only seabird nesting islands have gone through the formal NRPA process. Specific deer wintering areas, inland and coastal waterfowl/wading bird habitat, and shorebird areas have been designated "Candidate NRPA," indicating they meet NRPA requirements but have not been formally zoned.

Wading Bird Habitat. IFW has identified a number of moderate and high value waterfowl and wading bird habitats in Holden. These include all of the wetlands currently zoned Resource Protection by the Town, plus two additional wetlands south of Route 1A and north of Fields Pond near the Holden/Brewer border. While not regulated by the NRPA, DEP has proposed shoreland zoning requirements for municipalities to require that these wetlands be protected by a Resource Protection District beginning at the edge of the wetland and extending inland (away from the wetland) for a distance of 250 feet. In effect, this may result in otherwise buildable land being placed in the Resource Protection District. Currently, Holden has placed only the wetland itself in a Resource Protection District.

Deer Yards. IFW has also identified a number of deer wintering areas including areas southwest and southeast of the intersection of Levenseller Road and Clark Hill Road, an area west of Bagaduce Road, several areas southwest and east of Holbrook Pond, and area west of George's Pond, and two areas west of Copeland Hill Road. Deer yards are considered critical to the over-wintering survival of deer populations in severe winter environments. IFW uses an NRPA rating system to classify these deer wintering areas. Holden's deer yards are considered indeterminate. There are no deer yards in Holden with a "moderate" or "high" value rating, and thus no deer yards with the potential at this writing to be regulated under the NRPA. The interface of forest, rural and suburban habitats creates opportunities for conflict between deer populations and residential property owners (browsing on gardens/shrubs) and vehicle users (car/deer accidents).

High value habitat for U.S. Fish and Wildlife Service priority trust species (greater than five acres). These include many areas in Holden including some freshwater wetlands, some areas of grass, shrub and bare ground, and some forested lands. These areas are shown on the Beginning with Habitat maps on file in the Town Office.

Fisheries. The Department of Inland Fisheries and Wildlife has also provided specific habitat information for Holden. Brewer Lake has a high habitat value because of its important stocked landlocked salmon and native rainbow smelt populations. Davis and Holbrook Ponds have moderate habitat values with both ponds offering good opportunities to catch Smallmouth Bass. George's Pond has a low habitat value rating with Chain Pickerel present. Dane Brook, Mill Stream, Felts Brook, Eaton Brook and George's Pond Route 1A inlet brook have high habitat value because of their native eastern brook trout habitat and fisheries.

Analysis

Many factors have combined to protect Holden's natural resources. First and perhaps foremost is the fact that growth pressures have been relatively modest compared to those in some parts of southern and coastal Maine. Second is the fact that the Town has enacted a comprehensive set of growth control ordinances that are strictly administered and enforced. Finally, development has followed the path of least resistance and is now located along Route 1A and the Town's rural road network, leaving much of the Town's interior undeveloped. Extensive wetlands north of Route 1A and along Route 46 have prevented the development of the northern interior of the community. Steep topography and few public roads have protected the southern interior.

Public Facilities Chapter

Public Water

There are two areas of Holden that are served by water from the Brewer public water system. The first is located along Levenseller Road which runs parallel to a major water distribution line that runs from Brewer's water source to the City. It serves Rooks Road, Levenseller Road, Nolan Road, Clewleyville Road and Lambert Road. A second water transmission main 16 inches in diameter enters Holden along Eastern Avenue and extends through the back part of DeBeck Business Park to Route 1-A. Dysarts and Irving on Route 1-A, as well as several businesses in the DeBeck Park, receive water from this line.

Public Sewer

The Town of Holden does not have a public sewer system. The community is served by individual, subsurface sewage disposal systems. During the construction of Route I-395, two pipes were laid under the exit and entrance ramps for possible future extension of public sewer and water from outer Wilson Street in Brewer to Route 1-A in Holden.

The capability of serving the western portion of the community with public water and sewer needs to be considered as Holden evaluates the land use impacts resulting from the State's plans for an I-395/Route 9 connector road, and the need for establishing areas to accommodate the future growth of the community.

Outdoor Recreation

It is very important that any residential area have adequate recreational opportunities, either within the municipality, or on a broader regional scale. Open spaces, public parks and recreation programs serve a vital function in the community: they ensure that the people have somewhere to go to enjoy the outdoors. Parks give children safe areas to play, provide areas for local functions, and are open spaces which provide an aesthetically pleasing atmosphere. Public access to ponds, lakes and streams is also important because surface waters offer recreational opportunities including fishing, swimming and boating. Access to surface waters is guaranteed by the Legislature which reserves the right of people to cross unimproved land to get to a great pond. This does not give people the right to engage in activities on the shore without the permission of the land owner.

Recreation Facilities.

Holden does not have any town-owned recreational areas, parks or playgrounds other than a small community park located between the Town Office and Holden Elementary School. It has a gazebo and picnic table. Non-municipal recreational facilities are limited to:

1. School facilities. There is a community playground at Holden Elementary School, and ball fields at both Holden Elementary and Holbrook Schools.
2. Snowmobile trail system. A significant snowmobile trail system exists in Holden for use during the winter months. This system utilizes private land, and is privately maintained.
3. Lakes. Brewer Lake, Holbrook Pond, Davis Pond and George's Pond all have shoreline within the Town of Holden, but there is no Town-owned developed access to these water bodies. A public landing is available on Brewer Lake in Orrington. There is a privately owned landing on Davis Pond in East Eddington. The Holden Conservation Commission has reviewed the viability of providing public access to Holbrook Pond and Brewer Lake on property that Holden owns on these two water bodies. The Commission recommends that access be limited to canoes and kayaks. Neither site is suitable for motorized access.
4. Holden Community Learning Nature Trails. The Holden Community Learning Nature Trails are a series of learning trails that can be used by the community, schools and organizations for the opportunity to learn about the elements of nature and the relationship between the forests and everyday life. The trails feature strategically placed information kiosks as well as interpretive labeling of trees. There are numerous benches and several picnic tables.

Most of the trails are indigenous and are excellent for walking and snowshoeing. There is a graveled walkway that is handicapped accessible.

The nature trails are a collaborative effort between the Town of Holden, the school system, and the Nature Trail Committee (comprised of Holden residents). The trailhead is located behind the Holden Elementary School.

5. Fields Pond Nature Center. This nature center is owned by the Maine Audubon Society and is located in the southwest corner of Town, off Fields Pond Road on the Orrington border.
6. Regional Resources. There are a large number of recreational facilities available to Holden residents throughout the region. A partial listing of these resources includes the following:

Parks in Bangor and Brewer. Bangor and Brewer have a number of municipal recreational facilities including outdoor swimming pools, creative playgrounds, playing fields and various classes and special events. Numerous parks are maintained throughout both cities, including Cascade Park which is the site of numerous special events throughout the warmer months. Other facilities include a baseball complex, the Sawyer Ice Arena, the Hermon Mountain Ski Area and the Bangor Municipal Golf Course.

Regional water bodies. The Penobscot River offers boating opportunities and sports fishing. Numerous lakes and ponds in the Greater Bangor Area offer swimming, boating, and fishing opportunities. Kenduskeag Stream is popular for canoe and kayak enthusiasts.

Acadia National Park. Mount Desert Island and Acadia National Park provide a wide range of recreational opportunities including sight-seeing, hiking, swimming and boating. This unique coastal natural area is just over an hour away from Holden.

Baxter State Park. Baxter State Park, one and a half hours to the north, provides rugged hiking, wilderness opportunities and access to the Appalachian Trail.

University. The University of Maine at Orono offers a number of outdoor recreational opportunities including outdoor sports events and numerous hiking trails.

Campgrounds. There are numerous, privately operated campgrounds throughout the region.

Golf courses. Several golf courses are open to the public including Island Green in Holden and golf courses in Brewer, Hampden, Hermon, Kenduskeag and Lucerne.

Holbrook Regional Recreational Program. The Holbrook Recreation Program is a joint recreational program supported by and providing activities throughout the year to residents of Holden, Clifton, Dedham and Eddington. The program offers 12 activities and in 2004 served approximately 750 people. Activities include T-Ball, Farm Little League, Little League, Senior Little League, Softball, Instructional Soccer, Peewee Basketball, Dribbling Devils, Men's Night, High School Night, Co-Ed Volleyball, and Snowmobiling.

The operating budget of approximately \$30,000 is funded by the four communities, as well as sponsorships and contributions from individuals and businesses.

Analysis

In general, the Town of Holden is well served by its system of public facilities and services. The major shortcoming is the lack of suitable space for public safety needs – police, fire and rescue. State – projected growth rates over the next 10 years are not expected to strain any public services.

To the contrary, one of the biggest challenges may be how to deal with declining school enrollments.

The eastern portion of the community closest to Brewer is likely to continue to be subject to growth pressures because of the presence of public water, proximity to the most likely route for the 395 Extension, and a developer's purchase of a large, undeveloped parcel of land. Development challenges in this area include extensive wetlands and the lack of an adequate rural road network to carry substantial increases in traffic to Route 1A.

Land Use Chapter

Overview

Holden is a quiet rural town in which to live, but conveniently located adjacent to the Bangor-Brewer metropolitan area. Its rolling hills and natural beauty have attracted people who work in Bangor or Brewer or other communities, including many professionals, who want to live in a small community, often on a large lot. Development consists primarily of single-family dwellings scattered throughout the community, in contrast to commercial development which is concentrated along Route 1A.

The Town's 1995 Comprehensive Plan envisioned that most of Holden's residential growth would occur in a new Village Center Zone, a zoning district created expressly for the purpose of encouraging high density, compact, village-type development with urban amenities such as sidewalks. The vision depended on one or more developers purchasing land and designing a small town village. It didn't happen, although a 25-lot subdivision, Roundwood Estates, was approved in the Village Center Zone in 2002 (19 residential lots, 6 commercial lots).

Instead, growth continued to occur throughout the rural areas of Town. Between 1999 and 2004, there were 120 new dwellings and 14 new businesses. Most of the dwellings on single lots were located in the R3 district, which is the Town's largest rural district. As shown in Table 1, only 8 out of the 120 dwelling units were built in the Village Center Zone. By contrast, all of the Town's commercial growth occurred in either the General Commercial Zone or the Limited Commercial Zone (both are growth districts).

There are probably many reasons why the Village Center Zone did not grow as anticipated. These include:

- The Village Center Zone may not have been large enough;
- Few large parcels were available for development during the past 10 years;
- The Village Zone is bisected by two State highways; growing traffic volumes and noise are a deterrent to village-type growth;
- MDOT's access management controls preclude the creation of additional lots with direct access to Route 1A.
- Roughly half of the soils in the village are unsuitable for subsurface wastewater disposal systems. They consist of Monarda and Burnham very stony silt loams. According to the Natural Resources Conservation Service, subsurface waste disposal systems are prohibited in these soils.

Rural roads where substantial numbers of new homes were built since 1995 include Levenseller Road, Clark Hill Road, Mann Hill Road, Route 1A and Wiswell Road.

Approved subdivisions since 1995 have been more concentrated than individual units, with the largest cluster occurring on Mann Hill Road and Clark Hill Road. As shown in Table 2 below, the largest subdivision, Roundwood Estates, is situated in the Village Center Zone. Out of a total of 72 approved residential lots, only 19 are located in the R3 Zone (another 11 are located partially in the R3 Zone and partially in another zone).

Forestry

Approximately 90-95% of the land area of Holden is forested. In 2004, there were 14 parcels of land, amounting to 2,580 acres, enrolled in the Tree Growth Tax program. Land that is registered under this program receives favorable tax status and may be less likely to be converted to other uses. There have been a number of timber harvesting operations in the community since 1991, as indicated in Table 3 (information obtained from the Maine Forest Service did not include information for 1992).

| Year | Selection Harvest Acres | Shelterwood Harvest, Acres | Clearcut Harvest, Acres | Total Harvest, Acres | Changes of land Use, Acres | Number of Timber Harvests |
|--------------|-------------------------|----------------------------|-------------------------|----------------------|----------------------------|---------------------------|
| 1991 | 62 | 0 | 0 | 62 | 0 | 3 |
| 1993 | 459 | 0 | 0 | 459 | 0 | 13 |
| 1994 | 217 | 0 | 0 | 217 | 0 | 9 |
| 1995 | 250 | 40 | 30 | 320 | 30 | 13 |
| 1996 | 323 | 60 | 0 | 383 | 30 | 12 |
| 1997 | 603 | 3 | 0 | 606 | 10 | 9 |
| 1998 | 206 | 3 | 0 | 209 | 0 | 12 |
| 1999 | 59 | 9 | 0 | 68 | 3 | 5 |
| 2000 | 502 | 23 | 0 | 525 | 56 | 11 |
| 2001 | 207 | 1 | 0 | 208 | 15 | 5 |
| 2002 | 301 | 23 | 0 | 324 | 4 | 12 |
| 2003 | 364 | 180 | 0 | 544 | 0 | 10 |
| Total | 3,553 | 342 | 30 | 3,925 | 148 | 114 |

Source: Maine Forest Service

Agriculture

Holden is not a farming community, even though there are large concentrations of prime agricultural soils south of Route 1A on either side of South Road, and in the southwest corner of town on either side of Wiswell Road and to the west of Copeland Hill Road south of Wiswell Road. As of 2004, there were no parcels of land enrolled under the Farm and Open Space Tax Law.

There are two farms in the community. The Elmer Carter farm, consisting of about 31 acres, is located at the intersection of Route 1A and South Road. It encompasses some of the prime agricultural soils in that area. The primary crop is hay. The Howard farm, consisting of about 236 acres, is located on eastern Avenue near Rowell Road and the Holden/Brewer line. The farm supplies cattle feed to one or more farms in other communities.

Analysis

Despite the vision in Holden's 1995 Comprehensive Plan that most of Holden's future residential growth would occur in a new village zone, the opposite took place. Most of the growth occurred in

the Town's rural areas, although a 31-lot subdivision was approved in the Village Center Zone in 2002. Some of the reasons why the Village Center Zone did not become the focus of growth include:

- Most people coming to Holden are looking for a rural or semi-rural location;
- The Village Center may not have been large enough to accommodate the growth;
- Very few parcels in the village became available for development since 1995;
- The Village Center Zone lacks cohesion because it is bisected by Routes 1A and 46. Moreover, growing traffic volumes and noise on these two State highways are a detriment to village-type growth
- MDOT's access management controls preclude the creation of additional lots with direct access to Route 1A;
- Roughly half of the soils in the Village Center Zone are unsuitable for subsurface sewage disposal systems.

There is a need not only to increase the size of the Village Center Zone to include areas with better soils, thereby encompassing more parcels for potential development, but to allow one or more additional Village Center Zones in areas that may be more suitable for accommodating future residential growth.

The Town's Zoning Ordinance is very comprehensive, but may need to be changed to encourage more compact, village-type growth:

- Lot sizes and minimum frontage requirements need to be reduced to encourage village type growth;
- There needs to be a mechanism in the Zoning Ordinance to provide for well-planned, village type development, even though the exact route and construction time frame of the I-395 extension is not known at this time.
- Additional incentives are needed to encourage more compact patterns of residential growth while preserving open space and limiting sprawl.

Regional Coordination Chapter

Holden is linked in a number of ways to other nearby communities.

Economy. The residents of Holden are highly dependent upon Bangor and Brewer for employment opportunities. Approximately 62% of Holden's work force is employed in either Bangor or Brewer.

Future Public Water and Sewer. During the construction of Route I-395, two pipes were laid under the exit and entrance ramps for possible future extension of public sewer and water from outer Wilson Street in Brewer to Route 1A in Holden.

Holbrook Regional Recreational Program. The Holbrook Recreation Program is a joint recreational program supported by and providing activities throughout the year to residents of Holden, Clifton, Dedham and Eddington. The program offers 12 activities and in 2004 served approximately 750 people. Activities include T-Ball, Farm Little League, Little League, Senior Little League, Softball, Instructional Soccer, Peewee Basketball, Dribbling Devils, Men's Night, High School Night, Co-Ed Volleyball, and Snowmobiling.

Plan Policies & Strategies

NATURAL RESOURCES

Goals

1. Protect and manage the quality of Holden's water resources including lakes, aquifers, wetlands, great ponds and rivers.
2. Protect Holden's critical natural resources including, but not limited to, wildlife and fisheries habitat, shorelands and scenic vistas.

| Policies | Strategies | Responsibility/Date |
|---|---|---|
| <p>1. General Protection. Preserve and protect natural resources, through municipal ordinances and enforcement of state laws and actively participate in local and regional programs to conserve and protect the area's natural resources.</p> | <p>A. Land Use Regulations. Continue to protect identified significant natural resources through land use as set forth in the Town's Zoning and Subdivision Ordinances.</p> <p>B. Environmental Standards. Continue to require that applicants for approval of major subdivisions and non-residential developments submit environmental impact assessments to the Planning Board.</p> <p>C. Education. Provide informational outreach to inform the public of the value of each of the Town's natural resources. In addition, educate and inform specific landowners about the natural resources located on their property.</p> <p>D. Regional Cooperation. Cooperate with neighboring towns in the development and implementation of programs to protect resources of regional importance.</p> <p>E. Open Space Master Plan. Develop an Open Space Master Plan that would include: identification of areas that are unique to Holden; preservation of significant land; preservation of the "visual" look of Holden; recreational opportunities; preservation of wildlife habitat and corridors; preservation of connections between neighborhoods; provision of access to water; and preservation of view corridors.</p> <p>F. Open Space Funding. As part of the Capital Improvement Plan, consider periodically adding funds to an account to be used for acquisition of conservation easements or fee ownerships on land that is important to the Town for its natural resource value.</p> <p>G. Protection Priorities. Coordinate town priorities for land protection with land trust priorities and other related organizations.</p> <p>H. Open Space Requirements for Small Subdivisions. Consider developing a fee-in-lieu of land dedication, impact fee, or other device for smaller subdivisions where land set aside is not appropriate. Consider options for acquisition of property or easements important to the Town for its natural resource value.</p> <p>I. Land Trust Input. Provide opportunities for the Holden Land Trust to comment on how open space that occurs on large tracts of land or on land with a high natural resource value in proposed subdivisions can best be structured to preserve the natural resource value.</p> | <p>Planning Board/Town Meeting/Ongoing</p> <p>Planning Board/Town Meeting/Ongoing</p> <p>Conservation Commission/Ongoing</p> <p>Town Council/Planning Board/Conservation Commission/2007 and Ongoing</p> <p>Conservation Commission/2009</p> <p>Town Council/Ongoing</p> <p>Planning Board, Conservation Commission/Ongoing</p> <p>Town Council/Planning Board/2007 and Ongoing</p> <p>Planning Board/Ongoing</p> |

| Policies | Strategies | Responsibility/Date |
|---|---|---|
| <p>2. Holden's Lakes and Ponds. Protect and improve the quality of Brewer Lake, Holbrook Pond, Davis Pond and George's Pond.</p> | <p>A. Mapping and Study. Encourage the further mapping and study of Holden's water resources, particularly the value of wetlands, location of flood hazard zones, water quality in ponds, especially George's Pond and Holbrook Pond, and water quality of streams such as Felt's Brook, Eaton Brook, and Mill Stream.</p> <p>B. Shoreland Septic Systems. Implement a shoreland septic system improvement program by continuing to require, as a condition of approval of Certificate of Occupancy, that conversions of seasonal to year-round homes have their sub-surface sewage disposal systems in compliance with Maine's Subsurface Wastewater Disposal Rules.</p> <p>C. Watershed protection program. Inform all property owners of the importance of protecting water quality. Focus on practical steps the property owner can take such as limiting or avoiding lawn fertilizers, maintaining septic systems, correcting erosion, and leaving as much of the shorefront as possible in its natural condition. Use the local print media and web sites, as well as other means, to reach people.</p> <p>D. Water Quality Monitoring. Continue to support and encourage volunteer efforts to work with the Department of Environmental Protection to monitor the quality of the lakes and streams and reduce non-point source pollution. Support efforts to control/eliminate invasive aquatic plants in all Holden's lakes, streams and tributaries.</p> <p>E. Shoreland Zoning. Continue strict administration and enforcement of the shoreland zoning provisions of the Town's Land Use Ordinance.</p> <p>F. Phosphorus Loading. Continue to work with the Department of Environmental Protection in the enforcement of the Town's phosphorus control standards so as to maintain or improve water quality on a long term basis.</p> | <p>Town Council/Planning Board/Ongoing</p> <p>Code Enforcement Officer/ Planning Board/Ongoing</p> <p>Conservation Commission/Ongoing</p> <p>Town Council/Conservation Commission/Ongoing</p> <p>Code Enforcement Officer/ Planning Board/Ongoing</p> <p>Planning Board/Ongoing</p> |
| <p>3. Floodplain Management. Manage the use of floodplains in Holden so as to minimize the threat of future losses from inappropriate development.</p> | <p>A. Floodplain Management Ordinance. Continue to strictly administer and enforce the Town's Floodplain Management Ordinance. Continue to prohibit all further incompatible development in designated flood hazard zones.</p> | <p>Code Enforcement Officer/ Planning Board/Ongoing</p> |
| <p>4. Wetlands. Continue to protect wetlands from the adverse impacts of development.</p> | <p>A. Shoreland Zoning. Continue strict administration of the Town's Shoreland Zoning Ordinance.</p> <p>B. Buffers. Establish a buffer around moderate to high value wetlands consistent with State law and constitutional taking principles.</p> | <p>Code Enforcement Officer/ Planning Board/Ongoing</p> <p>Planning Board/Town Meeting/2007</p> |
| <p>5. Ground Water Resources. Protect the Town's ground water resources.</p> | <p>A. Aquifer Setback. Continue to prevent the destruction and contamination of aquifers by continuing to prohibit all incompatible development in and within five hundred (500) feet of identified aquifers, until such time as the recharge area and protection priority is conclusively determined.</p> <p>B. Well Mapping. Encourage mapping of wells to monitor their location, depth and productivity.</p> <p>C. Non-Residential Hazardous Waste. Continue to regulate any new activity involving the processing, storage, generation or handling of hazardous waste as defined by the Maine Department of Environment Protection (not including normal household uses and materials and heating fuel).</p> | <p>Code Enforcement Officer/ Planning Board/ Ongoing</p> <p>Conservation Commission/2009</p> <p>Code Enforcement Officer/ Planning Board/Ongoing</p> |

