Town of Pembroke, NH

Open Space Plan

FINAL DRAFT 08-05-10

Pond View, Academy Road

Pembroke Open Space Committee

August 2010

With assistance from the
Central New Hampshire Regional Planning Commission

Town of Pembroke, NH

Open Space Plan

August 2010

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**Funding provided through the I-93
Community Technical Assistance Program,
Administered by the NH Department of Transportation**

Acknowledgements

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- Linda Haggett, Resident
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The CNHRPC and the Town are grateful to the Southern NH Planning Commission for basic content of some sections of this **Plan**, which were then tailored and enhanced to meet Pembroke's needs.

Cover photo courtesy Ammy Heiser

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1. Introduction

Pembroke's natural landscape, bounded on three sides by rivers, with large unbroken forest tracts, historic farmsteads and open fields, is one of the features that make it an attractive and desirable place to live. Because of Pembroke's beautiful setting and convenient location close to Concord and major transportation corridors, the Town has seen significant growth in recent decades. With the widening of I-93 between Salem and Manchester, development is expected to spread north along the Interstate corridor up to the Concord area. Pembroke has the opportunity now to identify conservation goals and priorities in order to best protect its valuable natural resources.

The Pembroke **Open Space Plan** was developed as a tool for future open space management planning. When the Town of Pembroke reviews parcels for future development, moves forward to acquire land, or makes plans for existing open space within the town, this **Plan** can help determine priorities for conservation. It also identifies a long term objective for open space protection to maintain the high quality of life that Pembroke residents presently enjoy.

Community input during the town's Master Plan update process in 2004 indicated that Pembroke residents highly value and strongly support the conservation of key natural resources and the town's rural character. Nearly three-quarters (73%) of community survey respondents indicated that the town's rural atmosphere is an important contributing factor for living in Pembroke, and 75% of respondents felt that the Master Plan should articulate support for agriculture and forestry land uses. Another survey conducted in 2009 as part of this open space planning process showed strong support for the acquisition of conservation lands through various mechanisms. With such a high level of support from residents for conservation, the need for an open space plan is evident.

An **Open Space Plan** contains policies and actions that will assist the Town with future development, while also encouraging Town leaders to promote open space protection. The **Plan** is also a snapshot of the environmental features in the community, including water, soil, habitat, forests, and a number of other elements. When these elements are layered over each other, the areas with the highest conservation value become apparent. This interconnected network is called the **Green Infrastructure**. It is ***a network of the most valuable natural resources within the community, which, if protected from development, should ensure that the services provided by nature to the Town and all of its inhabitants (both human and non-human) will continue indefinitely for future generations***. The **Plan** helps identify and prioritize the Town's open space and presents options for protecting these key areas in accordance with Master Plan goals set by the community.

In the development of this **Plan**, the intent of the Open Space Committee was to identify and develop a prioritized map of agricultural, open, and forested land that if protected from residential, commercial, and industrial growth would preserve the Town's natural

resources and rural quality of life. By implementing this **Plan**, the Town of Pembroke will have a guide for protecting the open space and natural resources that its residents highly value.

This **Open Space Plan** has been prepared by the Town of Pembroke's Open Space Committee with funding and technical assistance provided through the I-93 Community Technical Assistance Program (CTAP) and the Central New Hampshire Regional Planning Commission (CNHRPC).

Why Does Pembroke Need an Open Space Plan?

- Pembroke's **population is projected to grow from 7,343 in 2010 to 9,070 people by 2030 (a 24% increase),** which will place development pressure on the town's existing undeveloped lands.*
- Pembroke **residents value open space and support its protection**, according to the 2004 Master Plan Community Survey and the 2009 Open Space Survey.
- The **Master Plan** recommends much of the land delineated as the Green Infrastructure to be designated for open space, agricultural, or timber conservation.
- **Pembroke has the least amount of protected open space – 2.9%** of the town's area – **among its neighboring communities** (15.3% on average). **
- Studies in New Hampshire have shown that **undeveloped lands consistently generate a financial surplus**: more revenue is taken in for taxes than is spent on public services. †
- **Without a proactive plan, Pembroke will not achieve the open space protection results that its citizens desire**, and as development pressures increase, may be faced with difficult conservation and development decisions that will have to be made reactively.

* NH Office of Energy and Planning Projections, 2006.
**See p. 8 for more a detailed description.
† *Does Open Space Pay in Brentwood?* Brentwood Open Space Task Force, 2002. *Does Open Space Pay?* UNH Cooperative Extension, 1996.

1.1 Background

Open space planning in New Hampshire is an ongoing activity that is conducted differently in every community. Typically the Conservation Commission takes the lead. In Pembroke, the Conservation Commission is active in its mission to promote natural resource protection through easement monitoring, plan review, and very selective land acquisition. **Map 1. Lands Under Conservation** displays the areas that are currently under permanent easement, deed restriction, or other forms of protection.

For this plan, a separate **Open Space Committee** was created with the intention to involve a cross-section of residents with diverse interests and expertise outside of the Conservation Commission. Members were sought with experience in the areas of outdoor recreation, hunting and fishing, natural resource protection, planning and administration, historical and cultural resource protection, farming, and forestry. Town boards and committees were also encouraged and invited to participate. The group of residents who volunteered to develop the **Open Space Plan** indeed represented all of these interests and more, providing a rich knowledge base and a wide range of perspectives. The result is a plan that reflects the interests and desires of a diverse group of Pembroke residents.

In preparing this plan, the Open Space Committee met five times during 2010 on the following dates: January 13th, February 25th, March 25th, April 8th, and April 29th. The first effort of the Open Space Committee was to identify the natural resources and important natural features of the Town's landscape and to assign relative values to these various resources through the Delphi Process as explained further in ***2. Plan Development***. Mapping these resources throughout the community provides a delineation of the Town's natural resource network or "green infrastructure." As key areas are identified from this network, the Open Space Committee has suggested strategies and priorities to guide Pembroke's future open space protection efforts.

This **Plan** is organized into the following sections including ***1. Introduction***, ***2. Plan Development***, ***3. Planning for the Green Infrastructure***, ***4. Funding Strategies***, and ***5. Recommendations and Implementation Methods***. A series of maps showing the Town's natural resources and high-value co-occurrence areas is highlighted in ***6. Maps of the Open Space Plan***. The final map, **Map 9. Top 100 Scoring Parcels,** displays the Green Infrastructure delineated as a result of the planning process and the parcels that contain the highest value natural resources. The ***Appendices*** conclude the Plan with discussions of potential state and federal funding programs and helpful publications.

2. Plan Development

2.1 - Step 1: Identify High Value Natural Resources

The first step in the development of this **Plan** was the identification of the most important natural resources within the Town to conserve. A series of Geographic Information Systems (GIS) maps of various natural resource data, including aquifers, public water supply wellhead protection areas, floodplains, prime agricultural soils, important forest soils, wildlife habitats, stream corridors, steep slopes, trails and Class VI roads, and unfragmented blocks over 50 acres in size, were developed. The Open Space Committee also identified an area along the Suncook River on the southeast side of Town that provides important stopover habitat for migratory birds each spring and fall. **Map 2. Unfragmented Lands**, **Map 3. Water Quality Resources**, **Map 4. Drinking Water Resources,** **Map 5. Agricultural Soils,** and **Map 6. Wildlife Habitat,** display several of these resource themes.

The Open Space Committee reviewed all of the resource maps and selected which resource types to consider. These natural resources and features are grouped into the five broad categories as shown in yellow highlight in **Table 1. Resource Values and Weighting Scheme.**

Table 1. Resource Values and Weighting Scheme

Delphi Process Natural Resource Scoring Distribution	
Number of Participants:	7
Soil Conditions	
Important Forest Soil Group I	**4.1**
Prime Agricultural Soils	**6.1**
State Agricultural Soils	**3.9**
Local Agricultural Soils	**1.9**
Soil Conditions Total Score	**16.0**
Open Space Continuity	
Unfragmented Areas > 500 acres	**6.4**
Unfragmented Areas > 100 acres	**5.0**
Unfragmented Areas > 50 acres	**3.0**
Open Space Continuity Total Score	**14.4**
Wildlife Habitat	
NH WAP Tier 1 Habitat	**4.6**
NH WAP Tier 2 Habitat	**3.3**
NH WAP Supporting Habitat	**2.0**
Migratory Bird Area	**5.0**
Wildlife Habitat Total Score	**14.9**
Drinking Water Resources	
Aquifer Transmissivity > 1,000 ft2/day	**6.7**
Aquifer Transmissivity 0 - 1,000 ft2/day	**5.0**
Public Water Supply Protective Sanitary Radius	**8.6**
Wellhead Protection Area	**7.3**
Drinking Water Resources Total Score	**27.6**
Water Quality	
Named streams, associated wetlands & 250' Resource Area	**6.7**
Unnamed streams, associated wetlands & 100' Resource Area	**4.7**
Floodway	**2.3**
Floodplain area - 1% Annual Flood Risk (100-Yr)	**2.1**
Floodplain area - 0.2% Annual Flood Risk (500-Yr)	**1.4**
Water Quality Total Score	**17.3**
Recreation	
Trails & 25ft buffer	**5.1**
Class VI Roads & 25ft buffer	**4.7**
Recreation Total Score	**9.9**
	100.0

2.2 - Step 2: Weighted Co-Occurrence Exercise

The second step was to assign relative weights to the various natural resources to establish their importance for protection. Weights were assigned through a "Delphi Process"[1] during which each participant suggested his/her preferred

[1] *The Delphi process is a method for structuring a group communication process so that the process is of individuals, as a whole, to deal with a complex problem. One approach is to have a monitor team design*

weighting scheme by distributing 100 points among the categories. The members then compared each of their individual results to the group average, discussed differences, and reached consensus on how to divide the points within each category. **Table 1** shows the relative weight placed on each of the resources, called the natural resource score. Resource values were calculated across the entire Town based upon the weighting scheme shown in **Table 1**. **Map 7. Co-Occurrence Analysis: Total Natural Resource Scores** is a weighted co-occurrence map that displays where multiple resources occur in the same area and how the assigned scores add up. This map and several subsets provided the basis for all subsequent work by highlighting the highest value natural resource areas and therefore those areas of Town most important to protect.

2.3 - Step 3: Defining the Green Infrastructure

The third step was to define a "green infrastructure." Using the co-occurrence maps and base natural resource maps, Open Space Committee members collectively drew out open space corridors that they felt were important for the Town to concentrate on protecting. The group then connected these corridors to create one open space network.

> ***The Green Infrastructure is an area that, if protected from disturbance, should ensure that the services provided by nature to the Town's residents will continue indefinitely, even if the rest of the Town were to be developed.***

These services include:

- Maintaining the quality of ground and surface water.
- Maintaining enough forest and agricultural land that it can remain productive or be placed into production if not currently managed as such.
- Protecting forests, wetlands, and stream corridors to minimize stormwater runoff and potential flood damage.
- Improving air quality.
- Providing sufficient habitat for plant and animal species now in Pembroke to remain in Pembroke, even in the face of a significant disturbance such as fire, flood, or insect infestation.
- Providing connected open space for all Pembroke residents to enjoy at a reasonable distance from their homes.
- Creating a pleasant and scenic environment in which to live.
- Creating interconnected green spaces that allow for the movement of wildlife and to allow for trails connecting the various parts of Town.

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a questionnaire to send to a larger respondent group. The questionnaires are returned and the monitor team summarizes the results and, based upon the results, develops a new questionnaire for the respondent group. The respondent group is given at least one opportunity to reevaluate its original answers based upon examination of the group response. (Linstone and Murray, ed.: The Delphi Method: Techniques and Applications, 2002)

The Open Space Committee followed these general guidelines to define the Green Infrastructure as displayed on **Map 8. Green Infrastructure**:

- Include areas of exceptionally high resource value for a particular category.
- Include areas where multiple resource values occur in the same place.
- Give added consideration to lands near existing conservation lands.
- Give added consideration to stream corridors and associated wetlands, which act as natural corridors and rich habitat for wildlife.
- Aim to provide as many residents as possible access to open space within a quarter-mile of their homes.
- Support key Master Plan goals.

The Green Infrastructure identified in Pembroke includes approximately 7,045 acres or 48% of the Town's total area. Other communities in the CTAP region have aimed for between 25 and 50% when delineating their Green Infrastructures. Based on the amount of high value resources present and strong public support for conservation articulated in Pembroke's Master Plan process, the Open Space Committee felt that it was important to be as inclusive as possible in defining the Green Infrastructure. Generally speaking, Pembroke's Green Infrastructure includes riverfront lands along the Merrimack, Soucook, and Suncook Rivers, most existing conservation areas, and a large block of forest lands across the town's central and northern Range Roads area. Developed areas, including home sites, yards, and driveways, were left out to the greatest extent possible.

It is extremely important to note that landowners whose property falls within the Green Infrastructure are free to utilize their land as they see fit, consistent with applicable laws and regulations. Inclusion of land within the Green Infrastructure is NOT an indication that the Town of Pembroke has any legal interest in the land or has any intention of taking the land for a public purpose. Rather, the Green Infrastructure identifies significant areas with relatively high conservation values which would be considered a conservation priority for the Town if the parcels were to become available.

2.4 - Step 4: Prioritization

After the Open Space Committee delineated the Green Infrastructure by hand on a clear overlay map, the area was digitized into GIS and overlaid on a tax parcel map. All parcels within or partially within the Green Infrastructure were highlighted, for a total of 707 parcels. Each parcel was given a total natural resource score based on the spatial extent and assigned value of natural resources present. Parcels already under conservation were removed from the list. After lengthy discussion about town priorities and goals, the Open Space Committee assigned a 30% bonus score to any parcel within the Green Infrastructure that:

- Abuts existing conservation land
- Is classified as a farm in the Assessing Database, or contains agricultural land according to 2005 Land Use data, or is part of the historic Haggett Farm, identified by the Open Space Committee as a particularly valuable area
- Contains or abuts a series of ponds in the Range Roads area designated by the Open Space Committee

From the resulting group, the top 100 scoring parcels were then selected based on their total natural resource scores, including bonus points. **Map 9. Top 100 Scoring Parcels** shows the highest scoring parcels in the Green Infrastructure. The top 100 parcels can be considered of highest priority for the Town in its open space planning and conservation efforts. Planning for the Green Infrastructure is discussed in further detail in **Section 3**.