| Policies | Strategies | Responsibility/Date |
|---|---|---|
| <p>6. Forest Resources. Encourage the wise use of forest resources.</p> | <p>A. Active Forest Management. Provide educational opportunities for owners of forest lands to actively manage these lands in order to keep them healthy, productive, and contributing to the rural character of the Town. Provide information about the tree growth tax program. Encourage landowners to work with licensed foresters and trained loggers to accomplish their goals in a responsible way.</p> <p>B. Shoreland Zoning. Continue to regulate timber harvesting through the Town's Shoreland Zoning Ordinance.</p> <p>C. Cluster Development. Encourage cluster development when large, contiguous tracts of forest land are proposed for development.</p> <p>D. Forested Buffers. Explore options for establishing forested buffers in appropriate areas.</p> | <p>Conservation Commission/Ongoing</p> <p>Planning Board/Ongoing</p> <p>Town Council/Planning Board/2007 and Ongoing</p> <p>Assessor, Conservation Commission/2009</p> |
| <p>7. Wildlife Resources. Protect wildlife and wildlife habitat to the maximum extent possible.</p> | <p>A. Mapping and Analysis. Encourage the regular mapping and analysis of the town's wildlife habitat by the Department of Inland Fisheries and Wildlife and/or by consultants.</p> <p>B. Development Review Assistance. Request development review assistance from the Maine Department of Inland Fisheries and Wildlife when development proposals would impact resources identified by the Department, including deer yards and waterfowl and wading bird habitat. As the Town develops and revises ordinances, consider consulting with the Beginning with Habitat Program, the Natural Areas Program and similar programs.</p> <p>C. Large Habitat Blocks. Strive to maintain undeveloped blocks greater than 250-acres in Holden by considering partnering with the Holden Land Trust or other similar organizations to acquire development rights, obtain conservation easements or fee ownership on large blocks of land, or protect these blocks through other means.</p> <p>D. Regional Habitat Blocks. Work with neighboring towns and cities to conserve undeveloped blocks of land greater than 5,000 acres.</p> <p>E. Open Space Plan Coordination. Work with the Holden Land Trust when creating an Open Space Plan for the Town. See <i>Natural Resources, 1.E.</i></p> <p>F. Habitat Protection. Provide educational opportunities for landowners with high value habitat to enroll in either the Farm and Open Space Program or the Tree Growth Tax Program.</p> <p>G. Wildlife Travel Corridors. Encourage protection and preservation of wildlife travel corridors between large blocks of land.</p> | <p>Conservation Commission/2009 and Ongoing</p> <p>Planning Board/Ongoing</p> <p>Conservation Commission/Ongoing</p> <p>Conservation Commission/Ongoing</p> <p>Conservation Commission/Ongoing</p> <p>Conservation Commission/Ongoing</p> <p>Conservation Commission/Planning Board/Ongoing</p> |
| <p>8. Scenic Areas and Vistas. Protect scenic areas and vistas to the maximum extent possible.</p> | <p>A. Development Review. Encourage the preservation of scenic areas and vistas and other significant natural resources during the development review process.</p> | <p>Planning Board/Town Meeting/2010</p> |
| <p>9. Prime Agricultural Soils. Protect prime agricultural soils from being lost to development.</p> | <p>A. Development Options. Consider options for protecting prime agricultural soils such as cluster development.</p> | <p>Planning Board/Ongoing</p> |

PUBLIC FACILITIES AND SERVICES

Goals

1. Plan for, finance and develop an efficient system of public facilities and services to accommodate anticipated growth and economic development, consistent with the goals of this Plan to encourage growth in growth areas, and limit growth in rural areas.

| Policies | Strategies | Responsibility/Date |
|---|--|--|
| 1. Costs of Future Growth. Limit the extent to which future development imposes costs on the Town of Holden. | A. Impact Fees. Require that future developments be assessed through impact fees, assessments or other mechanisms, their proportional share of the cost of any increased public facilities and services attributable to their development. | Planning Board, Town Meeting/Ongoing |
| 5. Outdoor Recreation. Provide opportunities for recreation for the residents of Holden. | <p>A. Holbrook Regional Recreational Program. Continue to support the Holbrook Regional Recreational Program.</p> <p>B. School Facilities. Continue to rely on school facilities to meet some of the recreational needs of the citizens of Holden.</p> <p>C. Regional Resources. Continue to rely on recreational opportunities and facilities that are available in other communities throughout the surrounding region.</p> <p>D. New Development. Include provisions in the Town's Zoning, Subdivision and Site Plan Review ordinances to require parks, open spaces and/or walking, hiking or bicycle trails in new developments.</p> <p>E. Trail Network Master Plan. Develop a Trail Network Master Plan that would include an inventory of existing trails, areas where residents wish to have trails, and desirable areas of connectivity and destination points.</p> <p>F. Trail System within Holden. In accordance with the Trail Network Master Plan, extend trails throughout the community and provide regional connections. Plan for trail systems that complement the planned I-395 connector.</p> <p>G. Waterfront Access. Consider the need for and impact of one or more public access and/or recreation areas on at least one of Holden's water bodies.</p> | <p>Town Council/Town Meeting/Ongoing</p> <p>Town Council/Town Meeting/Ongoing</p> <p>Town Council/Town Meeting/Ongoing</p> <p>Planning Board/Town Meeting/2007 and Ongoing</p> <p>Conservation Commission/2008</p> <p>Conservation Commission/Planning Board/Ongoing</p> <p>Town Council/Town Meeting/2009 and Ongoing</p> |

EXECUTIVE SUMMARY

For all its challenges Maine stands within reach of a new prosperity—if it takes bold action and focuses its limited resources on a few critical investments.

The moment is urgent. After decades of industrial restructuring and drift, the pace of transformation is quickening, and the slow replacement of the old order is yielding a new one that may bring better lives for Mainers.

New population growth is bringing new people and new wealth to the state.

The ongoing and still painful shift to a more diversified service-oriented economy means that the state has less to lose in the future and more to gain. And for that matter, population growth is in some cases restoring life to towns and regional centers that have been sagging for decades.

Moreover, the wheel may now be turning in Maine's direction. As the search for quality places grows in importance, Maine possesses a globally known "brand" built on images of livable communities, stunning scenery, and great recreational opportunities. Likewise, as "innovation" drives more of the economy, Maine's reputation for Yankee ingenuity and resourcefulness matters more. On several counts, in short, Maine is surprisingly well-positioned for the future.

And yet, for all that, Maine's future success is by no means assured.

Workers see quality jobs—their own and others'—being replaced with lower-paying ones yet often lack the skills or opportunity to trade back up. Policymakers tout the promise of Maine's traditional and high-tech industry clusters, but meanwhile the hoped-for future of plentiful, good-paying new jobs seems to come too slowly—especially in rural areas. And all the while unplanned, haphazard suburban development rushes along too fast, in many places taking something away—a cherished woodlot or open field, a favorite point of water access for fly-fishing, the way a certain small town felt.

Adding to these complaints are the state's high taxes, ongoing fiscal challenges, and continued partisan bickering over

such issues as the efficiency of state and local government and the direction of state economic policy.

In sum, a state with much promise seems stuck: surprisingly pessimistic about its future, aware that great change is

As the search for quality places grows in importance, Maine possesses a globally known "brand" built on images of livable communities, stunning scenery, and great recreational opportunities.

upon it, but fearful that it isn't adapting as well as it needs to.

This report takes the measure of this moment. Sponsored by GrowSmart Maine and funded by a wide array of Maine foundations, businesses, conservation groups, and private citizens, "**Charting Maine's Future: An Action Plan for Promoting Sustainable Prosperity and Quality Places,**" assesses the current state of the state and suggests a route forward.

More specifically, the analysis offers the state a unifying view of its situation followed by a focused agenda for state-level policy reform aimed at promoting a new era of "sustainable prosperity" in Maine.

In that vein, the pages that follow draw a number of conclusions about the state:

1. Maine is changing in dramatic, sometimes surprising ways. In this respect, Maine's current demographic, economic, and development trends describe a state in the midst of significant transformation. These dynamics confirm that Maine is neither what it once was nor quite what it thinks it is:

- **Once stagnant, Maine's population is growing again.** In the standard view (which has some truth to it), Maine is an aging state that almost always grows slower than the rest of the country and New England. And it's true that Maine's population virtually stopped growing in the 1990s while the number of 25- to 34-year-olds residing in Maine has continued to decline. However, a closer look reveals that Maine is now experiencing a significant increase in population growth. Since 2000, the state's annualized growth rate has nearly doubled, jumping 20 places from 46th in the 1990s to 26th since 2000—by far the biggest acceleration among the 50 states. Driving this growth, meanwhile, has been the nation's fifth-highest domestic in-migration rate since 2000. Every county in Maine witnessed net gains of transplants from outside the state between 2000 and 2004, and because of that Maine is now growing faster than all other New England states except New Hampshire. Every major region is now participating in the growth. Two positive results of this acceleration include the arrival of newcomers with relatively higher household incomes, and the attraction of more young adults to the state. A more troubling related development has been rapid home-price appreciation, especially along the coast and in Southern Maine
- **Once based on goods production and natural resources industries, Maine is becoming a diverse, innovation-oriented services economy.** On the economy, the conventional wisdom assumes Maine is in crisis because its fortunes revolve around manufacturing and natural resource-based industries that are now collapsing. And it's true enough that manufacturing and natural resources industries continue to shed significant numbers of jobs. However, a closer look confirms that Maine outperformed the nation on job creation during the last economic cycle, and now enjoys a per capita income at a 50-year high compared to the U.S. average. Shaping all of this, meanwhile, is a dramatic and ongoing restructuring of the economy that has seen Maine's goods-production "super sector" shrink to essentially the same size of

the nation's as a share of employment even as its consumer and business-services sectors have grown. Also shaping Maine's fortunes is the increased organization of key industry "clusters"—groups of interrelated or similar firms in "traded" (or export) sectors such as boat-building, forest industries, information technology, biotechnology, tourism, or agriculture whose success or failure at innovation will determine the state's ability to produce greater numbers of higher-quality jobs over the long haul. These shifts have together allowed the state to add jobs even as traditional industries contracted. But they have so far resulted in modest pay increases (especially in rural Maine). The reason: Many high-paying manufacturing and forest jobs have been replaced by lower-paying consumer services positions given that massive job growth has yet to emerge in good-paying "export" clusters or the professional services sector

- **Once mostly rural, Maine is suburbanizing.** Finally, the conventional view of Maine's development status also needs revising. In the conventional wisdom, Maine remains overwhelmingly rural—a "place apart" from the vast waves of development sweeping much of the Atlantic Coast. However, the standard view does not account for the fact that more than 65 percent of the state—more than 860,000 Mainers—now lives in the 164 towns that comprise Maine's more-populated metropolitan and "micropolitan" areas. Within and beyond this populous metropolitan zone, moreover, dispersed, low-density suburban-style development has become the state's dominant settlement pattern. Overall, just 23 percent of Maine's post-2000 population growth has occurred in regional hub towns. By contrast, 77 percent of recent growth has taken place in surrounding towns, newer emerging towns, and rural areas distant from traditional centers. As a result, the state is converting extraordinary quantities of rural fields and woodlots to residential uses. From 1980 to 2000, for example, Mainers altered the character of 869,000 acres, or more than 1,300 square miles, of rural land—a territory roughly the size of Rhode Island. In the 1990s only Virginia lost a greater share of its rural land than Maine as every region consumed rural territory

2. These changes have brought some benefits to the state—but on balance they pose serious challenges.

These challenges represent urgent problems as the state strives to usher in sustainable growth:

- **Demographic change is raising education levels and may be replenishing the workforce . . . However, many workers remain unprepared for tomorrow's jobs.** In this regard, recent gains in in-migration and higher-education attainment do not change the fact that Maine's aging population includes too few young workers and too few highly skilled or educated people. In the near term, these factors are producing both labor shortages in some areas and low pay for many as more of the best jobs require higher skill levels. Going forward, continuing shortcomings in the size and skill levels of Maine's workforce could complicate efforts to upgrade the state's economy and improve the livelihoods it provides to Maine workers

Economic restructuring is producing quality jobs in emerging innovation clusters . . . However, these clusters remain very small.

- **Economic restructuring is producing quality jobs in emerging innovation clusters . . . However, these clusters remain very small.** On this front, too, the continued progress of Maine's traditional and emerging export sectors and clusters cannot obscure the fact that these industries lack critical mass and are not yet generating large volumes of jobs. To be sure, Maine's more traditional export industries—tourism, healthcare, non-store retailing, and finance and insurance—all slightly outperformed their national counterparts between 2000 and 2004 in terms of job creation. Moreover, this growth and growth in other innovation clusters like boat-building, advanced materials, and biotechnology is producing jobs that pay more than the state average. And yet, despite these gains, many of Maine's most important industry sectors and clusters remain modest in size, populated by few companies, and sometimes very loosely organized. This "thinness" across Maine's most promising sources of good-paying future growth limits the state's prospects for economic progress

- **Recent development patterns are beginning to give some cities and towns new life . . . However, suburbanization is increasing government costs and degrading the state's small towns and environment—its true "brand."** The good news here is that the state's overall quickening growth has brought new population to many of the state's traditional regional hubs—many of which were losing population in the 1990s. But for all that, widespread suburbanization and sprawl are driving up costs and may well be damaging the state's top calling card—its scenic beauty, the feel of its towns, its quality of place. On the cost side, the state's sprawling development patterns necessitated the construction of

more than one dozen new schools statewide in the last decade at a cost of \$200 million—more than one-quarter of the state's total school-capital outlay. Additional costs are being imposed on once-rural towns as new growth requires them to provide more expensive suburban-type services and on households forced to drive farther out to find an affordable home. But what matters even more than these costs is the fact that Maine's development patterns are undermining the state's alluring brand, so important to its current and future economy. Crucial to this brand is the integrity of Maine's distinctive towns and villages and the stunning natural areas that lie between them. Unfortunately, far-flung, often-haphazard residential development is more and more blurring those crisp scenes as it impinges on forests, fields, and waterfronts all around the state

Maine is changing in dramatic, unexpected ways, generating both opportunities and anxiety

| | |
|---------------|--|
| 20 | Number of places Maine moved up in its population growth rank since 2000. Maine's jump from 46th to 26th was the biggest turnaround in the nation |
| 5th | Maine's rank on the rate of per-capita net domestic in-migration since 2000. Only Nevada, Arizona, Florida, and Idaho outpaced Maine's growth on this measure |
| 32,000 | Net number of migrants who moved to Maine from out-of-state between 1999 and 2004. More than half of the new residents came from Massachusetts and New Hampshire |
| 12 percent | Share of Maine employment in goods production. That share is almost exactly the same as the national share |
| 21 percent | Total share of Maine's employment in consumer services. That share exceeds the U.S. average by 6 percent |
| \$13,000 | Difference in average annual wages between higher-paying business services jobs and the average Maine wage |
| 91 percent | Maine's 2004 per-capita income as a percentage of the U.S. average. This matches the state's 50-year high |
| \$300,000 | Median home sale price exceeded by 17 towns in Maine in 2005. Only one town reached this mark in 2000 |
| 77 percent | Percent of population growth between 2000 and 2005 that occurred outside of Maine's regional hubs |
| 869,000 | Number of acres converted from rural to suburban use between 1980 and 2000 |
| 2nd | Maine's rank among states on the loss in share of rural land in the 1990s. Only Virginia converted a larger share of its rural land |
| \$200 million | Cost of 13 new schools built between 1995 and 2005 in response to population dispersal |
| 7th | Maine's rank on K–12 expenditure as a share of total personal income |
| 11.1 | Number of teachers for every school or district administrator in Maine. The state's administrator-to-teacher ratio is ninth-highest in the country |
| 48 percent | Average property tax rate differential between higher-tax regional hubs and fast-growing emerging communities in 2003 |

Source: Brookings analysis of data from: U.S. Census Bureau; Internal Revenue Service; Bureau of Labor Statistics; Bureau of Economic Analysis; Maine State Housing Authority; National Center for Education Statistics; David Theobald, Colorado State University; Philip Trostel, Margaret Chase Smith Policy Center, University of Maine; Matthew Murray, University of Tennessee at Knoxville

3. Exacerbating these problems are at least three serious state-level policy challenges. In each case, shortcomings of state policy—accumulated over many years—must be counted either indifferent or negative influences on the state's chances of shaping a new era of “sustainable prosperity.”

- **An inconsistent economic-development stance over many years has weakened the state's efforts to improve its economy.** Maine has had no shortage of thoughtful leaders and bold ideas on economic development over the years. However, the state has frequently failed to stick to and sustain its ideas, with the predictable result that it has undercut the effectiveness of numerous intelligent but under- or un-funded initiatives that might have otherwise made a larger difference. In this respect, numerous state or quasi-public institutions intended to promote economic development remain small or under-funded, while other promising innovation- and development-finance programs and funds have been under-capitalized. This short-funding has limited the

impact of otherwise valid efforts to grow the state's small economy and enlarge “thin” export and innovation clusters

- **Maine's often-high costs of government and the unbalanced revenue system that supports them hinder the state's ability to promote sustainable prosperity.** On the spending side, Maine's unusually high expenditures on a number of state-level administrative functions as well as on K–12 education are likely squeezing out necessary spending in other areas even as they contribute to high taxes. (For its part, local government appears rather frugal by comparison to national and rural-state norms, though this may be because peer states rely more heavily on county governments that have wider responsibilities. In any case, it is noteworthy that municipal spending on services like police and fire goes up sharply in rapidly suburbanizing areas like Southern Maine—an indication that as sprawl forces growing towns to convert from mostly volunteer to mostly paid staffs the costs of redundant small governments goes up.) On the revenue side, meanwhile, Maine's high state-local

tax burdens and how they fall on various taxpayers may well be contributing to negative economic and land-use outcomes. High overall burdens, the second-highest property taxes in the nation, and the state's low thresholds for its very high personal income tax top rate all may well be sending negative signals to workers, entrepreneurs, and retirees about the state as a place in which to live and do business. Likewise, the wide 48-percent differential between the average property tax rates in regional-hub communities and those in outlying emerging communities serves a significant added spur to sprawl

- **Barriers to development in traditional regional hubs combined with weak local and regional growth management are eroding the state's unique character and contributing to sprawl.** On the one hand, Maine's convoluted state and local construction rules combined with the absence of significant catalyzing investment serve to discourage development in older places and discourage the reuse of historic structures. Along these lines, Maine's crazy-quilt of differing local and state building-code regimes, the orientation of most codes toward new construction, and the variable quality of code interpretation virtually guarantee that most development veers away from the state's traditional centers. It does not help that key state programs aimed at spurring redevelopment are grossly under-funded. On the other hand, Maine's ineffective state and local planning system leaves most Maine localities unable to manage growth and vulnerable to region-scaled sprawl. In this respect, the combination of Maine's intensely localistic planning system and the absence of sufficient support and incentives for municipal and regional planning efforts has left most Maine towns and regions susceptible to sprawl that further weakens town centers and degrades rural landscapes

4. Given these challenges, finally, Maine must seize this moment to make urgent investments in its future that will enhance its distinctive strengths. To guide these investments, "Charting Maine's Future" proposes—and suggests how to pay for—the following "Action Plan for Promoting Sustainable Prosperity in Maine." Three major strategies, each encompassing a number of initiatives, are crucial:

Invest in a place-based, innovation-focused economy.

To foster economic growth, Maine should adopt a two-pronged investment strategy focused both on protecting and enhancing the state's quality of place and spurring business innovation by supporting the emergence of new ideas and vibrant industrial clusters.

To that end we recommend that Maine:

- Establish a \$190-million **Maine Quality Places Fund** to promote the revitalization of Maine's towns and cities; augment land and farm conservation; protect traditional uses of and access to Maine forests, farms, and lakes; and promote high-quality tourism and outdoor recreation given their importance to Maine's economic well-being. The fund could be financed as a revenue bond supported by a 3-percent hike in the state's lodging tax, which is primarily paid by Maine visitors
- Support a \$200-million **Maine Innovation Jobs Fund**, \$180 million of which should support job-creating R&D in promising scientific and technical disciplines, while another \$20 million goes to a new **Maine Cluster Development Fund** to foster the business-led partnerships that catalyze cluster-based job creation through collaborative work on key challenges like workforce development and marketing. Both of these funds would be financed by government efficiency savings located by the Maine Government Efficiency Commission (described below). Candidate areas for investment include:
 - forest products
 - agriculture, organic farming, and specialty foods
 - coldwater aquaculture
 - marine research
 - information technology
 - biotech
 - toxicology
 - advanced composite materials
 - outdoor recreation and tourism

Trim government to invest in Maine's economy and finance tax reduction.

To redirect scarce resources toward the investments it needs to make, Maine should seek cost savings in state and local government that can be applied either to financing the Maine Innovation Jobs Fund and the Cluster Development Fund or tax reduction. Here, Maine should adopt a high-level business plan that demands hard-nosed cost-cutting as well as determined investment.