3. Planning for the Green Infrastructure

3.1 Introduction

Based on current and anticipated rates of growth, Pembroke can expect increasing pressure to develop open space in Town. The availability of land will diminish over time, and with it, those areas and resources which the community treasures. From positive replies in the Master Plan Community Survey and Open Space Survey to different types of funding opportunities, the Conservation Commission has both the ability and the support for the acquisition of key resource parcels.

Compared to area municipalities, Pembroke has less land under conservation. As of 2009, approximately 427 acres, or 2.9% of Pembroke's total area can be considered conserved.[2] Across the CTAP region,[3] 13.4% of the total area is considered conserved. **Table 2** below places Pembroke in context with its immediate neighbors. Although there is a great deal of land enrolled in the current use program in Pembroke, landowners are free to remove their property from the program and subdivide or develop it. Therefore, current use properties are not protected from development and cannot be considered permanently conserved.

Table 2. Regional Conservation Lands Data

Conserved Land in Neighboring Communities			
Municipality	**Acres Conserved**	**Total Area (Acres)**	**% Conserved**
Allenstown	6,761	13,167	51.3%
Concord	8,930	43,000	20.8%
Bow	2,808	18,269	15.4%
Hooksett	3,058	23,761	12.9%
Loudon	2,463	29,897	8.2%
Epsom	1,397	22,153	6.3%
Chichester	598	13,628	4.4%
Pembroke	***427***	***14,597***	***2.9%***

Source: GIS calculations from 2009 Conservation Lands data layer from NH GRANIT.

[2] Based on GIS conservation lands data and town boundaries provided by NH GRANIT. "Lands under conservation" includes publicly and privately owned lands under permanent conservation easement or deed restriction, as well as lands held by public or private entities not legally conserved but clearly held with the intention of keeping them in open space. They also include managed public water supply lands lacking formal protection and public "developed" lands such as picnic areas, ballfields, boat launches, and beaches. The acreage and percentage figures presented here are derived from GIS data calculations produced by CNHRPC.

[3] The CTAP region includes 26 municipalities in central and southern New Hampshire expected to be most affected by the widening of I-93. More information on the CTAP planning initiative can be found at http://www.rebuildingi93.com/.

3.2 Community Support

The Master Plan survey and Open Space survey responses to conservation questions clearly indicated a desire for more land to be protected. Nearly three-quarters (73%) of Master Plan survey respondents considered the town's rural atmosphere to be one of the most desirable features of Pembroke. Approximately 70% of respondents indicated that protection of groundwater and surface water should be a high priority of the Town; 60% believe that protection of forests should be a high priority; and more than half of respondents believe that wetlands and wildlife protection should be considered a high priority.

The 2009 Open Space survey was distributed in the Fall 2009 Pembroke newsletter mailed to every household, and received 64 responses. Although fewer responses were received than during the Master Plan process, the results are certainly worth noting. When asked to rank the importance of having the Town acquire various types of undeveloped land, 77% of respondents indicated that groundwater supply areas should be a high priority. Forests were next, with 73% rating their protection a high priority, followed by trails (68%) and wildlife habitat (58%). The survey asked if Pembroke were to expand conservation lands, which methods should be used (more than one response was allowed). The top choices among respondents (67%) were Town purchase of land, followed by private organization purchase of easements (62%) and Town purchase of easements (60%). Respondents were also queried on which special places in Pembroke are the most important to permanently conserve. Top areas identified were shorelands and river frontage, farmland and fields, and the range roads.

The messages from both survey responses are indicative of the community's positive support for open space conservation. The Conservation Commission has reinvigorated its efforts to protect key areas in town, and is currently working to purchase farmland along the Suncook River. Matching funds have been secured through a competitive grant program offered by the USDA, meaning that the Town of

Figure 1. Prime farmland along Buck Street
Photo courtesy Ammy Heiser

Pembroke has leveraged 50% of the total cost of the project. The property would be placed under a permanent conservation easement held by a third party to ensure that it remains a working farm.

Efforts such as these are integral to achieving the results desired by Pembroke's citizens and to carrying out the Conservation Commission's core mission. The Green Infrastructure identified in this **Open Space Plan** is intended to further guide the Conservation Commission as well as the Planning Board in their work.

3.3 Existing and Future Development

The 2000 Census counted 2,734 dwelling units and 6,897 people living in the 22.6 square mile land area of Pembroke. In more recent 2008 NH Office of Energy and Planning (NHOEP) estimates, Pembroke had 3,010 housing units and a population of 7,331. This is a growth of 6.3% in population and 10% in housing since the 2000 Census was conducted. These figures represent a current population density of 324 people and 133 housing units per square mile, with 2.44 people per household. Pembroke is still growing more slowly than other communities along the I-93 corridor. Region-wide among CTAP communities, population growth averaged 10.6% and housing growth increased by 15.6%.

Figure 2 shows population and housing growth in Pembroke over a thirty year period. Population projections from NHOEP for Pembroke predict that 9,070 people will live in town by 2030. This is a 31.5% increase in population from the 2000 Census. If the average household size remains at 2008 levels, that