On the spending side we recommend that Maine:

- Establish a **Maine Government Efficiency Commission** to propose specific reforms to produce between \$60 and \$100 million a year in cost savings in state government through the elimination of structural redundancies and excess administrative overhead. The recommendations would be subject to an up-or-down vote by the Maine Legislature within a specified time period. Savings should be applied entirely to investments in future prosperity and tax reductions
- Fully fund and enlarge the **Fund for the Efficient Delivery of Education Services** to promote voluntary collaborations between schools and districts to reduce K–12 costs
- Reduce its **K–12 administrative expenditures** to the vicinity of the national average of \$195 per pupil, and so save about \$25 million a year
- Appoint a high-level **school district reorganization committee** to substantially reduce the number of school administrative units
- Develop the state’s first-ever state **school capital plan** to ensure that the state’s future investments in construction and renovation are made rationally
- Fully fund and enlarge the **Fund for the Efficient Delivery of Local and Regional Services** to promote voluntary collaborations to reduce service costs
- Support one or two major **pilots in regionalized service delivery** to explore and showcase far-reaching efforts at multi-municipal reorganization and cost reduction. The pilots can be funded by \$1 or \$2 million a year gleaned from the Government Efficiency Commission’s work

On the revenue side we recommend that the state:

- Apply to **property and income-tax reductions** any state-government spending savings located by the efficiency commission that exceed the \$27 million needed to support the innovation and cluster funds as well as the local government pilots. Tax reductions might include, in order of priority:
 - reimbursements to towns with large amounts of tax-exempt property
 - extensions of the homestead and circuit-breaker programs
 - increases in the state’s low threshold for its top income-tax rate
 - reductions in the top income-tax rate
- Explore ways to **“export” tax burdens** onto Maine visitors and non-resident second-home owners



Support the revitalization of Maine’s towns and cities while channeling growth. Finally, Maine needs to tend to how its rules and policies shape communities. To accomplish this, the state should support its investments in place-making by making development easier in its traditional towns and cities and fostering improved local and regional planning.

Concerning redevelopment and revitalization, we recommend that Maine:

- Perfect and champion the state’s **new model building and rehabilitation codes**; support their wide adoption with technical assistance, training, and outreach; and campaign over time for code uniformity
- Create and disseminate as a local option a new **model zoning ordinance** specifically designed to complement and enhance the special value of Maine’s historic, densely built, traditional centers
- Better **fund and use existing revitalization and redevelopment-oriented programs and organizations.**

Three programs in need of bolstering are the Municipal Investment Trust Fund (MITF), the Maine Downtown Center (MDC), and the state’s historic preservation tax credit. Most critically, MITF should garner \$90 million from the Maine Quality Places Fund to support matched grants to communities for catalytic investments in downtown-type infrastructure projects—riverfront parks, sidewalks, public reconstruction projects

Maine should make development easier in traditional towns and cities while doing much more to support and stimulate local and regional planning.

Concerning local and regional planning we recommend that Maine:

- Provide substantial new **visioning and planning resources** to individual towns to help them reach consensus on how they wish to grow, and then implement their vision with ordinances. Funding for these and other planning activities could come from a new **Maine Community Enhancement Fund**, supported by a reasonable \$20 increase in deed recordation fees
- Foster much more **regional planning** by providing grants from the Community Enhancement Fund to groups of towns that agree to plan together. Even bolder collaboration could be encouraged by offering even stronger incentives for towns to actually implement regional growth-management plans. These incentives might include giving priority in the awarding of key state grants and aid flows to towns engaged in cross-boundary planning, or awarding authority for a local-option sales tax to towns that implement truly regional plans

In the end, this report affirms Mainers’ abiding intuition that economic success and quality places matter equally and can be fostered by effective, frugal government. Along those lines, “**Charting Maine’s Future**” concludes that a more prosperous, more sustainable, and ultimately more equitable future can be Maine’s if it sets gridlock aside and moves decisively to invest in its economy and quality places, while taking tough steps to trim government and streamline its land-use and development rules.

Move along these lines and Maine people will achieve a good measure of what they so earnestly desire. ■

AN ACTION PLAN FOR PROMOTING SUSTAINABLE PROSPERITY IN MAINE

ACTION

MAINE QUALITY PLACES FUND

This 10-year \$190 million revenue bond fund will support:

- Community revitalization
- Land and farm conservation
- Access to forests and lakes
- Tourism promotion

MAINE INNOVATION JOBS FUND

Some \$180 million of this \$200-million bond fund—financed by savings located by the Government Efficiency Commission—will support research and development in promising areas like:

- Forest bioproducts
- Biotechnology
- Information Technology
- Organic farming/specialty foods
- Advanced composite materials
- Precision manufacturing

A related Maine Cluster Development Fund of \$20 million will support industry-led partnerships that catalyze job growth through workforce development, network-building, and marketing

FUND FOR THE EFFICIENT DELIVERY OF LOCAL AND REGIONAL SERVICES

An annual stream of \$2 million—derived from savings located by the Government Efficiency Commission—will fully fund this existing program which promotes efficiency through inter-governmental cooperation on service delivery

TAX REDUCTIONS

Savings from the Maine Government Efficiency Commission in excess of \$27 million per year should go toward easing tax burdens through:

- Reducing property taxes
- Lowering the top income tax one-half point
- Increasing the income threshold for the top income tax bracket

MAINE COMMUNITY ENHANCEMENT FUND

Grants will support:

- Full implementation of building code reform
- The Maine Downtown Center
- Better visioning assistance and planning tools for towns
- Incentives for multi-municipal and region-scale planning

HOW TO PAY FOR IT

LODGING TAX

Three-point increase
(\$20 million per year)

MAINE GOVERNMENT EFFICIENCY COMMISSION

A bipartisan commission that will:

- Locate program savings of \$60 to \$100 million
- Propose reforms
- Send proposals to the legislature for an up or down vote

Savings will be invested in economic development activities and tax reduction

DEED TRANSACTION FEE

\$20 increase (\$5 to \$8 million per year)

IMPLICATION:

MAINE'S DEVELOPMENT PATTERNS ARE GIVING MANY PLACES NEW LIFE, BUT WIDESPREAD SUBURBANIZATION IS DRIVING UP COSTS AND THREATENING THE STATE'S "BRAND"

A final major consequence of the state's emerging development reality affects the built environment, both for good and ill.

On the positive side, Maine's new-found status as an attractive destination for migrants is stimulating new real estate demand and new investment throughout the state. Consequently, many towns are experiencing a revival after years of decline.

But while the populations of many traditional regional centers are beginning to grow again, the suburban towns and rural areas that surround them are growing even faster.

Such growth validates the attractiveness of these places, but the resulting reach and low-density tenor of suburbanization is exacting some large costs. Excessive school construction projects, redundant expenditures on service provision, and rising transportation costs—all driven by sprawl—are increasing the pressure on town coffers and family checkbooks. Moreover, the suburbanization of so much of Maine threatens to degrade the very qualities of the state's countryside and settlement areas that make them so appealing. Strip-development along once-scenic roads, development in Maine's forests and agricultural lands, and the threat of residential conversion of working waterfronts all endanger the value of Maine's distinct quality of place—a critical asset for future competitiveness.

These dynamics make current real estate development patterns an even more mixed bag than the dynamics of the state's workforce and industrial-clusters.

RECENT DEVELOPMENT PATTERNS ARE BEGINNING TO REVIVE MANY OF THE STATE'S MORE ESTABLISHED CITIES AND TOWNS

To be sure, recent growth has given a lift to many communities.

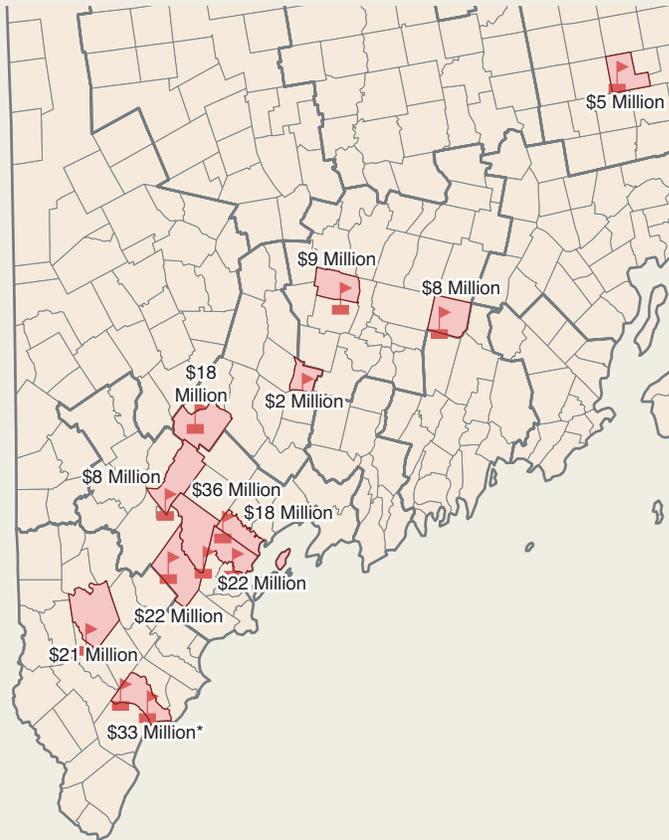
For the first time in years, for example, many of the state's traditional regional hubs are growing again. Part and parcel of the state's overall quickening growth, new population flows have stimulated many of these regional hubs which on the whole have turned large annual losses in the 1990s into larger annual gains since 2000. This trend is evident throughout the state. Rockland, Lewiston, Auburn, Boothbay Harbor, Farmington, Augusta, Brewer, and Dover-Foxcroft are all growing again despite losses in the 1990s. Other towns—like Bangor and Presque Isle—have stabilized after many years of decline. Statewide, these residential and commercial centers are now adding over 2,200 people each year—their fastest growth in over three decades—after losing an average of over 1,800 people per year in the 1990s.

Though Maine's student enrollment declined by 13,000 from 1995 to 2005, five million square feet of additional school capacity was built

| 1995–2005 | |
|--------------------|-------------------------|
| Student Enrollment | -13,000 |
| Space in Schools | + 5 million square feet |

Source: Analysis conducted for Brookings by Michael Moore, Maine Public Spending Research Group

From 1995 to 2005, Maine spent \$200 million on 13 new schools in direct response to population dispersal in four of the state's largest labor market areas



Source: Analysis conducted for Brookings by Michael Moore, Maine Public Spending Research Group

*Two schools were built in Kennebunk at a cost of \$17 million and \$16 million

AND YET, WIDESPREAD SUBURBANIZATION AND SPRAWL ARE DRIVING UP COSTS AND DAMAGING THE MAINE "BRAND"

Unfortunately, the benefits of Maine's recent new vitality are being offset to an extent by the increasing costs of sprawl.

Sprawl's fiscal costs were first illuminated by a 1997 report from the Maine State Planning Office (SPO) entitled "The Cost of Sprawl."³⁴ That study demonstrated the connection between sprawl and three primary cost drivers: the construction of redundant infrastructure to support dispersing populations; the similar expansion of service-provision areas and routes; and the maintenance of old, under-used service capacity.

These problems are not unique to Maine. The link between unbalanced population dynamics and increased fiscal costs has been well documented in the national literature as well in recent decades, with myriad studies showing the fiscal consequences of dispersed development. From the 1970s to today,

In addition, the increased populations in Maine's major cities and towns are giving at least some of these more "urban" locations greater economic and fiscal traction.

A growing concentration of people in and around some of the state's regional hubs is driving new vitality. For instance, taxable retail sales are up in many areas. The Lewiston-Auburn economic area took in nearly \$70 million more in 2005 than 2000 in inflation-adjusted retail sales—a 7.5-percent increase. The Brunswick area posted a similarly strong gain of 6-percent, a real increase of over \$35 million.³³

abundant research—whether focused locally or nationally, in places large or small, in counties urban or rural, in regions old or new—points to a common conclusion: More dispersed patterns of development frequently impose higher infrastructure and service costs on municipal governments and their taxpayers.³⁵

But increased fiscal costs and their impact on tax bills are not the only concern.

Costs to households are also putting the squeeze on Mainers. And beyond that, Maine's scattered development

patterns are placing increased pressure on the state's iconic forests, picturesque landscapes, and down-to-earth towns—all vital components of the state's high quality of place, its true brand. In the long run, the slow degradation of Maine's vivid and distinctive quality of place (and the reputation it supports) may be the greatest cost to Maine of all.

Population dispersal, to begin with, is significantly increasing school construction costs. Though Maine's school population declined by 13,000 students during the last decade, new research conducted for Brookings by Michael Moore of the Maine Public Spending Research Group (MPSRG) suggests that the state's sprawling development patterns between 1995 and 2005 required the construction of more than one dozen new schools statewide at a cost of \$200 million. (To read Moore's full analysis, please visit www.brookings.edu/metro/maine.) To be sure, much of Maine's \$790 million in total K–12 capital spending during the 10 years underwrote not brand-new schools necessitated by sprawl but additions or renovations to existing ones. And yes, some new construction is unavoidable. Nevertheless, of the 42 new schools Maine built between 1995 and 2005, 13 costing \$200 million were constructed in direct response to

population dispersal in four of Maine's largest labor market areas (LMAs): Augusta, Bangor, Lewiston-Auburn, and Portland. In these regions, suburbanization drove enrollments up in outlying towns even as closer-in districts lost students. In response, school boards of the outlying rural and suburban towns used their authority to petition the state for capital spending—regardless of whether there was surplus capacity in neighboring districts. The result: Thirteen new schools, accounting for over one-quarter of the state's capital outlay, were built to serve these regions' decentralizing populations even though sufficient excess capacity already existed in each of the four regions to accommodate the K–12 population.

Who pays for these projects? As a rule of thumb, the state defrays 55 percent of the cost of Maine districts' capital projects, while local school districts pick up 45 percent of the tab. This varies with each district's "ability to pay," but on average over half of the costs—which are driven by local decisions and growth dynamics—are assumed by the state. The bottom line: Everyone pays for Maine's redundant school construction through their state income and sales taxes. For their part, residents in suburbanizing school districts located within sprawling regions pay twice—once through their property taxes (which fund the local component of the schools' costs) and again through their state taxes.

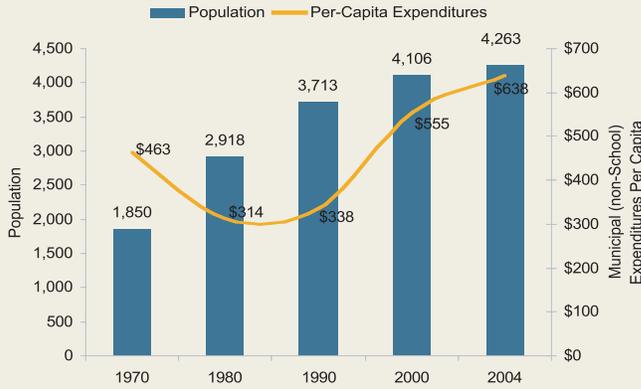
SCHOOL HOUSE COSTS: SCHOOL CONSTRUCTION IN THE AUGUSTA AREA

A closer look at the Augusta area illustrates why Maine spends a lot on school construction even though its school population is declining. In the Augusta region, 14 of the area's 19 school districts experienced enrollment declines as families left older cities and towns like Augusta itself and headed for newer suburbs. In this regard, the Augusta School Department recorded a 495-student loss while five rural districts added 266 pupils.³⁶ In response, two of the five districts that gained students—Maranacook (Readfield) and Windsor—constructed new buildings. The Windsor school district, which picked up 72 K–12 students from 1995 to 2005, built a \$7.9 million 340-student elementary school despite being

only a short distance east of excess capacity in the Augusta school district. Maranacook, which gained 56 K–12 pupils in the 10-year period, built a 400-student middle school for \$8.5 million. That's over \$16 million spent on new schools despite a total loss in the region of 1,500 students. Similar dynamics resulted in 11 other schools being built in the Portland, Lewiston-Auburn, and Bangor regions for a total of \$184 million. Together these schools increased those regions' school capacity by about 7,000 students even as overall enrollment declined. ■

Rapid suburbanization also is driving up the cost of service provision in many towns. On this front, recent research by the New England Environmental Finance Center highlights the strain that growing populations are placing on formerly rural or slow-growing places once the newcomers demand a full slate of suburban-type services and new infrastructure.³⁷ While an increased tax base can actually lower per-capita expenditures early in towns' growth cycles, costs soon shoot up as populations surpass a "suburban" threshold of 2,500 to 6,000 people. At that point, many towns find that the service demands of their growing populations suddenly begin to outpace the capacity of their existing infrastructure and often volunteer staffs. What follows are rising costs, whether it be for a new fire engine or a new clerk. And the

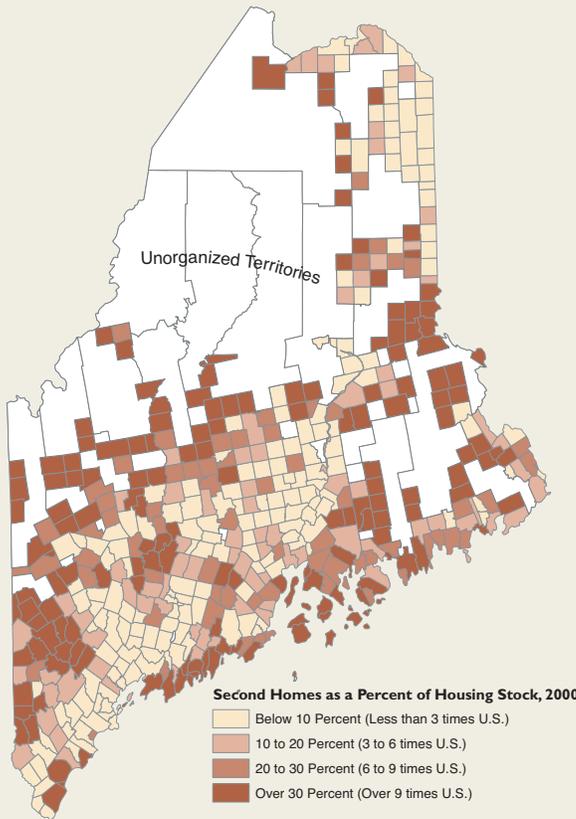
Non-school municipal expenditures per capita in the town of China began rising once the town hit 3,000 people. As more people continue to move in, costs keep rising



Source: New England Environmental Finance Center

impact can be dramatic. Per-capita, non-school related expenditures in the town of China, for instance, dropped from \$463 in 1970 to \$314 as the town grew from 1,850 people to about 3,000 in 1980. Once the 3,000 mark was passed, however, costs rapidly increased and now stand at \$638 per person for today's population of 4,300. In fact, from 1980 to 2004, total per-capita expenditures—including school-related costs—more than doubled: going from \$1,061 to \$2,143. Those who moved to the town in part to enjoy lower taxes were actually driving costs way up. What is more, this trend is poised to continue and spread throughout the state. Maine is now home to 139 municipalities with populations over 2,500 people, up from 109 in 1980. In many of them, taxes will soon spiral.

Maine's nation-leading second-homeownership rate exacerbates the housing affordability challenge in many areas of the state



Source: U.S. Census Bureau

Mainers are also feeling the effects of development patterns in the form of declining home affordability, driven by increased demand. Recent house price appreciation in many coastal towns and some inland areas has added to the pressure on family budgets. Since 2000, rents have risen 30 percent and house prices have climbed 53 percent with even larger increases in coastal and southern Maine. Such dramatic increases far outpace the 10-percent growth of the state's median income over that period, meaning that two-fifths of all renters now face unaffordable housing cost burdens and nearly two-thirds of homeowners are unable to afford the median house price.³⁸ Accordingly, the state's housing affordability index has declined at a rate double the national average between 2000 and 2004.³⁹

While tepid income growth is one component of Maine's housing challenge, the major culprit is a severe

shortage in the affordable stock. The state added only half as many housing units as jobs during the 1990s, and the stock of multifamily housing barely increased due to losses to fire or demolition.⁴⁰ In some labor market areas, rental vacancy rates have fallen as low as one to two percent.⁴¹ And the Maine State Housing Authority estimated in 2004 that Maine would need over 22,000 new units of affordable rental housing in order to accommodate all of the state's low-income renter families.⁴² Rising prices and a limited affordable housing stock leaves many Maine families with only two options: get by with less disposable income by paying more in rent or mortgage costs or move farther away and contribute to the many costs of sprawl.

Contributing to the housing affordability crunch is Maine's high and rising rate of second-home ownership. Overall, nearly 16 percent of all dwellings in Maine—the highest share in the nation—are now designated as second homes.⁴³ In some parts of the state, this share—which rose by nearly a full point in the 1990s—runs even higher. For example, second homes make up more than 20 percent of all the dwellings in almost all of Mid-Coast Maine's coastal towns, and account for 30 percent of the housing stock—nine times the U.S. average—all along a continuous swath of

10 coastal towns from Phippsburg to Friendship. But in any event, rising demand for second homes in areas like the Mid-Coast region is likely complicating some Mainers' efforts to buy or hold onto a first home. Granted, high rates of second-home ownership—70 percent attributable to out-of-staters—bolster the local property tax base without adding to school costs.⁴⁴ But for many households the added demand for real estate in close-in, traditional locations may mostly have the effect of bidding up home prices and sending families further out in their search for affordable housing.

Travel time and transportation costs are also rising due to decentralizing development throughout the state.

Maine's average commute time jumped about 20 percent: from 19 to nearly 23 minutes in the 1990s—the 11th-highest absolute gain in the nation and the second-highest gain in New England, behind only Massachusetts. In terms of distance, the number of miles traveled in Maine continues to rise significantly faster than population growth. To be specific, between 1996 and 2004 the number of vehicle-miles traveled in Maine rose from about 10,300 to 11,400 miles per capita, a 10-percent jump that exceeded the national increase of 7.9 percent.⁴⁶ This rapid increase is hitting families hard at the pump. Using the American Automobile

Association's 2006 driving costs formula, Maine households are now paying about \$1,100 a year more in real terms than they were 10 years ago, a reality that will only get worse as gas prices rise and development trends continue to place people farther away from jobs, places of commerce, and each other.⁴⁷

But Maine also confronts another suite of growth-related problems, because its development patterns are threatening key aspects of its "brand"—one of the strongest in the country. Maine is famous for lobsters and Yankee ingenuity and its work-ethic, for craftsmanship and skepticism. But it's also world-renowned for something else: its distinctive towns and villages and the stunning natural areas that lie between them. These compose Maine's "brand," its true calling card.

DRIVEN OUTWARDS: HOME-PRICE APPRECIATION TURNS THE SPRAWL DIAL

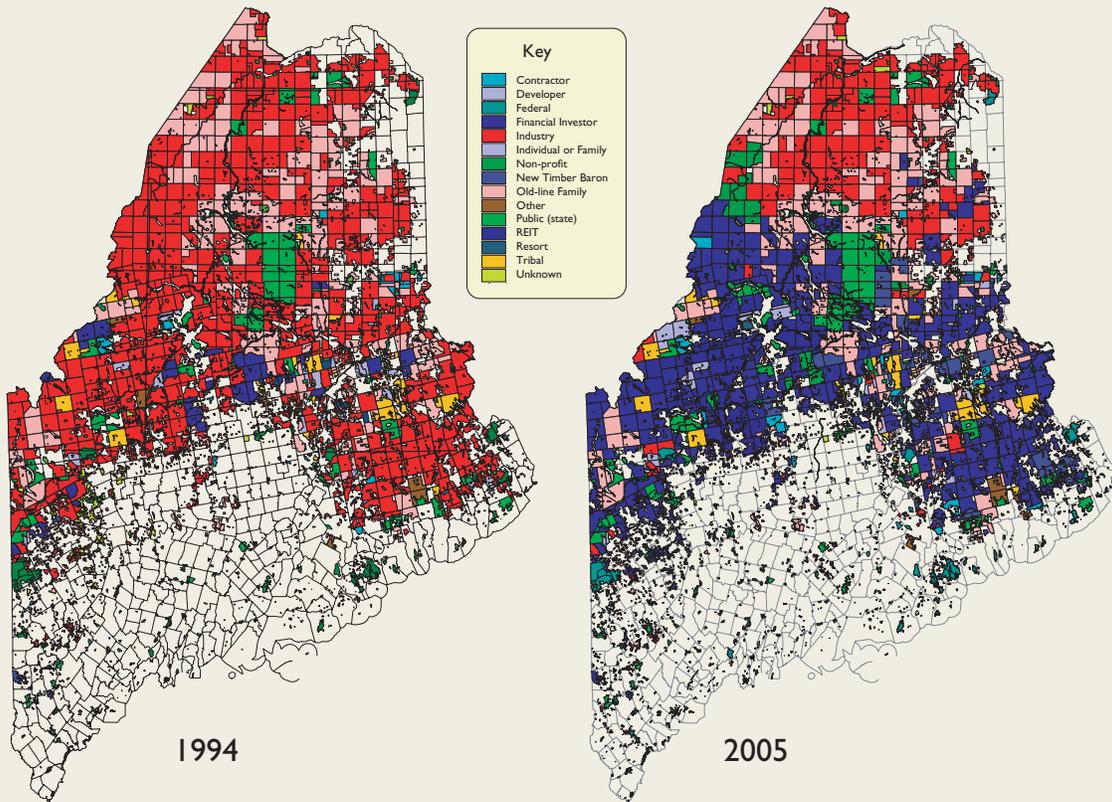
Home affordability pressures in Maine—in addition to straining family budgets—have become a major impetus to sprawl.

Most dramatically, the widening price differentials between super high-cost coastal locations and more moderately priced inland locales are sending moderate-income homebuyers on increasingly far-flung searches for affordable homes, triggering a massive regional sprawl dynamic.

For instance, a family that makes the median state income and that wants to live in Portland would have had little trouble finding an affordable house there in the year 2000,

when median prices were well under 3.5 times the state's median household income.⁴⁵ In 2005, however, that same family needed to drive 40 miles west to Hiram, 39 miles north to Lewiston, or 41 miles northeast to Sabattus in order to find affordably priced housing. The result: Rising house prices, fueled by unbalanced growth within the state and immigration from outside, motivate increasingly decentralized development as more and more families disperse throughout Maine. ■

The share of Maine's forestland owned by financial investors increased from 3.2 to 32.6 percent between 1994 and 2005



Source: John M. Hagan, Lloyd C. Irland, and Andrew A. Whitman. "Changing Timberland Ownership in the Northern Forest and Implications for Biodiversity" (Brunswick: Manomet Center for Conservation Sciences, 2005); James Sewall Company

But talk about Maine's "brand" is not just fancy language. As the mobility of Americans continues to increase, states more and more need a brand—a distinct, captivating appeal that at once establishes a unifying self-image and a competitive promise as they vie for their share of scarce visitors, talent, and income.⁴⁸

Longwoods International, an image branding company focused on tourism, reiterates this necessity, but also highlights a crucial principle: "A brand is not a campaign theme, tag line, or slogan. Instead, it is an expression of a compellingly unique experience."⁴⁹ Nor is that expression solely an aesthetic appeal. A quality brand can bring powerful practical benefits to a place. David McGranahan of the United States Department of Agriculture's Economic Research Service, for example, has found that rural counties high in natural amenities had higher population and income growth than those low in such amenities.⁵⁰ And in urban locales, work by Richard Florida, as well as Clark and others, points to a close connec-

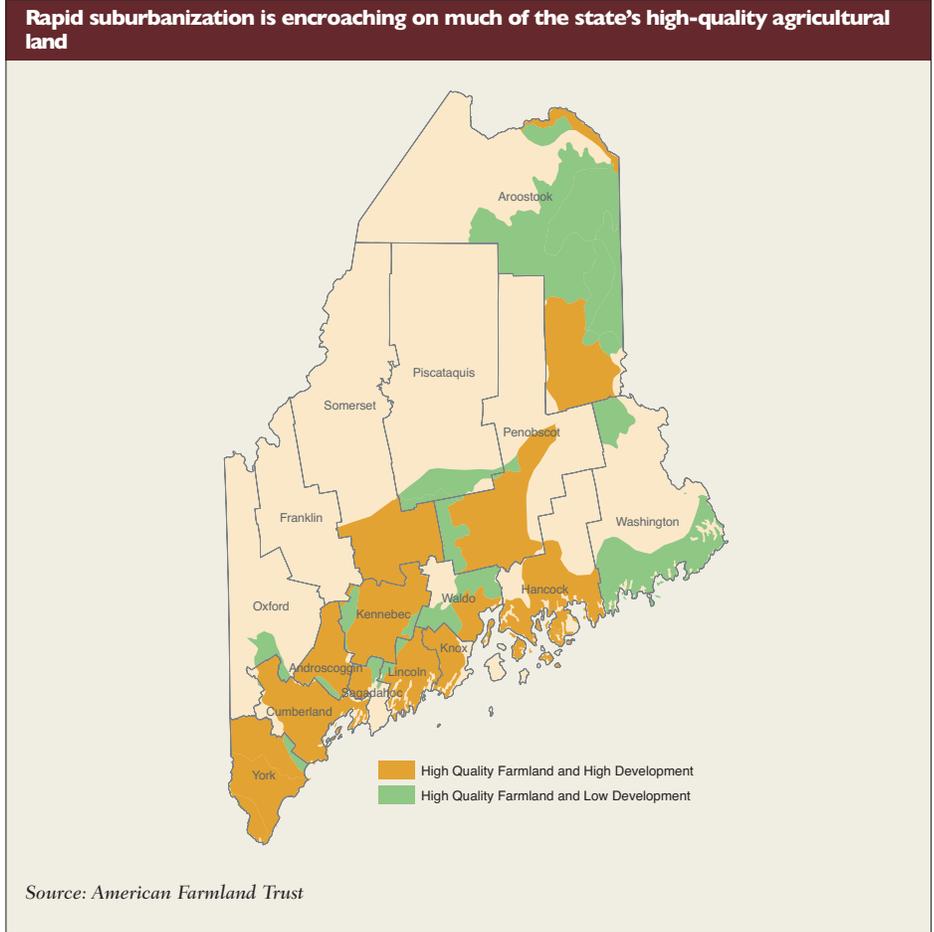
tion between high quality of life, amenities, and population growth.⁵¹ All of which makes it a major problem for Maine that the way the state is growing is slowly degrading key elements of Maine's vivid and unifying sense of place.

Continued rural development and ownership change, in this respect, threatens Maine's famous forests. Huge and almost mythical, the Northern Forest remains a critical element of the state's brand, not to mention the base of \$6.2 billion in economic activity generated by industries ranging from pulp and paper to forest bioproducts.⁵² However, a national USDA Forest Service report on private forests finds that current development patterns place over 700,000 acres of private forestland in the southern quadrant of Maine and in the lower Penobscot River valley under serious threat of increased housing density over the next 25 years, far exceeding threats faced by all other eastern states.⁵³ An added concern is rapid change in private forestland ownership: From

1994 to 2005, the share owned by timber companies—historically excellent land stewards—dropped from 59.2 to 15.5 percent while the share of forestland owned by financial investors rose from 3.2 to 32.6 percent.⁵⁴ Such change raises the prospect—highlighted by the Plum Creek Timber Company’s proposals for developing some of its timberlands around Moosehead Lake—of more Maine forestland being managed for shorter-term real estate or other consumptive uses.

At the same time, suburbanization is encroaching on agricultural land even more rapidly. Currently, the state’s 1 million acres of farm country support a significant \$1.2 billion agricultural industry, as well as provide critical open space to a growing state.⁵⁵ This, too, is part of the Maine mystique.

However, that mystique is being overrun. Recently, the American Farmland Trust reported that the pace of Maine’s losses of prime farmland—that is, the conversion of prime farmland to developed uses—jumped from slightly over 1,300 acres annually between 1987 and 1992 to 3,900 acres per year in the following five-year period. That near tripling of the state’s rate of farmland loss represented the fourth-fastest increase in the nation.⁵⁶ Moreover, the current acceleration of development in Maine is likely to increase the state’s farmland losses. With the exceptions of fields in northern Aroostook County and the southern quarter of Washington County, the vast majority of the state’s top-quality farm property lies within or adjacent to the state’s fastest-growing urban and suburban areas.⁵⁷ That means that as the pace of development accelerates so will the loss of farmland. Already, in fact, land prices measure the pressure, with the demand for new rural housing increasing per-acre farmland values to \$1,850 (farm income per-acre remains stuck at just \$81).⁵⁸ With further encroachment of suburban-style development, a signature Maine industry and land-use will lose some of its vivid presence.



Strong demand for residential development also endangers the stability of Maine’s working waterfronts. These commercial areas matter to Maine’s future not only because they pump at least \$350 million into the Maine economy every year.⁵⁹ Equally important, they contribute incalculably to the distinctiveness of Maine’s brand and ambiance, as they embody a palpable link to Maine’s past, and to the heritage of the coast. And yet, these colorful docklands and harbor zones are under even greater pressure than Maine farms to slide into residential use as the demand for second homes and coastal living in general increases.⁶⁰ This is the case in Cundy’s Harbor, a village of the town of Harpswell, where coastal per-acre land values are between three and 3.5 times higher than interior land values. Property tax burdens are increasing much faster than the income generated from marine-related activities, thus raising the pressure to sell to those interested in converting the waterfront land to residential uses.⁶¹ Beyond the obvious losses of coastal access and

marine industry revenue that ownership transfer threatens to bring, Cundy's Harbor residents are also concerned about the loss of community character, arguing that changes along the coast will create a hodgepodge of buildings and architectural styles that degrade the distinctive aesthetics of the village.⁶² The concerns expressed in Cundy's Harbor stretch the entire coast. From 2000 to 2004, land values jumped an average of 58 percent in 25 coastal towns surveyed by Coastal Enterprises, Inc. Nine of the 25 towns anticipate negative changes to their working waterfronts in coming years.⁶³



Another problem, meanwhile, is the defacement of Maine's scenic corridors. Winding, country roads, tranquil rural byways, and scenic drives are another signature element of Maine life. And yet, that too is going. For example, those driving today along Routes 302 and 4 to the west or Routes 1 and 3 near the coast are now greeted in many locations—not with “life as it should be”—but with the chaotic strip development common to suburbanized areas anywhere in America. What's more, Maine's special places are in some cases being “loved to death” as the ill-managed machinery of tourism—motels, RV campgrounds, parking lots, golf courses, and vacation homes—invades the environs and near-rural landscapes of popular towns.⁶⁴ This combination of scattered development and corridor congestion is slowly degrading another irreplaceable aspect of Maine's brand.

Nor may current growth patterns favor Maine's huge tourism industry and potential as a leading retirement destination. In 2004, over 43 million day and overnight trips were taken in the state, providing a massive economic stimulus to Maine.⁶⁵ It is estimated that tourism generates \$2.5 billion—about seven percent of gross state product—and sustains nearly 70,000 jobs along with \$340 million per year in state revenues.⁶⁶ Likewise, as the number of people age 65 and over continues to increase throughout the state and the entire northeast, many will choose to retire in Maine.

Why do so many visitors seek to spend so much time and money in Maine? Why do so many visitors return for good? According to survey results, the 13 highest-rated Maine attributes all revolved around its abundance of scenic vistas, the high quality of its recreational opportunities, and its charming small towns.⁶⁷ And yet, the way Maine is growing—and the poor management of the demand that Maine's attractions prompts—also threatens to degrade exactly the quality of place that prompted the demand in the first place.

Congestion and scattershot development are spoiling vacation and retirement destinations. Sprawl is impinging on the countryside. And too many of Maine's most vivid towns have been surrounded by bland mass-produced development. None of that bodes well for industries that depend utterly on Maine's fame as a distinctive place defined by what former-Gov. Angus King once called the idyllic contrast between village and countryside, “crisp as a fresh apple, picked on a fine fall day.” ■

The 13 highest-rated Maine attributes in a recent survey of visitors all revolve around its abundance of scenic vistas, the high quality of its recreational opportunities, and its charming small towns.

Financing Infrastructure Improvements through Impact Fees

A Manual for Maine Municipalities on the Design and Calculation of Development Impact Fees

**Maine State Planning Office
January 2003**

What Are Impact Fees?

Impact fees are charges assessed against new development that attempt to cover the cost of providing capital facilities needed to serve the development. Their use has been promoted as a way for growth to “pay its own way” by charging at the beginning for infrastructure needed by new development. Impact fees provide one way to help ensure that existing residents will not bear the cost of new facilities necessitated by the new development.

Impact fees have been developed as an extension of the legal theory that allows local governments to require both improvements on the site of the development and off-site. These improvements, known as “development exactions” have evolved throughout the past 50 years. Originally, courts upheld local government regulations that required developers of property to improve the property in manner that provided direct benefit to the future property owners, such as parks and street improvements. A number of court cases across the country in the early 1960s both struck down and upheld requirements for either off-site improvements or payment of fees in lieu of those improvements. Eventually courts supported regulations that require developers to make a financial contribution to a public fund for offsite improvements, as long as there was a direct relationship between the development and the need for the improvement, and as long as the funds were dedicated for that use. In the early and mid-1970s, a series of cases established a set of principles that guide the development of impact fees.

These court-imposed principles were codified into Maine law when the Legislature enacted the Comprehensive Planning and Land Use Regulation Act of 1987. The statutory requirements for impact fees can be found in Title 30-A MRSA, Section 4354, and will be discussed later in this manual.

How May Impact Fees Be Used?

Impact fees may only be used for financing facility improvements needed due to demand caused by new growth. Impact fees are a method of financing the capital improvements that are required by new development in a community. As such, they may be used to assist a community paying for improvements in sewer, water, public safety, and school facilities that are necessary due to increased demand from new construction in the municipality.

Impact fees may be used for:

- Highway improvements: streets and intersection improvements to increase capacity to handle traffic projected from new development;
- Public safety facilities: new buildings, improvements to existing buildings or new equipment necessary for police, fire or emergency services required by the new demand placed on these services by growth;
- Sewer and water: expansions to sewer and water treatment plants or collection and or distribution systems;

- Parks and open space: the purchase or improvements to public parks, open space and other recreation facilities if those new facilities or improvements are required to serve new residents of the community; and
- School improvements: school construction and improvement projects if those projects are designed to accommodate students living in newly constructed residences.
- Impact fees may not be used to pay non-capital costs, or to pay for improvements required to cure existing deficiencies in public facilities.

Impact fees may not be used for:

- Operations and maintenance: salaries or day-to-day costs of replacing materials used in providing a governmental service;
- Meeting existing deficiencies: replacing portable classrooms, relieving already congested streets; or,
- Facilities not needed to serve new development or which do not benefit new development: improvements that will not serve the new development. There must be a reasonable connection between the need for additional facilities and growth due to new development, and between spending the fees collected and benefits received by the development paying the fee.

How Do Impact Fees Fit into a Community’s Growth Management Program?

One of the guidelines of Maine’s Comprehensive Planning and Land Use Regulation Act is for municipal comprehensive plans to “develop a capital investment plan for financing the replacement and expansion of public facilities and services required to meet projected growth and development.”² As one source of financing for public facilities, a locally adopted impact fee can be an integral part of a municipality’s capital investment plan.

In the development of the capital investment plan, potential sources of financing for the needed improvements should be identified. Those investments that are projected to be required due to growth pressures on public facilities or services should be identified separately from those that are replacement of obsolete equipment and old facilities, or which are needed to remedy today’s deficiencies in service. A municipality may consider impact fees as a source of financing for those improvements that are needed due to projected growth.

If the needed facility or equipment will not be serving the entire community, then an impact fee may only be collected from the developing properties that will be provided some benefit from the new or improved facility. In a situation such as this, where an impact fee will be collected on new development in only one part of town, the fee may cause a shift in the location of new development. This shift should be considered in the community’s assessment of whether an impact fee is an appropriate financing tool.

Legal Requirements for the Development and Adoption of Impact Fees

Throughout the nation, as cases challenging impact fees have been decided, the courts have established a principle known as the *rational nexus test* for determining the legitimacy of an impact fee.

The rational nexus test consists of three requirements to assure the fairness of a fee:

- The expansion of the facility and/or service must be necessary and must be caused by the development;
- The fees charged must be based on the costs of the new facility/service apportioned to the new development;

- The fees must benefit those who pay; funds must be earmarked for a particular account and spent within a reasonable amount of time.

The Maine law that addresses a community's ability to develop, collect, and spend impact fees was written with the national body of case law in mind. Maine's impact fee statute, Title 30-A MRSA, §4354, was enacted in 1987 as part of a package of statutory changes that updated the state's planning and land use laws. A complete copy of the statute can be found as Appendix A. A summary of the statutory requirements is provided below.

The statute allows an ordinance enacted under a community's home rule authority to require the construction of off-site improvements or the payment of impact fees instead of the construction. An impact fee may be collected either before or after completing the infrastructure improvement.

The statute lists a number of types of facilities that may be financed through impact fees, but is clear that a municipality is not limited to only those listed. Included in the statute are:

- Waste water collection and treatment facilities;
- Municipal water facilities;
- Solid waste facilities;
- Fire protection facilities;
- Roads and traffic control devices; and
- Parks and other open space or recreational areas.

The statute requires that the amount of a fee must be reasonably related to the development's share of the cost of infrastructure improvements made necessary by the development, or reasonably related to the portion or percentage of the infrastructure used by the development.

Funds received from impact fees must be segregated from the municipality's general fund and may be used only for the infrastructure construction or improvement project for which they were collected.

A reasonable schedule must be adopted for the use of the funds in a manner consistent with the capital investment component of the comprehensive plan. The municipality must refund impact fees, or the portion of impact fees, that exceed the municipality's actual costs or that were not expended according to the schedule.

Parks and Open Space Impact Fee

In order to use this template, a community must have gone through a planning process to identify the desired acreage of parks and open space per 1,000 residents. Do not use this template without having determined the desired level of service for this type of public facility. It is important to note that this template uses only the cost of purchasing land for calculating an impact fee. It has been developed in order to provide funds for the general purchase of land for parks and open space, without the necessity of having a specific purchase or park development in mind. The costs of improving raw land into usable park space are not included. If a community has progressed far enough along in its park and open space planning process that it has a specific improvement in mind then the estimates of these costs could be included.

Additionally, though this template may be used for calculating the impact fee for future purchases of park and open space land, if the community has an existing deficiency of park and open space land (i.e. it is not currently meeting its desired number of acres per 1,000 population), then funds from impact fees should not be expended until the community has made up the deficit. The ordinance that establishes the impact fee program should specify that the funds collected through impact fees should be set aside until the specified number of acres to eliminate the current deficit has been purchased.

In order to use the Parks and Open Space Impact Fee Template, the user must have access to the following information:

- The desired level of service (number of acres per 1,000 population) the community would like to maintain.
- The expected average cost per acre for purchasing park and open space land to the community. If the community expects to receive funds other than from local property taxes, these funds must be subtracted from the cost of the land.
- The term and expected interest rate for any borrowing anticipated to purchase park and open space land.
- The expected impact on the tax rate of such debt.
- The average valuation of new homes in the community, by type and size of housing unit.