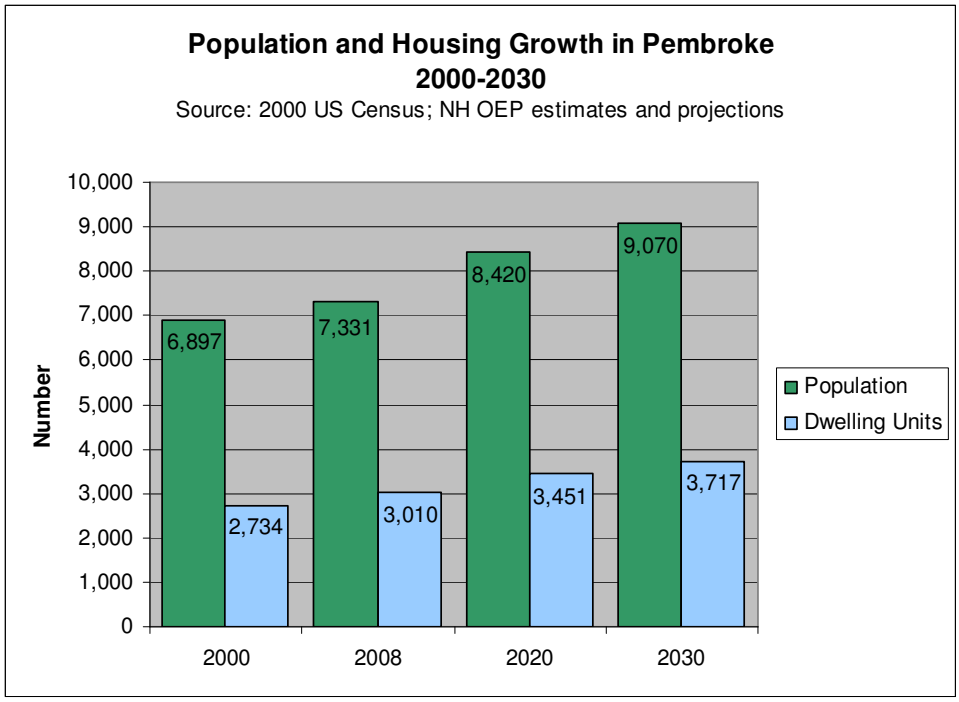

Figure 2. Population and Housing Growth, 2000-2030

could mean another 707 dwelling units. Given that household size has been shrinking nationally and is expected to further decrease, this is a conservative estimate. NHOEP population projections for the CTAP region predict that Pembroke will slightly trail the region as a whole, which is projected to increase 35.8% from 405,889 in 2000 to 519,160 people in 2030.

A base build-out analysis was completed by CNHRPC in 2009 that yielded 3,700 potential additional dwelling units and an estimated 297 commercial units (averaging 15,000 sf) at the full build-out of Pembroke, given the existing zoning and land use regulations. Of the units, approximately 2,009 of the new dwelling units plus an additional 77 commercial units could potentially be located within the Green Infrastructure area. This would total 6,710 dwelling units in the 22.6 square mile area of Town, or 297 units per square mile – essentially twice the current density. This build-out scenario makes basic assumptions about the amount of developable land, existing lot conditions, and average commercial square footage. It is not time-specific, meaning that there is no prediction of how long it might take to reach full build-out. Rather, it paints a picture of how much development could potentially occur in Pembroke given current zoning and land use regulations.

Future development will certainly occur within the Green Infrastructure area. The purpose of identifying priority conservation areas is not to prevent all development throughout the entire network, but rather to target the Green Infrastructure for conservation when opportunities arise, and to keep it in mind when making land use planning decisions. In this way, the impacts of development to the environment may be minimized. For example, clustering houses in a subdivision and setting aside a contiguous open space area rather than dividing the tract into equal five-acre lots can minimize the fragmentation of forest land.

Landowner Concerns

My property looks like it falls within the Green Infrastructure. How will I be affected?

Property owners are free to use their land as they wish, in accordance with applicable laws and regulations.

Is the Town going to buy or take my land?

No. You may be provided with informational materials on natural resource protection and conservation, best management practices, or options for perpetual conservation through easement donation or sale. The Town has no legal interest or intention to take your land for a public purpose simply because it lies within the Green Infrastructure.

I am interested in donating or selling my property or a conservation easement. How do I start the process?

The Conservation Commission will meet with you to discuss options. Town acquisition of land or property interests for conservation purposes is contingent upon conservation priorities, funding availability, owner cooperation, and voter support at Town Meeting.

3.4 Green Infrastructure Protection

The Green Infrastructure identified by the Open Space Committee incorporates most of the land already under various forms of conservation. Of the 427 acres

of land under conservation in Pembroke, approximately 409 acres fall within the Green Infrastructure.[4] This represents 5.8% of the Green Infrastructure area that is currently protected from development through public ownership or public or private easement. In order to ensure that additional high priority resource areas are protected from development, the Town should evaluate funding options and opportunities and continue to purchase key properties as the occasions present themselves.

The Conservation Commission has developed a set of eleven conservation criteria which it uses when considering land acquisition. The Commission uses a Land Protection Criteria Rating Sheet to assess the conservation value of a particular parcel when it becomes available. The Rating Sheet template can be found in **Appendix 1**. This screening process is intended to help the Commission make strategic decisions about which properties it should pursue and which may be of less value to the Town. The development of the Green Infrastructure as part of the Open Space planning process can be viewed as an additional screening tool to add to the Conservation Commission's existing process.

Figure 3. Great Blue Heron in tree, Whittemore Tract
Photo courtesy Jason Dexter

With available Conservation Funds from Land Use Change Tax (LUCT) penalties (described in the next section) and the fundraising skills that the

[4] Acreage derived from GIS calculations.

Conservation Commission has already demonstrated, protecting some of the Town's important resources should be possible.

Purchasing land and easements will not be the primary protection strategy for the entire Green Infrastructure, however. Aside from the prohibitive costs involved, it is extremely unlikely that all property owners within the Green Infrastructure would be inclined to sell. Other protection efforts include landowner education, encouragement of the current use program, land use planning, and certain regulatory approaches as discussed in **5.3.1 *Regulatory Protection Strategies*** which will help the Town to achieve conservation goals. Protection strategies are addressed in detail in ***5. Recommendations and Implementation Methods.***

3.5 Specific Protection Issues

Based upon the natural resource values discussed by the Open Space Committee, several key protection issues were raised. The Committee felt that farmland, Range Roads, water resources, and large forest blocks were especially important to target for conservation. The preservation of these resources not only benefits current residents, but also ensures that future generations will have a high quality environment and working landscape. The Natural Resources and Future Land Use chapters in the Master Plan support these focus areas. Effective cooperation among town boards and committees is an essential component of such conservation efforts.

3.5.1 Farmland

The protection of farmland is important to Pembroke residents. The town has relatively few areas of prime farmland, and few working farms remain. In order to ensure that Pembroke retains its valuable and productive soils for current and future agricultural use, one option is to create a local agricultural commission pursuant to RSA 674:44-e.

An agricultural commission is an advisory body that provides a voice for the farming community in municipal matters. Such commissions can undertake a variety of actions, such as working with the Planning Board to review the Master Plan and land use regulations to make sure that farming land uses and activities are fully supported. Agricultural commissions can also play an educational and promotional role, providing information to the public about the value of farming to the community and taking an inventory of agricultural operations within the town. An agricultural commission could also compile information about existing farms and make recommendations to the Conservation Commission on farmland conservation priorities. An exploratory committee could investigate the feasibility and need for an agricultural commission in Pembroke as a step toward more strategic farmland protection.

3.5.2 Range Roads

Similarly, the use of Pembroke's extensive Range Road network, comprised of over 16 miles of unmaintained Class VI roads, is a priority for many residents. Enjoyed by hikers, bicyclists, horseback riders, snowmobilers, off-road vehicle users and others, the Range Roads constitute an important recreational resource available to local residents. The Town does not maintain these roads, and has few resources to enforce their proper use.

Due to the popularity of the Range Roads, overuse (especially by heavy duty vehicles) has resulted in areas of rutting, erosion, and wetlands damage. Degradation is worst when the roads are wet or muddy. To prevent further deterioration, the Town is currently drafting a proposed ordinance that would close the Range Roads on a seasonal basis, with signs posted at entry points to that effect. The ordinance is scheduled to be placed on the 2011 Town Warrant.

Figure 4. Field view from Fourth Range Road
Photo courtesy Jason Dexter

Development pressure along Range Roads has not been significant to date. The Board of Selectmen has the authority to grant building permits on property accessed by Class VI roads following review and comment by the Planning Board. Class VI roads may also be upgraded to Class V Town maintained roads at private expense if a petition is approved by the Board of Selectmen and the associated subdivision is approved by the Planning Board. Pembroke has clearly established procedures for both of these scenarios, and the intent of the careful review process is to prevent scattered and premature development.

However, properties on Class VI Range Roads could potentially be developed at some point in the future under current guidelines.

One option the Town may consider, as discussed in the Transportation Chapter of the Master Plan, is to reclassify certain portions of the Range Roads as Class A trails. As Class VI roads, the roadways are not maintained by the Town. As Class A trails, however, the Town could opt to maintain them as a public greenway network. If reclassified, property owners would still retain vehicular access rights to existing buildings and for forestry or agricultural activities. However, new building development or expansion of existing structures would be prohibited under RSA 231-A:1.

3.5.3 Water Resources

The Green Infrastructure developed by the Open Space Committee includes lands along all three rivers that border Pembroke, as well as most of the major stream corridors in Town. These areas were included based on their high natural resource value. The Committee felt that it was particularly important to target water resources in order to protect existing and future drinking water sources. The riverbeds and several stream corridors coincide with the location of major aquifers and with wellhead protection areas.

The Natural Resources Chapter of the Master Plan specifically addresses water resources in its objectives and recommendations. One of the chapter's main objectives is "To identify and protect surface (ponds, rivers, streams) and subsurface (aquifers) water resources." Objectives were generated as a result of Master Plan subcommittee analysis and concerns raised by residents in the Community Survey.

Potential protection mechanisms suggested in the Master Plan include:

- More detailed mapping of aquifers,
- Additional levels of protection in the Aquifer Conservation District,
- Refining the Wetlands Conservation District for heightened conservation, and
- Developing a town-wide water quality monitoring program.

Several of the highest scoring parcels within the Green Infrastructure lie along one of the main rivers due to the concentration of water resources there. Although there is already significant commercial development along the Soucook and Merrimack Rivers, the Open Space Committee included a connective riverfront corridor in the Green Infrastructure to highlight the need for water resource protection where possible

3.5.4. Forest Land

The extensive forests in the Range Roads area are a long-standing and valuable resource in Pembroke. Much of the forest land has been managed for timber production through selective harvesting over the past several decades. Landowners have enrolled their timber stands in the current use program. Due to limited access and development restrictions, this area of Pembroke has remained essentially wild over the past century. It provides woodland wildlife habitat, wetland and water quality protection, and passive recreational opportunities along the Range Roads. Hunting and other off-road uses may be allowed by permission of the landowner.

In order to maintain Pembroke's valuable forest lands, a variety of protection strategies may be necessary. As discussed above, reclassifying the Range Roads from Class VI roads to Class A Public Trails would be one avenue to prevent future development. The Master Plan calls for the town to "Update the zoning ordinance to more strongly protect, promote, and enhance the town's long-established timber conservation and silviculture areas by establishing large minimum lot-size standards" and creating a new Timber Conservation District. The Conservation Commission could also target specific adjoining parcels for acquisition in fee or for securing conservation easements when opportunities present themselves (and as available funding allows).

Figure 5. Wetlands and forest, Whittemore Tract
Photo courtesy Jason Dexter

3.5.5 Town Board Coordination

Effective communication and coordination between the Conservation Commission and the Planning Board will be a key to implementing the **Open Space Plan**. Pembroke's Master Plan is the primary policy statement intended to guide the community's development. Both the Planning Board and the Conservation Commission have active roles to play in order to carry out Master Plan goals. Those roles should dovetail on matters of conservation. An excellent example of this united effort is the Future Land Use chapter in the Master Plan. The Undeveloped Land Use Objective calls for the Town to:

> …examine the existing pattern of undeveloped land throughout the town in order to identify those areas of town which should be preserved for agricultural, timber and rural lands conservation uses and to also identify those areas of town in which limited or no development would be promoted in order to balance out pro-growth related residential and commercial land use objectives.

The Green Infrastructure delineated in this Open Space Plan largely echoes priorities determined through the Master Plan process. The Future Land Use Map developed by the Planning Board with committee and public input recommends much of the land now identified as the Green Infrastructure to be designated for open space, agricultural, or timber conservation. **Map 10. Green Infrastructure and Future Land Use** shows how the two themes overlap. Given that the Planning Board and Conservation Commission share the responsibility for protecting Pembroke's natural resources, albeit through different roles and mechanisms, the two bodies should explore ways to increase communication and coordination. A cooperative approach will prevent duplicative or contradictory conservation efforts. One way to more clearly define shared aims is to adopt this **Open Space Plan** as an element of the Master Plan.

4. Funding Strategies

Funding for open space protection can come from a variety of sources. Internal funds can be generated through local taxes or appropriations. External funds can come from numerous state, federal, and private grant programs. Private donations are a third source of funds or of land itself. In all fundraising efforts, it is essential to seek public involvement and support. Final spending decisions are all subject to public hearings.

4.1 Available Funding

Monies collected from the Land Use Change Tax (LUCT) are allocated to the Pembroke Conservation Fund. The LUCT is a state-mandated tax assessed when a property owner removes land enrolled in current use from the program for uses other than open space, agriculture, or forestry. The owner pays 10% of the fair market value of the land at the time it is removed from current use. That income is reserved for the municipality where the land is located. Many communities choose to allocate a certain percentage of that penalty money to fund open space conservation, with the hope that, as undeveloped land is converted, other open space may be permanently protected. The Pembroke Conservation Fund was established in 2003 by a Town Meeting vote for land conservation purposes only, and receives 100% of LUCT penalties.

As shown in **Table 3**, the amount of LUCT collected has varied over the past five years, but has generally declined since 2005. Over that period, $474,990 has been collected through LUCT. The fund held $868,035 as of June 30, 2010. Expenditures have been made to support easement monitoring activities by the Conservation Commission; however, no major expenditures have been made since the fund was established. If the current farmland acquisition project mentioned in **Section 3.2** is successful, the Conservation Fund will expend approximately $300,000 of its available monies.

Table 3. Land Use Change Tax Acquired and the Conservation Fund

Town of Pembroke Conservation Fund						
	2005	**2006**	**2007**	**2008**	**2009**	**2010**
						(As of 6/30/10)
LUCT Revenue	$ 239,000	$ 55,150	$ 127,700	$ 10,400	$ 35,000	$ 7,740
Other revenue	$ 2,644	$ 3,113	$ 1,272	$ 5,769	$ 3,165	$ 1,674
Total Revenue	**$ 241,644**	**$ 58,263**	**$ 128,972**	**$ 16,169**	**$ 38,165**	**$ 9,414**
Total Expenditures	**$ 568**	**$ 6,912**	**$ 2,004**	**$ 885**	**$ 2,264**	**$ 419**
Total Assets	**$ 629,536**	**$ 680,887**	**$ 807,856**	**$ 823,139**	**$ 859,040**	**$ 868,035**

Source: Pembroke Town Finance Department

Other available funding sources at the local level may include donations, bonds, and Town Meeting appropriations. State and federal funding programs vary from cycle to cycle and should be investigated for their potential to provide additional monies into conservation projects. These potential conservation funding sources are found in **Appendix 2**.