Model Template for Parks and Open Space Impact Fees

| | | | | | | | | | | |
|--|--|----------------------------------|-------------------------------|---|---------|---------|-------------|---------|---------|---------|
| | Desired Acres per 1,000 pop <value> | Average cost per acre <value> | Cost per 1,000 pop #VALUE! | Cost per person #VALUE! | | | | | | |
| Average Household Size by Type of Dwelling Unit | | | | | | | | | | |
| Detached Single Family | | | | Attached Single Family and Multi-Family | | | Mobile Home | | | |
| | 2 BR | 3 BR | 4 BR | 5+ BR | 1 BR | 2 BR | 3 BR | 1 BR | 2 BR | 3 BR |
| | 1.58 | 2.57 | 3.02 | 3.08 | 1.17 | 1.85 | 2.14 | 1.39 | 1.93 | 3.29 |
| Unadjusted Impact by Type of Dwelling Unit | | | | | | | | | | |
| | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! |
| Credit for Taxes paid on Open Space Debt, 1st year | | | | | | | | | | |
| Avg Value | <value> | <value> | <value> | <value> | <value> | <value> | <value> | <value> | <value> | <value> |
| Mil Rate for Debt | <value> | <value> | <value> | <value> | <value> | <value> | <value> | <value> | <value> | <value> |
| Tax per year | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! |
| Taxes in 20 yrs | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! |
| PV of 20 yr tax | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! |
| Adjusted Impact | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! |
| Proposed Impact Fee | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! |

Instructions for the use of this Template

In order to use this template, a community must have gone through a planning process to identify the desired acreage of parks and open space per 1,000 residents. Do not use this template without having determined the desired level of service for this type of public facility. If the community has an existing deficiency of park and open space land (i.e., it is not currently meeting its desired number of acres per 1,000 population), then funds from impact fees should not be expended until the community makes up the deficit.

All data required are marked by bold headings and grey <value> cells in the Microsoft Excel worksheet. As the values are entered, the “#VALUE!” errors will be replaced with the calculations. You only need to enter values for the types of uses to which the impact fee will apply.

Enter the desired number of acres per 1,000 residents and the expected average cost per acre to purchase park and open space land. *The template will calculate the expected cost per 1,000 population and per person.*

Average Household Size by Type of Dwelling Unit presents data derived from the 1980 Census of Population Public Use Microdata File. Though somewhat out of date, they are the best benchmarks that are publicly available and may be used unless more recent reliable information is available. These data represent the average household size in newly built (less than five years old) units and are shown for detached single family dwellings, attached single-family and multi-family dwellings, and mobile homes with different numbers of bedrooms. Other data should only be used if a community has done more recent research at a local level.

The Unadjusted Impact by type of dwelling unit is based on the community’s desired level of service, its expected cost per acre and average household sizes. *This will be calculated for the user in the spreadsheet program.* If the community does not plan on borrowing funds for the purchase of park and open space land, the proposed impact fee is in the table below. The “unadjusted impact” has been rounded down to the closest \$50.

| | Proposed IMPACT FEE by Type of Dwelling Unit if No Loans for Land Purchase | | | | | | | | | |
|---------------------|--|---------|---------|---------|---|---------|---------|-------------|---------|---------|
| | Detached Single Family | | | | Attached Single Family and Multi-Family | | | Mobile Home | | |
| | 2 BR | 3 BR | 4 BR | 5 BR | 1 BR | 2 BR | 3 BR | 1 BR | 2 BR | 3 BR |
| Proposed Impact Fee | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! | #VALUE! |

If the community will be borrowing funds to purchase park and open space land, then the impact fee must be adjusted to account for future tax payments for the debt service.

The template adjusts the impact fee for the present value of future payments of taxes to support the debt service for the new facilities. Avg Value reflects the average assessed value of each type of housing unit. These values should be developed with assistance from the assessor. This figure should reflect the average value of new housing units, not of all housing units in the community.

Mil Rate for Debt reflects the projected impact on the municipal tax rate from debt service incurred for park and open space land. This figure is usually prepared by the municipal treasurer in preparation for borrowing funds. If not, it can be derived by dividing the average debt service by the projected total valuation for the municipality.

Tax Per Year is based on the estimate of the impact of debt service on the borrowed funds on the taxes paid by new development. It is the product of the Mil Rate for Debt times the Avg Value. *This will be calculated for the user in the spreadsheet program.*

Taxes in 20 yrs reflects the amount of taxes to be paid over the assumed term of the borrowing. The length of time may be adjusted to reflect the term of the bonds or other debt by changing the “20” in the formula to the length of the debt. *This will be calculated for the user in the spreadsheet program.*

PV of 20 yr tax is the present value of 20 annual contributions of the estimated tax payment, based on a 5% interest rate. In the template, the formula is presented as PV(0.05,20,-B15) where 0.05 represents the interest rate (5%), 20 represents the term of the financing and B15 represents the annual taxes paid. The first two numbers in the formula may be changed to reflect the expected interest rate and term of the financing. *This will be calculated for the user in the spreadsheet program.*

Adjusted Impact is the difference between the calculated impact fee and present value of the tax payments. If adjusted impact fee is less than zero, no impact fee should be paid. *This will be calculated for the user in the spreadsheet program.*

Proposed Impact Fee is the adjusted impact fee rounded down to the nearest fifty dollars. If the suggested impact fee is less than \$0, “#NUM” will be returned as the proposed fee — no fee should be paid. *This will be calculated for the user in the spreadsheet program.*

Credit for Taxes on Debt must be adjusted in each year of the impact fee program to reflect the taxes paid as vacant land or an unimproved lot for the years prior to construction and taxes to paid in the remaining years of the bond.

**Appendix D
Density Transfer Charges**

Excerpt taken from pages 4-6 of the Maine State Planning Office’s report, “Transfer of Development Rights and Related Considerations: A Report to the Community Preservation Advisory Committee.” Prepared for Maine State Planning Office by Rothe Associates, Kent Associates, and Charles Colgan. July 2004.

There are several alternatives to TDR that may be just as effective as TDR, and may be better suited to conditions in Maine.

Density Transfer Charges

Explanation. A density transfer charge (DTC) allows developers to exceed pre-established density thresholds by paying a density transfer charge to the municipality. In a DTC program, the community does not have to designate sending and receiving areas ahead of time, although it may choose to do so by specifying those areas and rates by ordinance. The areas and rates are negotiated and contracted on a case-by-case basis or through a pre-established ordinance provision, based on the capacity of existing or planned infrastructure and phasing of the development and the overall acceptable density of development in the area. The community is normally obligated to use proceeds from the charges to acquire land, development rights, or easements to preserve designated areas from future development. In exchange for the proceeds, the developer would be allowed to exceed the pre-established density.

The town might choose to use the funds to purchase land, development rights, or easements in rural, or critical rural areas, identified in its comprehensive plan or a more detailed open space plan. It might also seek to use the funds to leverage other funds (Land for Maine’s Future, local or regional land trusts, or private donations) to acquire these properties, development rights, or easements.

Berthoud, Colorado (population 4,800) charges a density transfer fee that applies to additional housing units permitted as a result of rezoning undertaken at the request of a developer. The fee is \$3,000 per single-family dwelling, and \$1,500 per multi-family dwelling. As of 2002, the town has approved three subdivisions, with a total of 313 dwellings subject to payment.

The DTC is essentially a TDR program with one buyer and one seller of development rights (the town).

Advantages:

- It is a fairly simple program to understand, adopt and administer;
- Open space preservation is funded by development proceeds rather than tax dollars;
- It directs growth to designated growth areas where infrastructure already exists or is planned;
- Depending on how the charge is established, it can avoid controversies that can arise from designating sending and/or receiving areas;
- The fee is strictly voluntary. Developers can build at current density requirements without the fee;
- It is more flexible than TDR; and
- The community can direct preservation efforts to specific parcels (in a free market TDR program without a TDR bank, the developer chooses where to purchase development rights within the receiving area).

Disadvantages:

- The rezoning process can be contentious (neighbors may object to increased density thresholds on either a case-by-case basis or as part of adoption of an ordinance that establishes appropriate areas and charges);
- Development charges may not generate adequate revenue to acquire land, development rights, or easements elsewhere in the community or region;
- If done on a case-by-case basis, rather than as part of an ordinance provision, the charges may be challenged as arbitrary or inequitable, if different rates are negotiated for different developments. If rates are too high, the community might be challenged for exercising monopolistic authority. In addition, the incentive offered the developer may not be enough to overcome the risk of unspecified cost or time to conclude negotiations.

Appendix E Gorham Density Transfer Overlay District

Taken from Town of Gorham, Maine's Zoning Ordinance (7/16/07)

SECTION XVIII – DEVELOPMENT TRANSFER OVERLAY DISTRICT¹

A. PURPOSE

The purpose of the Development Transfer Overlay District is to create livable, walkable neighborhoods in areas of the community where public sewerage is available or planned while minimizing development in other areas of the community where intensive development is not desired. This will be accomplished by allowing well-planned, higher density residential development in designated areas with public sewerage in exchange for the payment of a development transfer fee. The development transfer fee will be used by the Town to purchase conservation land and/or easements and open space.

B. APPLICABILITY

The provisions of this overlay district are optional. A land owner within the overlay district may choose to develop in accordance with the provisions of this overlay district or the provisions of the underlying zoning district. If the owner chooses to develop in accordance with these provisions, all subsequent development on the parcel shall then be subject to these requirements.

The provisions of this overlay district may only be utilized by new residential subdivisions or projects that are subject to site plan review and that meet all of the following provisions:

- 1) The development is located within the Development Transfer Overlay District as shown on map of the Development Transfer Overlay District adopted by the Town Council as part of the Official Zoning Map;
- 2) The development will be served by public water and by the public sewerage system of the Town of Gorham and all buildings with plumbing facilities within the development will be connected to the sewer system; and
- 3) The owner or developer will pay a development transfer fee in accordance with the provisions of E.1.

The provisions of this district supplement and modify the provisions of the underlying zoning district. Where the provisions of the overlay district differ from or conflict with the provisions of the underlying district, these provisions shall govern if the property owner has chosen to develop in

¹ Amended 9/5/06

accordance with the overlay district provisions. The plan of any development approved in accordance with the overlay district must include a plan note stating that the plan was approved in accordance with the Development Transfer Overlay District, that a development transfer fee will be required to be paid prior to the issuance of the building permit for each dwelling unit in the development, and that all future development of the original parcel or lots created as part of the approval must be done in accordance with the provisions of the overlay district.

The provisions of the overlay district only apply to subdivisions and other developments approved in accordance with the overlay district and may not be applied to a lot(s) that is not located within a subdivision that was approved and developed in accordance with the provisions of the overlay district including the following:

- 1) lots within a subdivision that was approved prior to the effective date of this section,
- 2) lots in a subdivision that was approved and developed in accordance with the provisions of the underlying zoning district, or
- 3) lots that are not part of a subdivision.

C. PERMITTED USES

Only uses allowed in the underlying zoning district shall be permitted in the overlay district. Uses that are permitted uses in the underlying zoning district remain permitted use and uses that are special exceptions in the underlying zoning district remain special exception uses.

D. SPACE STANDARDS

The following space standards apply to the subdivision or project and to the lots within the subdivision based upon the underlying zoning district.

| Standard | If the underlying zone is any district other than Rural | If the underlying zone is Rural |
|--|---|--|
| Minimum net acreage per dwelling unit | 6,000 sq. ft. | 9,000 sq. ft. |
| Minimum lot size: - one-family dwelling - two-family dwelling - multi-family dwelling or apartment - non-residential use | 8,500 sq. ft. 15,000 sq. ft. 20,000 sq. ft. 15,000 sq. ft. | 12,750 sq. ft. 22,500 sq. ft. 30,000 sq. ft. 15,000 sq. ft. |
| Minimum street frontage: - one-family dwelling - two-family dwelling - multi-family dwelling or apartment - non-residential use | 75 feet 100 feet 120 feet 100 feet | 75 feet 125 feet 150 feet 100 feet |
| Minimum front yard for one and two-family dwellings: - access or sub-collector street or private way - collector street or service road - arterial street | 15 feet 30 feet 70 feet | 15 feet 30 feet 70 feet |

| Standard | If the underlying zone is any district other than Rural | If the underlying zone is Rural |
|---|---|--|
| Maximum front yard for one and two-family dwellings: - access or sub-collector street or private way - collector street or service road - arterial street | 25 feet* none none | 25 feet* none none |
| Minimum front yard for multi-family dwellings, apartments and non-residential uses: - access or sub-collector street or private way - collector street or service road - arterial street | 20 feet 30 feet 70 feet | 20 feet 30 feet 70 feet |
| Minimum side and rear yards: - one-family dwelling - two-family dwelling | 10 feet 15 feet | 10 feet 15 feet |
| - multi-family dwelling, apartment, or non-residential use | 30 feet or height of building whichever is greater | 30 feet or height of building whichever is greater |
| Maximum building height | None | None |

E. PERFORMANCE STANDARDS

In addition to the performance standards of Chapter II, all new subdivisions and developments that are approved in accordance with the provisions of the Development Transfer Overlay District must conform to the following performance standards. If these standards conflict with the performance standards of the underlying zone, these standards apply.

1. Development Transfer Fee and Calculations

- a) Calculation of the Fee – The development transfer fee that must be paid by a subdivision or development shall be based upon the number of “bonus units” included in the approved subdivision or development plan. “Bonus units” are approved dwelling units in excess of the number of dwelling units that could be built on the site in accordance with the provisions of the underlying zone.

The number of “bonus units” shall be determined by the Planning Board as part of the approval of the subdivision or site plan. The number of bonus units shall be calculated by determining the maximum number of dwelling units that could be developed on the site based on the underlying zoning, site conditions, and allowable density bonuses and subtracting those units from the number of approved dwelling units.

The maximum number of dwelling units allowed in the underlying zone shall be calculated as follows:

- 1) If the underlying zone has a maximum density provision based upon net residential density or net acreage per dwelling unit, the maximum number of units allowed under the underlying zoning shall be calculated based upon this requirement and calculated by dividing the net acreage of the area proposed to be subdivided by the per unit factor, plus any additional units allowed in the underlying district for the use of public sewerage and/or public water.
- 2) If the underlying zone does not have a maximum density requirement based upon net residential density or net acreage per dwelling unit, the maximum number of units allowed under the underlying zoning shall be determined by multiplying the gross acreage of the area proposed to be subdivided by sixty-five percent (65%) to allow for access and unusable land and then dividing the resulting net area by the minimum lot size for one family dwellings or the minimum lot area per dwelling unit for two-family dwellings or multifamily housing plus any additional units allowed in the underlying district for the use of public sewerage and/or public water.

The total development transfer fee for a subdivision or project shall be calculated by multiplying the number of “bonus units” determined by the Planning Board times the per unit Development Transfer Fee established by the Town Council.

- b) Payment of the Fee – The total development transfer fee for the subdivision or project shall be divided by the total number of approved dwelling units in the subdivision or project to determine the development transfer fee for each dwelling

unit. The per dwelling unit development transfer fee shall be paid to Town at the time of the issuance of the building permit for each dwelling unit in the project.

- c) Use of the Fee – Development transfer fees collected by the Town shall be deposited into a separate account and must be used only for acquiring the fee in or conservation easements on potentially developable land in areas where the Town desires to discourage growth in accordance with the priorities set forth below.

Any land acquired with development transfer fees must be permanently restricted from development and be used for conservation, passive and/or active recreation, and open space purposes. Development transfer fee revenue may be used in conjunction with other Town funds, impact fee revenue, or other private or government funding to acquire land or easements provided that the intent of this section is met.

The Town Council shall be guided by the following priorities in acquiring land or development rights/conservation easements with the development transfer fees:

- land that is adjacent to Town-owned recreational facilities or open space that is consistent with that use
- land that is adjacent to the Presumpscot or Little Rivers
- land that is currently in agricultural or silvicultural use and will remain in agricultural or silvicultural use
- land that is adjacent to land that is in agricultural or silvicultural use and that is permanently protected from development
- land with significant historical or archeological value
- land that has significant natural resource value but that is developable
- land within the viewshed from the top of Fort Hill toward Mount Washington with a priority for those parcels closest to the top of the hill
- land adjacent to or visible from arterial and rural collector roads in areas that are zoned Rural or a future low-density equivalent

- land that maintains the integrity of unfragmented habitat blocks
- other land that is identified as open space or conservation land in the Town's Comprehensive Plan including land adjacent to the principal approaches to Gorham

2. Design Standards

All subdivisions and other developments are subject to the provisions of A. 6) of Chapter II. Section IV – Residential and the plan shall show how these criteria will be addressed.

3. Additional Standard for One and Two-Family Lots

If a subdivision approved in accordance with these overlay provisions contains individual lots that will be developed with one or two-family dwellings, the layout of those lots should be deeper than they are wide to provide a suitable, private rear yard. At least eighty percent (80%) of lots within the subdivision that will contain single-family or two-family dwellings must have an average lot depth that is at least one hundred forty percent (140%) of the lot width as measured between the side lot lines of the lot at the rear of the required minimum front yard.

4. Access Limitations

Access to subdivisions or developments shall be designed to minimize the number of entrances onto arterial or collector roads. Direct vehicular access to individual lots or uses from existing roads classified as arterials, collectors or sub-collectors shall not be allowed unless the Planning Board finds that there is no reasonable alternative access.

5. Open Space

A portion of any new subdivision or project with more than ten lots or units must be set aside within the development and permanently protected as open space to serve the residents of the project. This requirement is in addition to any requirement for the payment of a recreational facilities or open space impact fee. The total combined area of the open space set aside within the subdivision shall be a minimum of ten percent (10%) of the gross area of the parcel. This open space must include an area of usable land as defined by the net acreage provision that is at least five percent (5%) of the total net acreage of the parcel (For example, if the net acreage of the parcel is twenty acres then at least 5% or one acre of the open space must be usable land).

The required open space within the subdivision or project may be used for the following types of uses:

- formal open spaces such as greens, commons, and parks
- passive recreation areas
- natural resource or conservation areas

At least fifty percent (50%) of the required usable land within the open space shall be developed for formal spaces or recreation facilities. The Planning Board may waive or reduce this requirement if it finds that, due to the scale of the development, compliance with this requirement will not result in usable open space.

6. Parking Lot Locations

Parking lots for five or more vehicles to serve multi-family housing, apartments, and non-residential uses shall be located to the side or rear of the building where feasible. No parking lots for these uses shall be permitted in the required front yard area.

Density Transfer Fee: A Fee in Lieu of a Transfer of Development Rights (TDR) Program

From <http://design.asu.edu/apa/proceedings01/PELL/pell.htm>

BY [Mike Pelletier](#)

The Town of Berthoud, Colorado has a population of almost 5,000 people. It is located between Denver and Fort Collins in an area that continually gets rated by major magazines as one of the top 100 best places to live in the United States. Although historically an agricultural town, it is under tremendous growth pressure. The Town is trying to preserve its small town charm and its agricultural heritage by maintaining surrounding productive farmland.

A conventional TDR program was considered to help pay for the needed preservation dollars. However, due to limited budget and staff, it was deemed too complicated to design and implement. The main concern was the effort required and feasibility of actually creating a robust market with competitive pricing for the TDRs. Charging a fee in lieu of a TDR program was determined to be far easier. The fee method also has the benefit of providing more control over exactly where preservation dollars are spent. This is especially important since certain farms are more important to preserve than others and not achieving preservation of the entire targeted area is a very real possibility.

The Town refers to the fee as a density transfer fee. It is collected upon issuance of a building permit for a new dwelling unit that was made possible by a Town upzone (a rezone that allows higher density). The fee is calculated in conjunction with subdivisions and credits are given for prior density allowed on the property and for every acre of qualifying open space provided. The proceeds are spent to purchase existing development rights from surrounding farm property in accordance with Town's land use plan. Thereby completing the transfer of units from farmland to Town. ([Ordinance](#))

For example, the owner of a 100-acre property with county zoning density can build 20 homes. It is then annexed into town and given an upzone. The developer receives approval for a subdivision with 400 homes and 20 acres of qualifying open space. The fee would be then calculated as follows. The base fee in Berthoud is currently \$3,000 per house, in this case multiplied by 400 homes totals \$1,200,000. From this figure credits are subtracted: 20 for prior allowed density and 20 for qualifying open space. Each credit is equivalent to one home, thus 40 credits times \$3,000 equals \$120,000. This credit is subtracted from \$1,200,000 creating a total of \$1,080,000 due from the subdivision. Dividing this total by 400 homes equates to \$2,700 due with each building permit. These dollars are then spent on purchasing development rights from surrounding farms. Grants and matching dollars are also sought in order to leverage Berthoud's agricultural preservation and open space fund. ([Density Transfer Fee Calculation Guidelines](#))

While this fee is easier to design and implement than a TDR program, the difficulty

comes in determining the appropriate and defensible fee for your area. Enclosed is a separate page showing how Berthoud approached this task. The assistance of a local land appraiser is probably a necessity. This process is similar to setting impact fees for schools, parks, etc.

The density transfer fee is different from an open space impact fee, since it applies only to property that receives an upzone from the Town. The difference in justification in turn leads to a difference in the justifiable amount of the fee. Since courts have upheld traditional TDR programs to date, the density transfer fee may provide an attractive alternative to an open space fee that uses the standard rational nexus approach. Berthoud's density transfer fee was started in March of 2000 and has not been challenged. For added security, the Town's standard annexation petition states that the petitioner agrees to pay the fee.

Since the fee is applied at the time of pulling a building permit, it will likely be paid by the homebuilder or homeowner rather than the developer. Depending on the market, the majority of the fee will be passed onto the homeowner rather than cutting into developer's profits. While the density transfer fee is justified by a additional residential density from the Town (i.e., upzone) it has the negative effect of raising home prices, as do other actions by the Town that improve quality of life.

The Town of Berthoud has decided that a development pattern of compact urban density surrounded by farmland outweighs the initial higher home prices caused by the fee. This development pattern will help maintain the small town charm and agricultural heritage, as well as lower infrastructure costs compared with sprawling large lot development. Monies will start to be collected from the fee in the spring of 2001 and several conservation easements are currently pending using money from other sources.

Author and Copyright Information

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Density Transfer Fee (Ordinance)

ORDINANCE NO. _____

AN ORDINANCE CREATING A FEE AND ESTABLISHING A FUND TO PROVIDE FOR THE TRANSFER OF DEVELOPOMENT UNITS FROM AGRICULTURAL AREAS TO THE TOWN OF BERTHOUD, LARIMER AND WELD COUNTIES, COLORADO.

WHEREAS, pursuant to Section 31-23-301(3), C.R.S., which grants to the Town of Berthoud as a statutory municipality the power and authority to promote the health, safety and general welfare of the community by regulating, among other things, the percentage of a lot that may be occupied, the size of open spaces, the density of population, the location and use of buildings, structures and land for trade, industry, residential or other purposes; and,

WHEREAS, the upzoning of real property after it is annexed to the Town has an immediate and significant positive impact on the fair market value of the property;

WHEREAS, a program that transfers development units directly from sending areas to receiving areas via sales between private property owners requires significant administrative cost and effort for both the Town and developers;

WHEREAS, the purpose of the fee is to simplify the transfer of development units to the Town of Berthoud from agricultural lands in the surrounding the area;

WHEREAS, the fee in lieu of a private transfer of development units allows the Town of Berthoud to target where development units are purchased, thus controlling the quality not just the quantity of the transfers;

WHEREAS, the process of developing acreage into residential, commercial and industrial lots necessarily removes land from agricultural uses and open space; and,

WHEREAS, it is incumbent upon the Town to ensure the logical and economical growth of the various physical elements of the Town, in a manner which promotes efficient use of the Town's infrastructure; and,

WHEREAS, the Town is charged with the responsibility of protecting the environmental assets of the Town while ensuring quality development that will preserve and enhance the quality of life for the residents of the Town; and,

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, LARIMER AND WELD COUNTIES, COLORADO:

Section 1. Density Transfer Fee.

Section 30-10-110 is hereby added to the Town of Berthoud Development Code.

A. There is hereby implemented a fee to provide for the purchase of residential development units from agricultural areas, environmentally significant areas, and community separator areas to the Town of Berthoud. This may be accomplished by the purchase of the property in fee title or through restrictions on development or conservation easements or any combination of these or other rights, which would preserve or promote the open space aspects of the real property.

B. The preservation of open space and agricultural areas primarily benefits the residents of the community with minimal impact upon or benefit to commercial or industrial users and is therefore applicable only to residential developments.

C. A re-zoning of land from either a residential, agricultural, or transitional zoning district to a district that allows a higher residential density triggers payment of the fee. The total fee for a subdivision will be determined at the final development plan stage and then allocated to each unit for payment with the building permit. The total fee will be the sum of the total number of units in the final development plan, minus credits earned as listed below:

1. One single-family unit credit is given for each single-family unit allowed by right with the prior County zoning or Town zoning if applicable. Multi-family credit can be earned in a similar manner. When calculating allowable prior zoning density, gross acres will be used. This will be measured using the centerline of exterior roads and will include all areas except for water bodies, floodplains, and area for road right-of-ways.

2. For every acre of permanent open space provided in the subdivision, one single-family unit equivalent credit is given. Qualifying permanent open space includes deed-restricted land that is used for agricultural, environmental, or equivalent open space purposes. It does not include parkland required by the Town or buffer strips. Credit can also be earned for equivalent open space acquired off-site in areas approved by the Board of Trustees.

3. Additional factors that increase or decrease the amount of credit given will be determined by the Planning Director, subject to the purposes and intent set forth in the preface to this ordinance. Appeals of his or her decision will be heard by the Town Board.

D. New parcels created from fee paid lots through subdivision of said lot will be subject to this fee.

E. If the Town increases the allowable density within a zoning district to the extent that a property could be subdivided for an additional unit, then the fee would apply and be assessed at such time as additional building permits for new residences are requested.

F. The fee for a single-family house is \$3,000 and \$1,500 per dwelling unit for multi-family structures. Calculation of the fee is provided in a document entitled "Density Transfer Fee Calculation Guidelines".

G. Six percent of the total Density Transfer fee collected will be used for administration of this process. The balance of these fees shall be exclusively used for the open space acquisition and preservation purposes as described in this Ordinance. These fees shall be separately accounted for within the Town's annual budget.

Section 2. Effective Date.

The Board of Trustees of the Town of Berthoud herewith finds, determines and designates that this Ordinance shall take effect and be in force thirty (30) days after publication.

At its meeting March 14, 2000, a public hearing was set by the Board of Trustees of the Town of Berthoud for its meeting held on the 28th day of March, 2000. After the public hearing, the Ordinance was read, passed and ordered published by the Board of Trustees at its meeting this 28th day of March, 2000.

TOWN OF BERTHOUD:

ATTEST: Richard Strachan – Mayor

Mary K. Cowdin - Town Clerk

Published: _____

Density Transfer Fee (Calculation Guidelines)

Staff recommends a fee of \$3000 per single-family dwelling unit. The fee for duplex and other multi-family structures should be about half that to reflect the lower land value per unit. These guidelines provide two methods for arriving at the fee. The fee is based on a policy of requiring new development to pay for transferring density from the surrounding area into Berthoud and on the value provided to private property when Berthoud upzones said property.

Value Generated by Residential Upzoning

Upzoning from FA1 (Larimer County) to R1 (Berthoud) roughly increases the value of land fourfold. For example, \$40,000 for 7,000 sq.ft. lots in Town (\$5.7 per sq.ft.) versus \$140,000 for 100,000 sq.ft. lots in County (\$1.4 per sq.ft.). Land prices in the area support this conclusion. For example, the Berthoud Commons property in Town appraised at \$22,000 per acre, while the Rasmussen property south of Lonetree Reservoir in the County sold for \$4,700 per acre. The fourfold value increase excludes the value created by subdivision approval since zoning supports the rights for subdivisions.

Comparison to Traditional TDU Program Method

Since the fee is meant to replace a traditional transfer of development units program, it is rational to base the fee on a low-end cost of a unit from the theoretical sending area. The low-end cost unit would be located where development is least profitable and is assumed to be \$3000 per acre. To convert this dollar value to a units, the smallest and thus cheapest lot size allowed by Larimer County FA-1 zoning is 2.29 acres is used. Since the last few development units on a property are the most expensive, a diminution value of 40% is used to reflect the cost of purchasing only a few of the development units on a property. A 6% administrative fee is added for the Town to process collection and distribution of the monies. This creates the formula below:

$$\$3,000 \text{ per acre} \times 2.29 \text{ acres per unit} \times 40\% \text{ value removed by purchasing only a few of the development units} \times 6\% \text{ administrative fee} = \$2,913$$

The fourfold value increase associated with receiving Town zoning as calculated above offsets the cost to developers for transferring development units to the Town from more expensive lots in the County. This can be shown in the following formula, which uses the above estimated costs of a lot in Town versus in the County:

$$4 \times (\$40,000/\text{unit}^{\text{Town}})/(\$140,000/\text{unit}^{\text{County}}) = \text{approximately } 1$$

For the average multi-family structure, it is assumed that the land cost per unit would be about half that of a single-family. Plugging this land value into the formula, similarly cuts the fee in half.

The Goal Method

Another approach to calculating the fee is to set a goal for how much land should be preserved in the County for each unit created in Town. Since the Town is creating at least a fourfold property value increase, it is reasonable to set a goal for each dwelling unit created by an upzone in Berthoud to reimburse the Town for preservation of a fourfold equivalent area in the County. Assuming an average Town density of 4 units per acre, this equates to preserving an acre of land for each upzoning of an additional single-family dwelling unit.

In this formula, a range is provided for the cost of land. These prices reflect a more reasonable estimate than just the low-end cost. In fact, land prices in areas likely to be targeted for development unit purchases may be higher than the range provided. The higher land price areas were left out because the fee is meant to replace a traditional transfer of development units program, whereby a developer in a receiving area would seek out the lowest cost development units to purchase.

This formula is based on an area^{Town} to area^{County} transfer rather than the unit^{Town} to unit^{County} transfer basis in the previous method. To achieve this a 70% diminution in value for removal of all the development rights is used. The formula is as follows:

\$3,000 to \$5,000 per acre for land x 70% value removed by purchasing all the development units x 6% administrative fee

= \$2,226 to \$3,710 per acre

Conclusion

The values used in all the calculations are based on the best available sales data and assumptions regarding the price of purchasing development units off a property. Since definitive values on all properties where development may take place are impossible, it is reasonable to use \$3,000 for a single-family unit and \$1,500 for each multi-family unit.

PORTLAND LAND BANK

Portland, Maine

<http://www.portlandmaine.gov/landbank/landbank.asp>

Our Mission

To preserve a balance between development and conservation of open space important for wildlife, ecological, environmental, scenic or outdoor recreational values.

About Us

The Land Bank Commission is responsible for identifying and protecting open space resources within the City of Portland. The Commission responsibilities include: working for the acquisition and conservation of open space within the City; recommending to the City Council on a priority basis acquisition or conservation of significant properties; and the pursuit of gifts and funds from private and public sources for the acquisition of open space as approved by the City Council. The Commission has developed an inventory of open space resources within the City. It is engaged in an ongoing effort to proactively protect properties from development through easement, deed restriction, or acquisition.

What kind of properties does the Land Bank focus on for preservation?

- Open spaces which promote neighborhoods and discourage sprawl
- Land for passive public outdoor recreational use
- Trail Corridors
- Properties with unique geological or ecological characteristics
- Woods and wildlife habitats
- Wetlands and associated buffers

What does it mean when a property is in the Land Bank?

- Land must be maintained in its natural, scenic or open condition
- Property can't be taken out of the Land Bank without at least six City Council votes
- Land Bank can advocate for additional forms of protection (e.g. zoning, easements)
- Guarantees public access to and use of property

Land Bank History

- The Land Bank was established in 1999.
- Approximately 300 open space parcels were reviewed and evaluated (2000-2002).
- 50 were selected for Land Bank Registry (2002).
- 6 properties placed into Land Bank in 2003.
- Land Bank has partnered with other organizations to preserve open space.
- Submitted annual reports and registry of priority properties to the City Council.

Land Bank Objectives

- Recommend specific municipal land parcels be placed into the Land Bank
- Work with willing sellers for the acquisition and conservation of open space within the City
- Recommend the acquisition or conservation of significant properties
- Accept gifts and funds from both private and public sources for the acquisition of land interests as approved by the Council
- Partner with other public and private organizations with similar interests

Appendix C

South Portland Land Bank Ordinance

ARTICLE VII: ESTABLISHMENT OF SOUTH PORTLAND LAND BANK

Sec. 18-72. Purpose.

The City of South Portland recognizes that open space, parks and recreation areas are desirable and beneficial to its citizens. To further the acquisition and creation of such land and land uses, the City hereby establishes the City of South Portland Land Bank, which shall consist of voluntary donations of funds and/or property interests and the acquisition of property interests through voluntary negotiations to be used in accordance with this Article. Property and funds held by the Land Bank are not intended to supplant budgetary appropriations to the Parks and Recreation Department.

(Ord. 13-91/92, 3-16-92)

Sec. 18-73. Management of the Land Bank.

In managing the Land Bank, the City may:

- (a) Purchase and acquire fee simple interests and any lesser interests, including conservation restrictions, development rights or easements, in any real property situated within the borders of the municipality, of the types set forth in Sec. 18-74, including any improvements on that real property, provided that all purchases or acquisitions are consistent with the purpose of this Article;
- (b) Accept gifts, including real or personal property interests or funds to further the purposes of this Article;
- (c) Dispose of all or any portion of the real or personal property interests held by it, subject to the Constitution and laws of the State of Maine and this Article. Any such disposition of property interest shall be in furtherance of the purposes of this Article. Any proceeds from such disposition shall be deposited into the Land Bank fund established in Sec. 18-76;
- (d) Maintain, manage and improve land and interests in land held by it in a manner which allows public use and enjoyment consistent with the natural, historic and scenic resources of the land, including planting, pruning and cutting of trees and shrubs to manage and enhance natural systems and constructing nature trails, bird nest boxes and nature identification signs. Expenditure of land bank funds for maintenance, management and limited capital improvement of Land Bank conservation lands and improvements thereon shall not exceed 10% of the average total annual revenues to the land bank, unless this limitation is waived by the City Council to further the purposes of this Article. Any conditional gift or donation specifying a particular use or expenditure shall not be included in this calculation.

Any proposed acquisition or sale of any real property interest(s) and any proposed use of land pursuant to this article shall be referred to the Planning Board for review and recommendation(s).

(Ord. 13-91/92, 3-16-92)

Sec. 18-74. Types of land which may be acquired.

Land, interests in land and other real property interests to be acquired and held as part of the land bank must be situated within the boundaries of the municipality and may consist of any of the following types of land and interest in land:

1. Ocean, harbor, river, stream, lake or pond frontage and adjoining backlands;
2. Fresh or saltwater marshes, estuaries, flood plains and adjoining uplands;
3. Islands;
4. Land for future active or passive public outdoor recreational use, including hiking trails, bicycle paths, green belts and high elevations with a view or other visual corridors, and open space;
5. Aquifers, aquifer recharge areas and other ecologically fragile or significant property;
6. Properties with unique historical or geological characteristics or which are otherwise important to the community's cultural welfare;
7. Farmland or wildlife habitat;
8. Vacant parcels of land, vacant buildings and properties or buildings and properties in significant disrepair which may be reclaimed for the purpose of establishing natural areas for open space or park land.

(Ord. 13-91/92, 3-16-92)

Sec. 18-75. Maintenance of real property.

The City shall retain any real property interest acquired pursuant to this chapter predominantly in its natural, scenic or open condition, except as otherwise provided in this Article. The City shall not allow:

1. Construction or placing of buildings; roads, other than paths for pedestrian or bicycle use; signs; billboards; or other advertising utilities or other structures on or above the surface, except in furtherance of the purposes of this Article;
2. Dumping or placing of soil or other substance or material as landfill or dumping or placing of trash, waste or unsightly or offensive material;
3. Removal or destruction of trees, shrubs or other vegetation, except where necessary for management purposes and to enhance natural systems or open-space uses;
4. Excavation, dredging or removal of loam, peat, gravel, soil, rock or other mineral substance in such manner as to affect the surface, except limited grading to enhance the open-space uses of the land;
5. Surface use except for purposes permitting the land or water area to remain predominantly in its natural, scenic or open condition;
6. Activities detrimental to drainage, flood control, water conservation, erosion control or soil conservation; or
7. Use of motorized vehicles, including recreational vehicles (RVs) and all-terrain vehicles (ATVs), except where used for appropriate maintenance purposes; or

8. Other acts or uses detrimental to the natural, scenic or open condition of the land or water areas.

The above restrictions may be waived by the City Council if the otherwise prohibited use is in the interest of conservation.

Sec. 18-76. Land bank fund.

The City shall meet the financial obligations of the Land Bank by drawing upon a municipal land bank fund to be set up as a separate revolving or sinking account within the City. Deposits into the fund shall include:

1. Any funds appropriated to be deposited into the fund by vote of the City Council;
2. Voluntary contributions of money or other liquid assets to the fund;
3. Interest from deposits and investments of the fund; and
4. Proceeds from disposal of real or personal property interests pursuant to 18-73(c).
5. Any grant funds received on behalf of the Land Bank.

All expenses lawfully incurred in carrying out this Article must be evidenced by proper vouchers and accounting practices. The City shall prudently invest available assets of the fund and all income from any investment shall accrue to the fund.



Summary of Recommended Actions

| City Council | | | |
|--------------------------------|--|--|--|
| | Action | When | Key Staff Person |
| 1 | Elevate the function and resources of the Conservation Commission. <ol style="list-style-type: none"> 1. Temporarily use Planning Intern as budget permits 2. Strengthen the ordinance establishing the Commission. 3. Fund new staff position 4. Provide office space/supplies/equipment | Now – 6/30/02 Summer 2001 FY 2002/03 FY 2002/03 | Planning Director Planning Director City Manager City Manager |
| 2 | Include in the FY 2001/02 Capital Improvements Budget a \$1M bond issue request to the voters to fund open space protection. | Immediate | City Manager |
| 3 | Dedicate 3¢ in the property tax rate to fund open space protection; one-third to Land Bank fund; two-thirds to a part-time or full-time Conservation Commission staff position. | FY 2002/03 and each year thereafter | City Manager |
| 4 | Authorize City departments to work with SPLT, neighborhood associations, and volunteer attorneys to help neighborhoods in the purchase of private neighborhood commons. | Immediate | Assistant City Manager Corporation Counsel |
| Conservation Commission | | | |
| | Action | When | Key Staff Person |
| 1 | Prepare grant applications, with SPLT and neighboring land trusts/ municipalities as appropriate, e.g., Land for Maine's Future grant. <ol style="list-style-type: none"> 1. Negotiate with owners and select best available parcel 2. Prepare application | Fall 2001 Winter 2001/02 | Planning Intern Planning Intern |
| 2 | Strengthen relationships with environmental permitting agencies to promote wetland mitigation in South Portland. | Summer 2001 | Planning Director |
| 3 | Develop City ordinance amendments to direct funds from sale or lease of City-owned land to the Land Bank fund and clarify the management of the account. | Summer 2001 | Planning Director |
| 4 | Develop amendments to the City's land use regulations to provide greater protection to environmentally sensitive areas. | Fall 2001 | Site Planner |
| 5 | With SPLT, obtain conservation easements and land donations and pursue other non-acquisition strategies where appropriate and feasible. | Ongoing | New staff person |
| 6 | Work with Pollution Abatement, Casco Bay Estuary Project, and SPLT in getting a grant to perform a comprehensive conceptual study of the City's watersheds for strategies that also protect open space. | Fall 2001 | Planning Director |
| 7 | Continue the Open Space Planning Process, with partners: <ol style="list-style-type: none"> 1. Keep current the inventory of potential open space parcels. 2. Perform appropriate level of due diligence for each parcel. 3. Develop an action plan for each parcel. 4. Stay in contact with landowners. 5. Educate the public about open space protection. | Ongoing | New staff person |
| 8 | Hold two joint meetings between the Conservation Commission and the Open Space Committee before March, 2002. | 9/19/01; 7:00 PM 2/20/02; 7:00 PM | Open Space Committee |

HOLDEN OPEN SPACE PLAN QUESTIONNAIRE

Individuals: 23 received
Groups: 4 received

What values do you hold for Holden's public and private open space?

1=strongly value, 2=value, 3=neutral, 4=don't really value much, 5=not at all a value, X=unsure

- 1) Safeguarding the natural environment and environmental functions.
Individuals: 1.27 (most frequent score: 1)
Groups: 1.05
- 2) Sustaining community character and prosperity ("Quality of Place").
Individuals: 1.36 (most frequent score: 1)
Groups: 1.175
- 3) Providing opportunities for traditional outdoor sports such as hunting, fishing, snowmobiling, etc.
Individuals: 1.45 (most frequent score: 1)
Groups: 1.375
- 4) Off-setting sprawl, helping to limit need for services/public expenditures and other "costs" of development.
Individuals: 1.57 (most frequent score: 2)
Groups: 1.5
- 5) Viewing wildlife from home and/or around town.
Individuals: 1.68 (most frequent score: 1)
Groups: 1.425
- 6) Providing outdoor opportunities (nature and recreation) for the community's children (& family).
Individuals: 1.68 (most frequent score: 1)
Groups: 1.52
- 7) Maintaining and enhancing business (economy) and community diversity. (*People as well as businesses*)
Individuals: 1.91 (most frequent score: 2)
Groups: 1.85
- 8) Promoting health and fitness, enhancing psychological well-being, through outdoor activities and experiences.
Individuals: 2.23 (most frequent score: 2)
Groups: 2.0

How important are the following open space objectives for Holden?

1=very important, 2=important, 3=neutral, 4=low importance, 4=not important/disagree with, X=unsure

- 1) Provide more information to landowners on current use tax programs and local assessment guidelines, conservation easements, and estate planning.
Individuals: 1.23 (most frequent score: 1)
Groups: 1.25
- 2) Maintain or improve the water quality in Holden's lakes, ponds and streams, for people and for wildlife.
Individuals: 1.27 (most frequent score: 1)
Groups: 1.125
- 3) Preserve (conserve) unique habitat, or habitat types important to rare or endangered wildlife species.
Individuals: 1.32 (most frequent score: 1)
Groups: 1.0
- 4) Off-set the negative impacts of sprawl on taxpayers (e.g. higher cost of town services) by conserving undeveloped land outside of designated growth areas.
Individuals: 1.32 (most frequent score: 1)
Groups: 1.25
- 5) Work towards connectivity between future conservation properties, creating larger blocks of contiguous, conserved land and/or parcels interconnected by trails or protected open space corridors.
Individuals: 1.35 (most frequent score: 1)
Groups: 1.125
- 6) Protect active farmland and agricultural soils, and promote sustainable farming.
Individuals: 1.36 (most frequent score:1)
Groups: 1.2
- 7) Seek conservation options for identified high-value scenic viewpoints and viewsheds.
Individuals: 1.38 (most frequent score: 1)
Groups: 1.45
- 8) Maintain working forests and promote sustainable harvesting.
Individuals: 1.41 (most frequent score: 1)
Groups: 1.25
- 9) Preserve large areas of undeveloped land for wildlife habitat and recreation.
Individuals: 1.45 (most frequent score: 1)
Groups: 1.2
- 10) Work with neighboring towns on regional open space opportunities, including shared conservation lands and interconnected trails.
Individuals: 1.50 (most frequent score: 1)
Groups: 1.5

- 11) Maintain snowmobile trail networks.
Individuals: 1.55 (most frequent score: 1)
Groups: 1.5
- 12) Create more trails in town for walking/jogging/skiing, and interconnect trails where possible.
Individuals: 1.68 (most frequent score: 2)
Groups: 1.325
- 13) Secure more permanently protected land, through purchase or easements either held by the Town or Land Trust, to maintain the Town's open space resources.
Individuals: 1.68 (most frequent score: 1)
Groups: 1.75
- 14) Encourage the continued tradition of hunting with permission on private land.
Individuals: 1.86 (most frequent score: 1)
Groups: 1.55
- 15) Protect cultural and historic sites.
Individuals: 1.69 (most frequent score: 2)
Groups: 1.67
- 16) Provide public access to lakes and ponds in town for boating and fishing.
Individuals: 1.95 (most frequent score: 1)
Groups: 1.7
- 17) Strengthen programs to promote protection of private open space for habitat and natural resource values.
Individuals: 2.14 (most frequent score: 2)
Groups: 2.1
- 18) Provide more parks and outdoor places where the community can gather and children can play safely.
Individuals: 2.84 (most frequent score: 3)
Groups: 2.75
- 19) Create more neighborhood or public parks, including informal park space and ball fields.
Individuals: 2.89 (most frequent score: 3)
Groups: 3.0

What are the top three most important objectives?