4.2 Fundraising and Public Awareness

Fundraising and creative financing are essential components of acquiring any conservation property. The Land Use Change Tax penalties in the Conservation Fund are often not enough to cover the costs and expenses associated with acquisition. Public awareness of conservation land purchases is critical to ensure everyone is kept informed of how the Town's money will be used. A significant benefit of public information is that more people might be willing to donate money for the land protection project if they are aware of the resource value of a conservation parcel. Location within the Green Infrastructure and/or a high score on the Land Protection Criteria Rating Sheet would indicate that a parcel has many valuable resources worthy of protection.

In Pembroke, the first attempt at using Conservation Fund money is a pending effort to protect 45 acres of farmland on Buck Street near the Suncook River with a matching grant from the USDA's Farm and Ranchland Protection Program (FRPP). The award was one of only five made in New Hampshire in 2009 under that program. Most conservation grant programs, including this one, are highly competitive, and many programs have been reduced or eliminated as a result of the recent economic recession. Future efforts by the Conservation Commission to access grants will depend on the availability of such funds, which will likely become even more competitive. Public awareness and support, including private donations, will be essential.

What is the Conservation Fund?

A Conservation Fund is a municipal finance account to be used by the Conservation Commission for conservation projects. It is the most common way for a Conservation Commission to hold money from various income sources. A Conservation Fund may be created in municipalities that have voted to establish a Conservation Commission.

The Conservation Fund may hold money from both public and private sources. (RSA 36-A:4 and 36-A:5) The Land Use Change tax, of which Pembroke receives 100%, contributes heavily to the Fund. Private donations to the Conservation Fund may be tax deductible as a charitable contribution.

Money in the Conservation Fund is non-lapsing, which means it carries over from one fiscal year to the next. (RSA 36-A:5 I) This is not the case with most municipal funds, and it provides the Conservation Commission with the opportunity to budget for anticipated expenses and to save toward important projects.

The disbursement of funds shall be authorized by a majority of the Conservation Commission. In order to utilize the funds for land purchase, the Commission shall hold a properly noticed public hearing. Purchases of property interests (in fee or easements) must be approved by the Board of Selectmen following a properly noticed public hearing. Under RSA 36-A:5, Money may be expended from the fund by the Conservation Commission for the purposes of this chapter without further approval of the town meeting.

SPNHF's *The NH Municipal Conservation Guidebook* 2010 publication has much more information on the subject of Conservation Funds.

5. Recommendations and Implementation Methods

As a result of the findings within the **Plan** arising from many meetings, recommendations have been developed to encourage the protection of the Green Infrastructure of Pembroke. Implementation strategies, both regulatory and non-regulatory, have been designed to assist with the protection of conservation areas if they are not purchased outright by the Town.

5.1 Summary of Recommendations

The recommendations below should be directed by the Conservation Commission as they are the group most closely associated with these activities. Town support will be necessary to ensure they come to fruition. Recommendations are not listed in priority order.

The **Open Space Plan** recommends that:

1. The Green Infrastructure identified in this **Plan** should be adopted as the Town's goal (Conservation Commission, Planning Board, and others as needed) for open space preservation.

2. The Conservation Commission should include the Green Infrastructure as a criterion on the Land Protection Rating Criteria form used to assess the conservation value of available parcels.

3. The top scoring parcels identified should be pursued for protection when a purchase opportunity is available.

4. The Conservation Commission should publicize the **Open Space Plan** through informational meetings, booths at town events, newsletters, and email distribution.

5. The Conservation Commission should periodically coordinate educational workshops for interested landowners on the potential tax benefits and financial implications of various conservation mechanisms, presented by knowledgeable tax attorneys or land protection professionals.

6. The Conservation Commission should periodically contact landowners of top scoring parcels within the green infrastructure to provide information on the **Open Space Plan's** goals and the potential opportunities to donate or sell property interests for conservation purposes.

7. The Town, through the Conservation Commission or Planning Board, should conduct a Cost of Community Services (COCS) study to

determine the relative tax implications to the town of various land uses (open space, residential, and non-residential).

8. The Town should explore the need for and feasibility of establishing an Agricultural Commission pursuant to RSA 674:44-e. An Agricultural Commission is a local advisory body that promotes local agriculture advocates for the protection of agricultural resources.

9. The Conservation Commission should work cooperatively with owners of developed parcels within the Green Infrastructure to ensure their appropriate management.

10. The Conservation Commission should re-examine the recommendations and funding strategies of this **Plan** at least every five years.

5.2 Implementation

There are several approaches to protecting open space. Regulatory controls, voluntary options, and purchase agreements all need to be examined to determine what would be the best way for Pembroke to protect its most highly valued natural resources. Each of these methods offers a different approach to Green Infrastructure conservation and should be utilized as appropriate. By using a variety of these protection methods, Pembroke will be able to achieve its conservation goals.

5.2.1 Regulatory Protection Strategies

Regulatory measures are perhaps the most cost-effective means of land preservation and resource protection. If implemented according to the priority areas of the Town, they can be extremely effective in curbing sprawl and protecting land. One primary method of regulatory land preservation is an open space subdivision ordinance, which Pembroke adopted in 2010. Other local regulatory techniques include a growth management ordinance, overlay districts, and prime wetlands designation.

Open Space Subdivisions

Pembroke adopted an Open Space Subdivision ordinance in 2010 allowing open space subdivisions in its Limited Office, Medium Density Residential, and Rural/Agricultural zoning districts. This ordinance allows smaller lot sizes for houses built in new subdivision developments in Pembroke. However, it also significantly increases the amount of conserved open space. An open space subdivision *requirement* has the same result as an open space subdivision option, but the requirement regulates that qualified development *must* be in conservation subdivisions, unless a special exception is requested to build a conventional subdivision. Many communities in New Hampshire have adopted open space subdivision requirements in their zoning ordinances, such as Hopkinton, Warner, and Goffstown.

Overlay Districts

Another zoning tool is the use of overlay districts. These special districts encompass one or more underlying zones and impose additional requirements above that required by the underlying zone. Typical overlay districts include Historic, Steep Slope, Wellhead, Shoreland, Aquifer, and Wetland Protection Districts. Pembroke has several of these in place, including a Shoreland Protection District, an Aquifer Conservation District, and a Wetland Protection District. Ensuring that the standards required by these overlays are meaningful and stringent can offer a low-cost form of protection for habitat corridors and other natural resources.