Groups:

(3) Trails, interconnecting

(2) Secure permanently protected land

Maintain large areas of undeveloped land for habitat & recreation

Maintain farms

Preserve unique habitat

Connectivity between conservation properties

Offset sprawl

Conserve scenic vistas
Regional opportunities
Provide information to landowners

Individuals:

- (9) Maintain and preserve large blocks of undeveloped land/habitat
- (8) More trails, develop trail network, connectivity
- (6) Connectivity between conservation properties
- (6) Preserve wildlife habitat, high value/unique habitats
- (6) Protect/maintain working farms/agricultural soils
- (5) Conservation options for scenic vistas
- (3) Secure permanently protected land
- (3) Maintain working forests, sustainable
- (2) Work with neighboring towns, regional
- (2) Preserve areas of undeveloped land/private open space
- (2) Hunting/fishing
- (2) Provide information to landowners
- (1) each: provide public access to lakes/ponds, maintain water quality, off-set negative impacts of sprawl

| Score | |
|--------------------------------|--|
| 1-1-1-1.2 1.05 1.27 (1) | Safeguarding the natural environment and environmental functions. Top |
| 1-1-1-1.7 1.175 1.36 (1) | Sustaining community character and prosperity ("Quality of Place"). |
| 1-1-2-1.5 1.375 1.45 (1) | Providing opportunities for traditional outdoor sports such as hunting, fishing, snowmobiling, etc. |
| 2-1-1-1.7 1.425 1.68 (1) | Viewing wildlife from home and/or around town. |
| 1-2-2-1 1.5 1.57 (2) | Off-setting sprawl, helping to limit need for services/public expenditures and other "costs" of development. |
| 2-1-2-1.1 1.52 1.68 (1) | Providing outdoor opportunities (nature and recreation) for the community's children. & family; Seemed to indicate programs providing activities |
| 2-1-3-1.4 1.85 1.91 (2) | Maintaining and enhancing business (economy) and community diversity. People as well as businesses |
| 3-1-2-2 2.0 2.23 (2) | Promoting health and fitness, enhancing psychological well-being, through outdoor activities and experiences. |

| | |
|--------------------|---|
| 1-1-1.8 [1.267] | Other: Trail network; local food production/sustainability/ag character - (x2 both?) |
|--------------------|---|

| Score | |
|--------------------------------|---|
| 1-1-2-1 1.25 1.23 (1) | Provide <u>more information to landowners</u> on current use tax programs and local assessment guidelines, conservation easements, and estate planning. |
| 1-1-1-1.5 1.125 1.27 (1) | Maintain or improve the <u>water quality</u> in Holden's lakes, ponds and streams, for people and for wildlife. |
| 1-1-1-1 1.0 1.32 (1) | <u>Conserve</u> Preserve unique <u>habitat</u> , or habitat types important to rare or endangered wildlife species. |
| 2-1-1-1 1.25 1.32 (1) | Off-set the <u>negative impacts of sprawl</u> on taxpayers (e.g. higher cost of town services) by conserving undeveloped land outside of designated growth areas. |
| 1-1-1-1.5 1.125 1.35 (1) | Work towards <u>connectivity between future conservation properties</u> , creating larger blocks of contiguous, conserved land and/or parcels interconnected by trails or protected open space corridors. |
| 1-1-1-1.8 1.2 1.36 (1) | Protect <u>active farmland and agricultural soils</u> , and promote sustainable farming. Promote |
| 2-1-1-1.8 1.45 1.38 (1) | Seek conservation options for identified high-value <u>scenic viewpoints</u> and viewsheds. |

| | |
|--------------------------------|---|
| 1-1-1-2 1.25 1.41 (1) | Maintain <u>working forests</u> and promote sustainable harvesting. |
| 1-1-1-1.8 1.2 1.45 (1) | Preserve <u>large areas of undeveloped land</u> for wildlife habitat and recreation. |
| 2-1-1-2 1.5 1.50 (1) | Work with <u>neighboring towns</u> on regional open space opportunities, including shared conservation lands and interconnected trails. |
| 1-1-2-2 1.5 1.55 (1) | Maintain <u>snowmobile</u> trail networks. <u>Expand [trails];</u> <u>Very wide difference, snowmobile trail has uses(?) for landowners</u> |
| 1-1-1-2.3 1.325 1.68 (2) | Create more <u>trails</u> in town for walking/jogging/skiing, and interconnect trails where possible. |
| 3-1-2-1 1.75 1.68 (1) | Secure more <u>permanently protected land</u> , through purchase or easements either held by the Town or Land Trust, to maintain the Town's open space resources. |
| 2-2-1-1.2 1.55 1.86 (1) | Encourage the continued <u>tradition of hunting</u> with permission on private land. |
| 2-1-2 1.67 1.69 (2) | Protect <u>cultural and historic sites</u> . |
| 2-2-1-1.8 1.7 1.95 (1) | Provide <u>public access to lakes and ponds</u> in town for boating and fishing. <u>& protect; Where sustainable/appropriate; Non-motorized boating</u> |
| 3-1-2-2.4 2.1 2.14 (2) | Strengthen programs to <u>promote protection of private open space</u> for habitat and natural resource values. <u>Education</u> |
| 4-2-2-3 2.75 2.84 (3) | Provide more parks and outdoor places where the <u>community can gather</u> and <u>children can play safely</u> . <u>May be privately owned</u> |
| 4-2-3-3 3.0 2.89 (3) | Create <u>more neighborhood or public parks</u> , including informal park space and ball fields. |

Top three most important objectives -- Groups:

Trails

Maintain trails

Create more trails for recreation, interconnecting trails

Secure more permanently protected land

Secure permanently protected land

Maintain farms

Preserve unique habitat

Maintain productivity of large areas of undeveloped land for wildlife habitat & recreation

Connectivity between conservation properties

Offset sprawl

Conservation of scenic vistas

Regional opportunities [work with neighboring towns]

Provide information to landowners

Top three most important objectives -- Individuals:

Conservation of scenic vistas

Scenic Vistas

Seek conservation options for identified high-value scenic viewpoints and viewsheds (scenic vistas)

Conservation options for views

Scenic vistas and protection

Trails

Trails

Trail network and connectivity within town & beyond

Create more interconnecting trails

Trails, connectivity

Interconnected trails

Create more trails in town

Create more trails

Large areas of undeveloped area

Large areas of undeveloped land

Maintain large areas of undeveloped lands for wildlife habitat/recreation

Protection of large habitat blocks

Preserve large blocks of undeveloped land

Preserve large habitat blocks

Preserve large undeveloped blocks

Maintain and protect large habitat blocks

Conservation options for large parcels

Connectivity [between large blocks habitat]

Work toward connectivity between future conservation properties

Work towards connectivity between projects

Connectivity between future properties

Connectivity between future conservation properties

Connectivity within the region

Neighboring towns

Work with neighboring towns, regional

Permanently protected land

Secure permanently protected land

Secure more permanently protected land

Preserve areas of undeveloped land

Promote protection of private open space

Preserve wildlife habitat

Forest habitats

Preserve unique habitats

Preserve unique habitat

Conservation options for high value areas

Unique habitat protection

Forests

Maintain working forests

Sustainable forests

Farmland
Farmlands
Working farms
Farmland soils
Maintain active farmland and agricultural soils
Protect and increase amount of active farmland

Encourage hunting/fishing
Hunting

Information to landowners
Information to landowners on tax programs

Provide public access to lakes, etc.

Maintaining water quality

Off-set negative impacts of sprawl

HOLDEN OPEN SPACE PLAN MAILED QUESTIONNAIRE

Total Received: 51

Own Property in Holden: 37 -- Rent in Holden: 8 -- Unknown: 6

What values do you hold for Holden's public and private open space?

1=strongly value, 2=value, 3=neutral, 4=don't really value much, 5=not at all a value, X=unsure

Most of the scores in this first block of questions were between 1 and 3, with 5 questionnaires that had some 4's and 5's for various items (most repeated of which were viewing wildlife, off-setting sprawl, and providing for traditional outdoor sports).

The scores for the mailed questionnaire generally vary only slightly from the workshop scores (greater variation is [] starred), and similar to the workshop all indicate community value for these items (though there will be variation amongst individuals). Differences between mailing scores and workshop scores can likely be attributed to the workshop environment having the influences of the presentation materials and group discussions.*

- 1) Safeguarding the natural environment and environmental functions (e.g. habitats, watersheds, soils, water quality, etc.).
Avg: 1.47
*From Public Workshop:
Individuals(23): 1.27 -- Groups(4): 1.05*
- 2) Sustaining community character and prosperity ("Quality of Place").
Avg: 1.80
*From Public Workshop:
Individuals(23): 1.36 -- Groups(4): 1.175*
- 3) Off-setting sprawl by protecting rural lands (outside the growth area), and helping to limit need for services/public expenditures and other "costs" of development.
Avg: 1.84
*From Public Workshop:
Individuals(23): 1.57 -- Groups(4): 1.50*
- 4) Viewing wildlife from home and/or around town.
Avg: 1.94
*From Public Workshop:
Individuals(23): 1.68 -- Groups(4): 1.425*
- 5) Promoting health and fitness and enhancing psychological well-being through outdoor activities and experiences.
Avg: 2.10
*From Public Workshop:
Individuals(23): 2.23 -- Groups(4): 2.00*
- 6) Providing outdoor opportunities (nature and recreation) for the community's children.
Avg: 2.12
*From Public Workshop:
Individuals(23): 1.68 -- Groups(4): 1.52*

- 7) Providing opportunities for traditional outdoor sports such as hunting, fishing, snowmobiling, etc.
Avg: 2.22*
From Public Workshop:
Individuals(23): 1.45 -- Groups(4): 1.375

- 8) Contributing directly and indirectly to economic development to the Town.
Avg: 2.29
Replaces question on public workshop form, "Maintaining and enhancing business (economy) and community diversity."
From Public Workshop:
Individuals(23): 1.91 -- Groups(4): 1.85

How important are the following open space objectives for Holden?

1=strongly value, 2=value, 3=neutral, 4=don't really value much, 5=not at all a value, X=unsure

The scores for the second block of questions were much more mixed, with about 14 questionnaires having several scores of 4 or 5. This still indicates most scores were between 1 and 3. Water quality, farmland, working forests, and cultural/historic sites were the highest value, while neighborhood parks, community gathering spaces, and snowmobile trails were lower value.

A few of these items varied more from the workshop results (greater variation is [] starred), but the overall average scores still indicate community value for these items (though there will be variation amongst individuals). Differences between mailing scores and workshop scores can likely be attributed to the workshop environment having the influences of the presentation materials and group discussions.*

- 1) Maintain or improve the water quality in Holden's lakes, ponds and streams, for people and for wildlife.
Avg: 1.55
From Public Workshop:
Individuals(23): 1.27 -- Groups(4): 1.125

- 2) Protect cultural and historic sites.
Avg: 1.82
From Public Workshop:
Individuals(23): 1.69 -- Groups(4): 1.67

- 3) Protect active farmland and agricultural soils, and promote sustainable farming.
Avg: 1.82
From Public Workshop:
Individuals(23): 1.36 -- Groups(4): 1.20

- 4) Maintain working forests and promote sustainable harvesting.
Avg: 1.88
From Public Workshop:
Individuals(23): 1.41 -- Groups(4): 1.25

- 5) Preserve large areas of undeveloped land for wildlife habitat and recreation.
Avg: 1.90
From Public Workshop:
Individuals(23): 1.45 -- Groups(4): 1.20
- 6) Off-set the negative impacts of sprawl on taxpayers (e.g. higher cost of town services) by conserving undeveloped land outside of designated growth areas.
Avg: 1.90*
From Public Workshop:
Individuals(23): 1.32 -- Groups(4): 1.25
- 7) Preserve unique habitat, or habitat types important to rare or endangered wildlife species.
Avg: 1.96*
From Public Workshop:
Individuals(23): 1.32 -- Groups(4): 1.00
- 8) Work with neighboring towns on regional open space opportunities, including shared conservation lands and interconnected trails.
Avg: 2.04*
From Public Workshop:
Individuals(23): 1.50 -- Groups(4): 1.50
- 9) Provide public access to lakes and ponds in town for boating and fishing.
Avg: 2.10
From Public Workshop:
Individuals(23): 1.95 -- Groups(4): 1.70
- 10) Secure more permanently protected land, through purchase or easements either held by the Town or Land Trust, to maintain the Town's open space resources.
Avg: 2.12
From Public Workshop:
Individuals(23): 1.68 -- Groups(4): 1.75
- 11) Strengthen programs to promote protection of private open space for habitat and natural resource values.
Avg: 2.14
From Public Workshop:
Individuals(23): 2.14 -- Groups(4): 2.10
- 12) Provide more information to landowners on current use tax programs and local assessment guidelines, conservation easements, and estate planning.
Avg: 2.16*
From Public Workshop:
Individuals(23): 1.23 -- Groups(4): 1.25
- 13) Create more interconnected trails in Holden for walking/jogging/skiing, with regional connections where possible.
Avg: 2.18*
From Public Workshop:
Individuals(23): 1.68 -- Groups(4): 1.325

- 14) Seek conservation options for identified high-value scenic viewpoints and viewsheds.
 Avg: 2.29*
From Public Workshop:
Individuals(23): 1.38 -- Groups(4): 1.45
- 15) Work towards connectivity between future conservation properties, creating larger blocks of contiguous, conserved land and/or parcels interconnected by trails or protected open space corridors.
 Avg: 2.31*
From Public Workshop:
Individuals(23): 1.35 -- Groups(4): 1.125
- 16) Provide more parks and outdoor places where the community can gather and children & families can enjoy outdoor activities.
 Avg: 2.57
From Public Workshop:
Individuals(23): 2.84 -- Groups(4): 2.75
- 17) Create more neighborhood or public parks, including informal park space and ball fields.
 Avg: 2.63
From Public Workshop:
Individuals(23): 2.89 -- Groups(4): 3.00
- 18) Encourage the continued tradition of hunting with permission on private land.
 Avg: 2.63*
From Public Workshop:
Individuals(23): 1.86 -- Groups(4): 1.55
- 19) Maintain snowmobile trail networks.
 Avg: 2.88*
From Public Workshop:
Individuals(23): 1.55 -- Groups(4): 1.50

What are the top three most important objectives?

Trails still managed to stay at the top of the most important objectives list, as well as maintaining large blocks of undeveloped land. Wildlife and farmland are the next two that were consistently listed more frequently in the top three between the mailed and workshop questionnaires. Interesting that water quality was very high on the mailed questionnaire but hardly mentioned on the workshop ones.

Mailed Questionnaire:

- (15) Trails
- (12) Large blocks of undeveloped land
- (12) Water quality
- (9) Public access to lakes and ponds
- (8) Active farmland and agricultural soils
- (7) Wildlife habitat
- (6) Tradition of hunting

- (5) Cultural and historic sites
- (5) Working forests
- (5) Negative impacts of sprawl
- (4) Permanently protected land
- (4) Neighboring towns
- (4) Property rights
- (3) Connectivity between future conservation properties
- (3) Parks
- (3) Snowmobile trails
- (2) Information to landowners
- (1) Protection of private open space
- (1) Outdoor activities
- (1) Scenic viewpoints

Groups:

- (3) Trails, interconnecting*
- (2) Secure permanently protected land*
- (1) Maintain large areas of undeveloped land for habitat & recreation*
- (1) Maintain farms*
- (1) Preserve unique habitat*
- (1) Connectivity between conservation properties*
- (1) Offset sprawl*
- (1) Conserve scenic vistas*
- (1) Regional opportunities*
- (1) Provide information to landowners*

Individuals:

- (9) Maintain and preserve large blocks of undeveloped land/habitat*
- (8) More trails, develop trail network, connectivity*
- (6) Connectivity between conservation properties*
- (6) Preserve wildlife habitat, high value/unique habitats*
- (6) Protect/maintain working farms/agricultural soils*
- (5) Conservation options for scenic vistas*
- (3) Secure permanently protected land*
- (3) Maintain working forests, sustainable*
- (2) Work with neighboring towns, regional*
- (2) Preserve areas of undeveloped land/private open space*
- (2) Hunting/fishing*
- (2) Provide information to landowners*
- (1) each: provide public access to lakes/ponds, maintain water quality, off-set negative impacts of sprawl*

Other Comments:

On the "special places" or the most important places or resources for the Town to maintain:

- Farmland (2)
- Ponds and Lakes (2)
- Cemeteries
- Old buildings

- Hog hill
- Deer habitat
- Historic and cultural items
- Existing roads
- Old town hall
- Holbrook pond access
- Holbrook and Davis pond thoroughfare protection - between Holden and Eddington
- Forests and wildlife habitat

On ideas for new trails or trail connections:

- Not needed (5)
- "Rails-to-trails" (3)
- Passage of lines
- New trails with nice views
- Cost too much money
- Support sunrise trail extension
- Trails and access to mud pond and fields pond

On what public outreach and additional information is needed regarding open space:

- Videos
- Zoning codes
- Environmental awareness and education
- Access to all ponds

On other items that should be included in the Open Space Plan:

- Comprehensive plans
- Tax incentives to encourage preservation of woodland and public access
- Individual property rights
- Boat landings and launching

Other:

- Appears to be a large town expense
- Against subdivisions/breaking up land
- Private land seems to be used publicly already
- Balance concept with interests of landowners
- Plan is 15 years too late
- Concerns of infringements and easements on private property
- Wilderness interior already threatened by I395
- Holden should provide only basic services
- No need for town based initiative - individuals will provide
- Not gov't responsibility
- Do not purchase private property for public use
- Plan will increase taxes for maintenance costs
- Questions imply people are against development and broadening tax base
- Should raise money from taxes to pay for boat landing and pond access
- Use tax money to purchase land for public use and improve recreation

HOLDEN OPEN SPACE WORKSHOP 2 ~ RESULTS

Total Group Responses = 3 Total Individual Responses = 7

SUMMARY

1. For both group and individual responses, Trails, Wildlife & Habitat, Land Conservation/Protection, and Scenic Views categories received the greatest number of responses, indicating highest interest.
2. Groups at the workshop did not discuss Parks & Recreation, Working Forests, and Funding for Open Space.
3. Water Resources items' scores were all "1" among groups and individuals.
4. Most items under Trails received very strong support.
5. Most items under Wildlife Habitat received very strong support (except for invasive species item).
6. Strategies referring to Current Use Tax Programs (Tree Growth, Farmland, Open Space) tended to receive more "unsure" or "not in favor" scores.
7. Many of the items under Scenic Views drew at least one "not in favor" score; these strategies may be a somewhat more controversial.
8. Funding for Open Space items received more "unsure" scores, and were not discussed by the groups; these will likely need more explanation/information for the public to support.
9. In both group and individual responses, the following items received greatest support (unanimous):
 - Informational outreach to the public on the Town's natural resources, inform specific landowners about natural resources on their property (CP)
 - Opportunities for collaboration with the snowmobile club
 - Promoting the Community Nature Learning Trails
 - Opportunities to extend trails from neighboring towns into Holden
 - Options for protecting prime agricultural soils such as cluster development
 - Increase community efforts on promoting agriculture & local/regional farms
 - Incorporate agricultural business development into local economic development planning
 - Review local regulations to ensure they are "farm friendly"
 - Opportunities for permanent farmland conservation projects in town
 - Encourage cluster development for large, contiguous tracts of forest land
 - Regular mapping and analysis of the town's wildlife habitat by IF&W and/or consultants (CP)
 - Development review assistance from the Maine IF&W when development proposals would impact resources identified by the Department (CP)
 - Strive to maintain undeveloped blocks greater than 250-acres in Holden, partnering with the Holden Land Trust or other similar organizations (CP)
 - Work with neighboring towns and cities to conserve undeveloped blocks of land greater than 5,000 acres (CP)
 - Continue to hold free workshops/talks/walks on local wildlife
 - Inform all property owners of the importance of protecting water quality, practical steps the property owner can take (CP)

- Continue volunteer efforts to work with the DEP to monitor the quality of the lakes and streams and reduce non-point source pollution (CP)
- Continue enforcement of the Town Shoreland Zoning provisions (CP)
- Continue to work with the DEP in the enforcement of the Town's phosphorus control standards (CP)
- Preservation of scenic areas and vistas and other significant natural resources during the development review process (CP)
- Options for acquisition of property or easements important to the Town for its natural resource value (CP)
- Require that all subdivisions in all zones be open space subdivisions, at least 50% open space in rural areas (CP)
- Coordinate town priorities for land protection with land trust priorities and other related organizations (CP)
- Protect identified significant natural resources through land use, Town's Zoning and Subdivision Ordinances (CP)
- Continue to require that applicants for approval of major subdivisions and non-residential developments submit environmental impact assessments to the Planning Board (CP)
- Cluster/open space subdivisions: provide clear guidance on priorities for establishing open space (e.g. trail connections, habitat blocks, special resources, etc.)

These open space strategies are most supported, least controversial.

10. In both group and individual responses, the following items had over 50 percent of individuals "unsure" (with none "not in favor"):

- Invite County S&WCD and regional RC&D (Time & Tide) staff to a Conservation Commission meeting to discuss Holden's initiatives, agency resources and programs, and potential opportunities.
- Consider workshop/presentation series, informational meetings on issues, state/federal programs, resources for landowners. (Also group rating "unsure")
- Consider the need for and impact of one or more public access and/or recreation areas on at least one of Holden's water bodies (CP).
- Promote use of the Farmland Current Use Property Tax Program. (Also group rating "unsure")
- Establish an open space impact fee or density transfer fee (a.k.a. fee-in-lieu-of-TDR) to help offset new development with land protection. (Also group rating "unsure")
- Begin building a dedicated town fund/account for fees and other appropriations are maintained for the use of land acquisition or conservation easements; use funds to match land trust funding and/or state and federal grants whenever possible.
- Dedicate penalty fees from withdrawal from current use property tax programs to use for open space conservation.

These open space strategies are not necessarily out of favor, but may need greater public education/outreach efforts moving forward.

11. In both group and individual responses, the following items received at least one "not in favor" score (percentage-wise equal to about 20-30 percent):

- Promote Open Space Current Use Property Tax Program and the increased benefits of allowing public access. (1 rated "3", 2 groups rated "2")
- Continue to rely on school facilities to meet some of the recreational needs of the citizens of Holden (CP). (1 rated "3", no group response)

- Include provisions in the Town's Zoning, Subdivision and Site Plan Review ordinances to require parks, open spaces and/or walking, hiking or bicycle trails in new developments (CP). (1 rated "3", no group response)
- Establish a list of criteria for potential land acquisition for public parks. (1 rated "3", no group response)
- Encourage the use of the Tree Growth Current Use Property Tax Program. (1 rated "3", group rated "2"; comment: concern with penalties)
- Opportunities to conduct an annual invasive species removal on town properties, or demonstration property? (3 rated "3", 1 group rated "3" and 1 group rated "2"; comment: not sure [there are] any [invasive species])
- Outline triggers (mapping, criteria) for visual impact assessments, adopt clear performance standards for new developments, and outline accepted mitigation for scenic impact. (1 rated "3")
- Adopt a scenic road corridors map establishing high priority scenic routes, for purposes of conservation prioritization and performance standards for new development. (1 rated "3")
- Encourage landowner to maintain scenic views by keeping vegetation pruned/thinned. (1 rated "3")
- Proactively seek opportunities for public or land trust held easements to protect significant scenic views. (1 rated "3")
- Consider fee-in-lieu-of-TDR program for protecting scenic views. (1 rated "3")

These open space strategies may not be as well supported by the community or are more controversial, and will likely require greater public education/outreach efforts if they remain part of the Plan.

How much do you support the following potential strategies for Holden's Open Space Plan?
1=could support, 2=unsure/have questions, 3=not in favor

REGIONAL PARTNERS & AGENCIES

Individual responses: 5 (effectively), Group responses: 1

- Cooperate with neighboring towns in the development and implementation of programs to protect resources of regional importance (CP).
Individuals: 1.17 (5 out of 6 rated "1", no "3's")
Groups: none
- Provide opportunities for the Holden Land Trust to comment on how open space that occurs on large tracts of land or on land with a high natural resource value in proposed subdivisions can best be structured to preserve the natural resource value (CP).
Individuals: 1.2 (4 out of 5 rated "1", no "3's")
Groups: none
- Have TPL provide a public presentation on the final Greenprint Report and mapping, and continue to stay involved with any regional open space planning efforts/follow-up.
Individuals: 1.2 (4 out of 5 rated "1", no "3's")
Groups: 1 group rated "1"
- Host or recommend an annual regional conservation commission gathering (formal or social) to talk about regional opportunities, ideas, and needs.
Individuals: 1.2 (4 out of 5 rated "1", no "3's")
Groups: 1 group rated "1"
- **Invite County S&WCD and regional RC&D (Time & Tide) staff to a Conservation Commission meeting to discuss Holden's initiatives, agency resources and programs, and potential opportunities.**
Individuals: 1.6 (3 out of 5 rated "2", no "3's")
Groups: 1 group rated "1"
- Other (comments): *State forester use as resource, help with designating trails, forest management of properties; meet with neighboring towns (Eddington, Dedham) prior to completing plan*

PROMOTION & OUTREACH

Individual responses: 5, Group responses: 1

- **Provide outreach to inform the public of the value of each of the Town's natural resources. In addition, educate and inform specific landowners about the natural resources located on their property (CP).**
Individuals: 1.0 (5 out of 5 rated "1")
Groups: 1 group rated "1"
- Through existing Town committee (Conservation Commission), collaborate with other local groups (Land Trust, snowmobile club, recreation committee, etc.) and/or regional entities on conservation and natural resource related outreach.
Individuals: 1.2 (4 out of 5 rated "1", no "3's")
Groups: 1 group rated "1"
- Offer multiple ways to distribute news/information: informational meetings, website, town office, newsletters, etc.
Individuals: 1.25 (3 out of 4 rated "1", no "3's")
Groups: 1 group rated "1"

- Consider workshop/presentation series, informational meetings on issues, state/federal programs, resources for landowners.
 Individuals: 1.6 (3 out of 5 rated "2", no "3's")
 Groups: 1 group rated "2"
 Comment: Important - how realistic to do successfully
- Continue to hold activities to promote open space, conservation and outdoor recreation, including nature walks, woodlot management, winter trek, fishing/canoeing, etc.
 Individuals: 1.2 (4 out of 5 rated "1", no "3's")
 Groups: 1 group rated "1"
- Explore opportunities for outreach in local schools
 Individuals: 1.2 (4 out of 5 rated "1", no "3's")
 Groups: 1 group rated "1"
 Comment: Continue to do
- Other (comments): *There needs to be a designated process to keep landowner/open space communications open*

TRAILS

Individual responses: 7, Group responses: 2

- Opportunities for collaboration with the snowmobile club?
 Individuals: 1.0 (7 out of 7 rated "1")
 Groups: 2 groups rated "1"
- Trail corridor opportunities associated with rail or power lines?
 Individuals: 1.14 (6 out of 7 rated "1", no "3's")
 Groups: 2 groups rated "1"
- Continue to promote the Community Nature Learning Trails; provide educational information and new activities.
 Individuals: 1.0 (7 out of 7 rated "1")
 Groups: 2 groups rated "1"
- Promote Open Space Current Use Property Tax Program and the increased benefits of allowing public access.
 Individuals: 1.8 (3 out of 7 rated "2", 1 rated "3")
 Groups: 2 groups rated "2"
- Encourage (require?) more trail development with new subdivisions; require trail connectivity/access whenever a new development abuts an existing trail (as trail system builds).
 Individuals: 1.17 (5 out of 6 rated "1", no "3's")
 Groups: 2 groups rated "1"
 Comment: [Emphasis on *encourage*]
- Look for opportunities to extend trails from neighboring towns into Holden (e.g. Brewer).
 Individuals: 1.0 (7 out of 7 rated "1")
 Groups: 2 groups rated "1"
 Comment: Starting point for greater regional trail access connecting all the towns

PARKS & RECREATION

Individual responses: 5, Group responses: none

- Continue to support the Holbrook Regional Recreational Program (CP).
Individuals: 1.2 (4 out of 5 rated "1", no "3's")
- Continue to rely on school facilities to meet some of the recreational needs of the citizens of Holden (CP).
Individuals: 1.6 (3 out of 5 rated "1", 1 rated "3")
- Continue to rely on recreational opportunities and facilities that are available in other communities throughout the surrounding region (CP).
Individuals: 1.4 (3 out of 5 rated "1", no "3's")
- Include provisions in the Town's Zoning, Subdivision and Site Plan Review ordinances to require parks, open spaces and/or walking, hiking or bicycle trails in new developments (CP).
Individuals: 1.6 (3 out of 5 rated "1", 1 rated "3")
- Develop a Trail Network Master Plan that would include an inventory of existing trails, areas where residents wish to have trails, and desirable areas of connectivity and destination points (CP).
Individuals: 1.2 (4 out of 5 rated "1", no "3's")
- In accordance with the Trail Network Master Plan, extend trails throughout the community and provide regional connections. Plan for trail systems that complement the planned I-395 connector (CP).
Individuals: 1.2 (4 out of 5 rated "1", no "3's")
- Consider the need for and impact of one or more public access and/or recreation areas on at least one of Holden's water bodies (CP).
Individuals: 1.6 (3 out of 5 rated "2", no "3's")
- Establish a list of criteria for potential land acquisition for public parks.
Individuals: 1.6 (3 out of 5 rated "1", 1 rated "3")
Comments: Not need public parks; Hamilton land on Route 46

AGRICULTURE

Individual responses: 5, Group responses: 1

- Consider options for protecting prime agricultural soils such as cluster development (CP).
Individuals: 1.0 (5 out of 5 rated "1")
Groups: 1 group rated "1"
- Increase community efforts on promoting agriculture & local/regional farms.
Individuals: 1.0 (5 out of 5 rated "1")
Groups: 1 group rated "1"
- Make prime agricultural soils and active farm land use a priority for conservation and protection as a community resource.
Individuals: 1.2 (4 out of 5 rated "1", no "3's")
Groups: 1 group rated "2"
- Establish a committee or working group to identify the needs, threats, and potential actions/initiatives to promote and protect farming.
Individuals: 1.2 (4 out of 5 rated "1", no "3's")
Groups: 1 group rated "1"

- Incorporate agricultural business development and opportunities into local economic development planning.
Individuals: 1.0 (5 out of 5 rated "1")
Groups: 1 group rated "1"
- Promote use of the Farmland Current Use Property Tax Program.
Individuals: 1.6 (3 out of 5 rated "2", no "3's")
Groups: 1 group rated "2"
- Review local regulations to ensure they are "farm friendly".
Individuals: 1.0 (5 out of 5 rated "1")
Groups: 1 group rated "1"
- Explore opportunities for permanent farmland conservation projects in town.
Individuals: 1.0 (5 out of 5 rated "1")
Groups: 1 group rated "1"
- Ensure future conservation easements on farmland adequately accommodate agricultural uses and activities.
Individuals: 1.2 (4 out of 5 rated "1", no "3's")
Groups: *no rating*

WORKING FORESTS

Individual responses: 5, Group responses: 1 (for one of the items)

- Provide educational opportunities for owners of forest lands to actively manage these lands in order to keep them healthy, productive, and contributing to the rural character of the Town (CP).
Individuals: 1.2 (4 out of 5 rated "1", no "3's")
- Provide information about the tree growth tax program. Encourage landowners to work with licensed foresters and trained loggers to accomplish their goals in a responsible way (CP).
Individuals: 1.2 (4 out of 5 rated "1", no "3's")
- Continue to regulate timber harvesting through the Town's Shoreland Zoning Ordinance (CP).
Individuals: 1.2 (4 out of 5 rated "1", no "3's")
- Encourage cluster development when large, contiguous tracts of forest land are proposed for development (CP).
Individuals: 1.0 (5 out of 5 rated "1")
- Explore options for establishing forested buffers in appropriate areas (CP).
Individuals: 1.2 (4 out of 5 rated "1", no "3's")
- Encourage the use of the Tree Growth Current Use Property Tax Program.
Individuals: 1.6 (3 out of 5 rated "1", 1 rated "3")
Groups: 1 group rated "2"
Comments: Concern with penalties; Get state forester on board

WILDLIFE & HABITAT

Individual responses: 7, Group responses: 2

- Encourage the regular mapping and analysis of the town's wildlife habitat by the Department of Inland Fisheries and Wildlife and/or by consultants (CP).

Individuals: 1.0 (7 out of 7 rated "1")
Groups: 2 groups rated "1"

- Request development review assistance from the Maine IF&W when development proposals would impact resources identified by the Department, including deer yards and waterfowl and wading bird habitat. As the Town develops and revises ordinances, consider consulting with the Beginning with Habitat Program, the Natural Areas Program and similar programs (CP).
Individuals: 1.0 (7 out of 7 rated "1")
Groups: 2 groups rated "1"
- Strive to maintain undeveloped blocks greater than 250-acres in Holden by considering partnering with the Holden Land Trust or other similar organizations to acquire development rights, obtain conservation easements or fee ownership on large blocks of land, or protect these blocks through other means (CP).
Individuals: 1.0 (7 out of 7 rated "1")
Groups: 2 groups rated "1"
- Work with neighboring towns and cities to conserve undeveloped blocks of land greater than 5,000 acres (CP).
Individuals: 1.0 (6 out of 6 rated "1")
Groups: 2 groups rated "1"
- Provide educational opportunities for landowners with high value habitat to enroll in either the Farm and Open Space Program or the Tree Growth Tax Program (CP).
Individuals: 1.14 (6 out of 7 rated "1", no "3's")
Groups: 1 group rated "1", 1 group rated "2"
- Encourage protection and preservation of wildlife travel corridors between large blocks of land (CP).
Individuals: 1.14 (6 out of 7 rated "1", no "3's")
Groups: 2 groups rated "1"
- Opportunities to conduct an annual invasive species removal on town properties, or demonstration property?
Individuals: 2.5 (6 split between rating "2" and "3")
Groups: 1 group rated "2", 1 group rated "3"
Comments: Not sure we have any; Partner with New England Wildflower Society
- Make wildlife diversity and conserving large blocks of habitat a priority for conservation and protection as a community resource.
Individuals: 1.17 (5 out of 6 rated "1", no "3's")
Groups: 2 groups rated "1"
- Continue to hold free workshops/talks/walks on local wildlife.
Individuals: 1.0 (6 out of 6 rated "1")
Groups: 2 groups rated "1"
- Promote USDA/NRCS programs such as EQIP, CRP and CSP that provide financial incentives for private landowners to maintain wildlife habitat.
Individuals: 1.3 (5 out of 7 rated "1", no "3's")
Groups: 1 group rated "1", 1 group rated "2"
Comment: Not sure what initials are but like financing
- Implement Comprehensive Plan recommendations on wildlife habitat & natural resources.
Individuals: 1.14 (6 out of 7 rated "1", no "3's")
Groups: 2 groups rated "1"

WATER RESOURCES

Individual responses: 6, Group responses: 1

- Inform all property owners of the importance of protecting water quality. Focus on practical steps the property owner can take such as limiting or avoiding lawn fertilizers, maintaining septic systems, correcting erosion, and leaving as much of the shorefront as possible in its natural condition. Use the local print media and web sites, as well as other means, to reach people (CP).
Individuals: 1.0 (6 out of 6 rated "1")
Groups: 1 group rated "1"
- Continue to support and encourage volunteer efforts to work with the Department of Environmental Protection to monitor the quality of the lakes and streams and reduce non-point source pollution. Support efforts to control/eliminate invasive aquatic plants in all Holden's lakes, streams and tributaries (CP).
Individuals: 1.0 (6 out of 6 rated "1")
Groups: 1 group rated "1"
- Continue strict administration and enforcement of the shoreland zoning provisions of the Town's Land Use Ordinance (CP).
Individuals: 1.0 (6 out of 6 rated "1")
Groups: 1 group rated "1"
- Continue to work with the Department of Environmental Protection in the enforcement of the Town's phosphorus control standards so as to maintain or improve water quality on a long term basis (CP).
Individuals: 1.0 (6 out of 6 rated "1")
Groups: 1 group rated "1"
- Other: *Protection of ground water, wells (x3)*

SCENIC VIEWS

Individual responses: 7, Group responses: 1

- Encourage the preservation of scenic areas and vistas and other significant natural resources during the development review process (CP).
Individuals: 1.0 (7 out of 7 rated "1")
Groups: 1 group rated "1"
- Adopt a scenic view protection policy or plan, designating/defining high priority scenic views and a rating system for scenic views:
 - Maintain the view point: keep structures and vegetation from blocking visual access to the view.
 - Maintain the viewshed: limit tree clearing for new developments to reduce the visibility of buildings in viewshed areas (such as ridges and high points).Individuals: 1.3 (5 out of 7 rated "1", no "3's")
Groups: 1 group rated "1"
- Outline triggers (mapping, criteria) for visual impact assessments, adopt clear performance standards for new developments, and outline accepted mitigation for scenic impact.
Individuals: 1.5 (4 out of 6 rated "1", 1 rated "3")
Groups: 1 group rated "1"
- Adopt a scenic road corridors map establishing high priority scenic routes, for purposes of conservation prioritization and performance standards for new development.
Individuals: 1.5 (4 out of 6 rated "1", 1 rated "3")
Groups: 1 group rated "1"

- Encourage landowner to maintain scenic views by keeping vegetation pruned/thinned.
Individuals: 1.5 (4 out of 6 rated "1", 1 rated "3")
Groups: 1 group rated "1"
- Proactively seek opportunities for public or land trust held easements to protect significant scenic views.
Individuals: 1.3 (5 out of 6 rated "1", 1 rated "3")
Groups: 1 group rated "1"
- Consider fee-in-lieu-of-TDR program for protecting scenic views.
Individuals: 1.5 (4 out of 6 rated "1", 1 rated "3")
Groups: 1 group rated "1"
- Establish a policy on scenic views with regards to communications towers, wind turbines, and other high structures.
Individuals: 1.3 (4 out of 6 rated "1", no "3's")
Groups: 1 group rated "1"
- Other: *Ordinance on building on ridgelines*

LAND CONSERVATION/PROTECTION

Individual responses: 7, Group responses: 2

- Consider options for acquisition of property or easements important to the Town for its natural resource value (CP).
Individuals: 1.0 (6 out of 6 rated "1")
Groups: 1 group rated "1"
- Amend the Subdivision Ordinance to require that all subdivisions in all zones be open space subdivisions. In rural areas, at least 50% of the developable land should be preserved as open space (CP).
Individuals: 1.0 (7 out of 7 rated "1")
Groups: 1 group rated "1"
- Consider incentives that would allow public access to open space areas [created by open space subdivisions].
Individuals: 1.14 (6 out of 7 rated "1", no "3's")
Groups: 1 group rated "1"
- Coordinate town priorities for land protection with land trust priorities and other related organizations (CP).
Individuals: 1.0 (6 out of 6 rated "1")
Groups: 2 groups rated "1"
- Possible use of term easements/conservation leases as non-permanent (fixed period) conservation.
Individuals: 1.4 (4 out of 7 rated "1", no "3's")
Groups: 2 groups rated "1"
- Consider acquiring right-of-first-refusal for parcels with high importance for conservation.
Individuals: 1.3 (5 out of 7 rated "1", no "3's")
Groups: 2 groups rated "1"
Comment: In "good faith", do we have the money set aside?
- Review all tax-acquired properties for conservation/recreation value; consider acquired parcels not having conservation/recreation value for land swap or sale to benefit land conservation/ recreation.
Individuals: 1.3 (5 out of 7 rated "1", no "3's")
Groups: 2 groups rated "1"

- Consider "green development" options, where a parcel could have limited/partial development to help fund conservation.
Individuals: 1.3 (5 out of 7 rated "1", no "3's")
Groups: 1 group rated "1"
- Ensure future conservation easements on working lands (woodlots and farmland) adequately accommodate those uses and activities.
Individuals: 1.3 (5 out of 7 rated "1", no "3's")
Groups: 1 group rated "1"
- Develop a policy or an approach for maintenance planning for publicly held open space properties.
Individuals: 1.17 (5 out of 6 rated "1", no "3's")
Groups: 1 group rated "1"

REGULATORY / LAND USE

Individual responses: 5, Group responses: 1

- Continue to protect identified significant natural resources through land use as set forth in the Town's Zoning and Subdivision Ordinances (CP).
Individuals: 1.0 (5 out of 5 rated "1")
Groups: 1 group rated "1"
- Continue to require that applicants for approval of major subdivisions and non-residential developments submit environmental impact assessments to the Planning Board (CP).
Individuals: 1.0 (5 out of 5 rated "1")
Groups: 1 group rated "1"
- Establish an open space impact fee or density transfer fee (a.k.a. fee-in-lieu-of-TDR) to help offset new development with land protection.
Individuals: 1.6 (3 out of 5 rated "2", no "3's")
Groups: 1 group rated "2"
- Cluster/open space subdivisions: provide clear guidance on priorities for establishing open space (e.g. trail connections, habitat blocks, special resources, etc.).
Individuals: 1.0 (5 out of 5 rated "1")
Groups: 1 group rated "1"
- Consider the use of overlay districts to protect priority resources.
Individuals: 1.25 (3 out of 4 rated "1", no "3's")
Groups: 1 group rated "1"
- Other: *Water (groundwater protection)*

FUNDING FOR OPEN SPACE

Individual responses: 5, Group responses: none

- As part of the Capital Improvement Plan, consider periodically adding funds to an account to be used for acquisition of conservation easements or fee ownerships on land that is important to the Town for its natural resource value (CP).
Individuals: 1.4 (3 out of 5 rated "1", no "3's")

- Consider developing a fee-in-lieu of land dedication, impact fee, or other device for smaller subdivisions where land set aside is not appropriate (CP).
Individuals: 1.4 (3 out of 5 rated "1", no "3's")
Comment: Also land trust and any other group taking land out of residential use
- Begin building a dedicated town fund/account for fees and other appropriations are maintained for the use of land acquisition or conservation easements; use funds to match land trust funding and/or state and federal grants whenever possible.
Individuals: 1.6 (3 out of 5 rated "2", no "3's")
- Dedicate penalty fees from withdrawal from current use property tax programs to use for open space conservation.
Individuals: 1.6 (3 out of 5 rated "2", no "3's")



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