Prime Wetlands Designation

Prime wetlands can be designated and mapped to further protect wetlands with functional values that are most important to a community. To do so, representatives of a Conservation Commission or Planning Board can utilize the Method for the Comparative Evaluation of Nontidal Wetlands in NH, also known as the NH Method, a publication by the NH Department of Environmental Services (NH DES). The procedure fully documents and compares wetlands within a municipality to determine which ones are the most valuable. RSA 482-A:15 gives the power of designating the most valuable wetlands, or prime wetlands, to the Conservation Commission.

Designated prime wetlands are highly considered for their importance to the municipality when applications for wetlands permitting or dredge and fill are filed with the NH DES. These same wetlands can be further restricted from development or other use through setbacks and conditional use permits within the local zoning ordinance. Prime wetlands so designated are listed within the Zoning Ordinance. This designation serves a similar purpose to a Wetlands Overlay District, but may afford greater protection. Not only are prime wetlands subject to local zoning requirements, but when wetlands permitting applications are submitted and the project involves a prime wetland, the State must apply Administrative rules Env-wt-700.

Current Use

The current use tax law (RSA 79-A) is a widely-used tool in which property owners ease their tax burden by placing their land under current use. While this status helps them lower their property taxes on the parcel, the right to use their property in certain ways has been temporarily relinquished. New house construction, subdivision, or other significant terrain- and use-altering activities are prohibited until the property is removed from its current use status, which would then require property owners to pay a portion of the assessed value of the parcel back to the Town. This penalty not only discourages the removal of the current use status, it also creates opportunities for municipalities to use the land use change tax in ways that benefit the community.

5.2.2 Non-Regulatory Protection Strategies

There are other approaches to land protection that do not involve regulation. Direct land protection techniques include landowner education that may result in the acquisition of new open space. Supporting strategies that enable the community to prepare for open space protection and to obtain community consensus include the Town's Master Plan and the Capital Improvement Program (CIP).

Landowner Education
By educating landowners about the benefits of open space, the economic implications and potential tax advantages, they are more likely to want to conserve their open space. Offering this information and making it readily available can be one of the most effective ways to conserve open space. Establishing a good working relationship between the landowner and the Conservation Commission is an essential step in open space protection. Much information on open space protection is readily available from such resources as the Society for Protection of New Hampshire Forests (SPNHF) and University of New Hampshire Cooperative Extension.

Transfer of Development Rights
Transfer of development rights (TDR) is a market based technique that encourages the voluntary transfer of growth from places where a community would like to see less development (called sending areas) to places where a community would like to see more development (called receiving areas). The sending areas can be environmentally sensitive properties, open space, agricultural land, wildlife habitat, historic landmarks or any other places that are important to a community. The receiving areas should be places that the general public has agreed are appropriate for extra development because they are close to jobs, shopping, schools, transportation and other urban services.

TDR is driven by the profit motive. The sending area landowners permanently deed restrict their properties because the TDR program makes it more profitable for them to sell their unused development rights than develop their land. Developers buy the development rights and use them to increase the density of receiving area site projects; they do that because these larger projects are more profitable than the smaller projects allowed when development rights are not transferred. In addition to pleasing both property owners and developers, TDR solves a seemingly intractable dilemma for communities: it gives them a way to achieve critical land use goals using little or no public funding. This technique is discussed and recommended in the Existing and Future Land Use Chapter of the Pembroke Master Plan.

Master Plan
The development of a Master Plan which is sensitive to the retention of rural character, rolling fields, unfragmented woods, and clean water resources is essential to lay the groundwork for the Zoning Ordinances, Subdivision

Regulations, and Capital Improvement Programs which support conservation priorities. The 2004 Master Plan contains a Natural Resources Chapter that lists objectives and recommendations for Pembroke. The awareness of rural character and the value of conservation are held by the community at large during the development of a Master Plan, thus garnering support for conservation priorities. The Master Plan should be updated every 7 to 10 years, which should also reinvigorate conservation sentiment in the Town during the process.

Capital Improvement Program
Clearly identifying acquisition priorities in a Capital Improvement Program (CIP) can assist the project with successful completion. The removal of funds from a capital reserve fund such as the Conservation Fund or Forestry Capital Reserve Fund over time or the tracking of existing bond payments can enable the community to view the long-term expenditure in conjunction with other Town capital projects to determine how the community will pay for the acquisition. By rallying support of the Planning Board and other community members, identifying the conservation land acquisition projects in the CIP will align priorities of all Departments and could encourage further focus on conservation efforts in Town. Pembroke's CIP was last updated in 2009 and is updated on an annual basis.

5.2.3 Land Acquisition Types

The final method of open space protection is through the purchase or donation of land or the acquisition of development rights to that land. Depending on the needs of the landowner and sources of available funding, land and development rights can be purchased at varying costs to the Town. Property owners must be voluntarily willing to sell their land.

Conservation Easements
The Town purchases development rights, which is usually calculated to be the fair market value of the land for development purposes minus the value of the land for open space or agricultural purposes. The Town gains the responsibility of easement stewardship, which means monitoring the land to ensure that the agreements of the easement (generally a lack of development or disturbances) are being followed. Conservation easements are authorized by RSA 477:45-47.

Conveyance of Full Ownership, or "Fee-Simple"
Giving or selling full ownership of land is the simplest method of protection. Full title, ownership, and management responsibility are transferred from the landowner to the Town. Full ownership may be donated or sold.

5.2.3.a Methods of Acquisition

Different types of sales and the donation of property are how the Town

acquires new conservation properties.

Outright Purchase
The Town buys the property at market value from the current landowner. There are no tax benefits or exceptions for either party, and the Town no longer receives taxes on the land. This is the most costly method of land protection but requires no special arrangements with the landowner and leaves future use of the land completely in control of the Town.

Bargain Sale
A bargain sale is an agreement of discounted sale of property to the Town. The landowner agrees to sell his/her land below market value, and the difference between fair market value and the sale price becomes a tax-deductible charitable donation. Bargain sales are also useful for the landowner in minimizing the liability of a long-term capital gains tax associated with selling a large estate. After the sale, the Town retains all rights and responsibilities over the land.

Donations
Land (fee-simple) or development rights (conservation easements) can be donated by willing landowners who will often realize tax benefits from the donated value.

6. Maps of the Open Space Plan

The maps of the **Plan** illustrate the natural resources of the community and were utilized to generate **Map 8. Green Infrastructure**, which will be the focus for conservation efforts. Brief descriptions of each of the ten maps are provided.

Map 1. Lands Under Conservation

Displays lands under conservation within the Town of Pembroke, including publicly and privately owned lands as well as properties under deed restriction or conservation easement.

Map 2. Unfragmented Lands

Shows areas in natural cover that have not been fragmented by major roads or development, based on 2005 GIS land use data. Large blocks that are greater than 50 acres in size are shown.

Map 3. Water Quality Resources

Exhibits important areas for the protection of surface water quality, including stream and river corridors and floodplain areas.

Map 4. Drinking Water Resources

Displays areas that play a significant role in the protection of existing and future drinking water resources, including stratified drift aquifers, wellhead protection areas, and protective sanitary radii around public water supplies.

Map 5. Agricultural Soils

Shows where important agricultural soils are located, rated as prime farmland, farmland of statewide importance, or farmland of local importance.

Map 6. Wildlife Habitat

The NH Fish and Game Department has identified high value wildlife habitat areas in a 3-tier scheme presented here. This map shows data developed in 2005. The Wildlife Action Plan is a predictive model based on soils, land cover type, assessed habitat condition, and observed occurrences of rare and endangered species. Tier 1 habitats are top ranked within the state. Tier 2 habitats are top ranked within ecological region, as established by The Nature Conservancy. Ecological region information can be found at http://extension.unh.edu/Forestry/FORNHLL/nhecoreg.jpg. Tier 3 areas are considered supporting habitats.

Map 7. Co-Occurrence Analysis: Total Natural Resource Scores

A weighted co-occurrence map showing the distribution of highest value natural resources in Pembroke, based on scores assigned by the Open Space Committee to various types of natural resources. Darker areas are those where several natural resource types coincide.

Map 8. Green Infrastructure

Displays the boundaries of the Green Infrastructure area delineated by the Open Space Committee. In drawing the boundaries, the Open Space Committee referred to the co-occurrence maps, a series of natural resource maps, Master Plan goals, and local knowledge of the Town.

Map 9. Top 100 Scoring Parcels

Depicts 100 parcels lying within or partially within the Green Infrastructure (out of a total of 707 parcels) that have the highest natural resource value based on the weighted co-occurrence analysis. Publicly owned parcels and property already under conservation are not included.

Map 10. Green Infrastructure and Future Land Use

Overlays the Green Infrastructure on the Future Land Use Map developed during the Master Plan update process.

Appendix 1

June 12, 2006 Adopted

TOWN OF PEMBROKE
CONSERVATION COMMISISON

LAND PROTECTION CRITERIA RATING SHEET[1]

Name of Property_____ **Location of Property** _____
Date Evaluated _____ **Commission Member** _____

FEATURE	DEFINITION	SCORING[2]	NOTES
Shoreline and River Frontage	Frontage on the Merrimack, Soucook, or Suncook Rivers		
Aquifers and Watersheds	Property located in the most recent USGS aquifer and watershed maps		
Parcel Size, Accessibility, and Enhancement of Other Existing Protected Lands	Larger unfragmented parcel and/or abuts existing conservation land. Accessibility to the site		
Wildlife	Contains rare, threatened, or endangered plant or animal species and/or contains an exemplary natural community		
Agriculture Land	Productive farm land and other associated pasture/cleared land		
Contains a Portion of a Major Trail Corridor or Other Nature Trail	Existing trail corridors on or abutting the parcel and/or abutting Class VI roads		
Cultural, Archaeological, or Historical Significance	Identified and confirmed historical, archeological, or cultural significance		
Scenic Vistas	Land that provides scenic view to others or land from which scenic views are seen		
Land Use Restrictions	Restrictions on how land can be used or on-going maintenance requirements		
Funding Sources	Funding available to off-set conservation costs		
Unique Features	Unique natural resources not covered by other criteria		

[1] To be used in conjunction with the Land Protection Criteria
[2] Scoring is on a scale from 0-3 0 = not present, 1 = poor, 2 = average, and 3 = excellent

Appendix 2

Potential Conservation Funding Sources

There are numerous highly competitive State and Federal grant programs available that can be used to promote open space protection. While grants are an important component of funding, they can be difficult to obtain. Much time and research are required to properly prepare a competitive grant application. The status of grant programs is subject to change, as is the amount available from the grant. However, the following include some programs that could be used by the Town to further the **Open Space Plan** goals and recommendations.

Many of the following State and Federal grant programs are available to private landowners. These programs will assist with land stewardship and water resource protection, and would be beneficial to the entire community. Please visit the websites noted for further information or ask a Conservation Commission member for assistance.

State Programs

Community Conservation Assistance Program. UNH Cooperative Extension. Assistance for project guidance and training for community projects through municipalities and non-profit conservation groups. www.extension.unh.edu/CommDev/CCAP

Community Impact and Express Grants Program. The New Hampshire Charitable Foundation. Provides funding to non-profit and public agencies in the fields of environment, arts and humanities, education, and health and social and community services. These grants have been limited to $25,000 and $5,000 respectively. www.nhcf.org

Conservation License Plate Grant Program (Moose Plate Program). NH State Conservation Committee. To promote natural resource related programs throughout NH. Conservation districts, Cooperative Extension, conservation commissions, schools, groups, and other non-profits can apply for funding. www.scc.nh.gov

Fisheries Habitat Conservation Program. NH Fish and Game Department. To conserve fisheries habitat through a watershed approach. Landowners wishing to protect/enhance fisheries habitat can apply for funding. www.fws.gov/fisheries

Forest Legacy Program. NH DRED. Provides up to 75% of the purchase price for development rights to forestlands from willing sellers. Streamside land is among program priorities. Rights are held by the state in perpetuity, while the landowner retains all other rights, including the right to harvest timber. www.fs.fed.us/spf/coop/programs/loa/flp

Land and Community Heritage Investment Program (LCHIP). This is a grant

program for conserving and preserving New Hampshire's most valuable natural, cultural, and historical resources. Grant applications for the purchase of land/buildings or restoration of structures are accepted from tax-exempt organizations, municipalities, or other political subdivisions of the State. www.lchip.org

Land and Water Conservation Fund Program. NH DRED Division of Parks and Recreation. The LWCF is a federal 50/50 matching grant program targeted at enhancing New Hampshire's outdoor recreational opportunities.
www.nps.gov/ncrc/programs/lwcf

Local Water Protection Grants (Drinking Water Source Protection) NH DES Water Division. To protect public drinking water sources. Protection projects funded through this program have included delineation of wellhead protection areas, inventorying potential contamination sources, development of local protection ordinances, performing land surveys as a precursor to land acquisitions, groundwater reclassification, shoreline surveys, drinking water education and outreach activities, and controlling access to source.
www.des.nh.gov/organization/divisions/water/dwgb/dwspp

Small Grants Program for Wildlife Habitat Restoration and Enhancement. NH Fish and Game Department. The Small Grants Program helps landowners with a minimum of 25 acres restore or enhance habitat for wildlife. Funding of up to $2,000 per year (no more than $6,000 over a ten-year period) is available for the creation and/or maintenance of wildlife habitat within the property. Examples of projects that may qualify for funding include: brush clearing or mowing to maintain grasslands and shrub-lands; release of old apple trees; and maintenance of woodland openings. In exchange for the grant, landowners agree that their land will remain open for non-motorized public access activities, including hunting.
www.wildlife.state.nh.us/Wildlife/wildlife.htm

Transportation Enhancement Program. New Hampshire Department of Transportation provides funding for Environmental mitigation to address and reduce water pollution due to a highway runoff, and vehicle-caused wildlife mortality while maintaining connectivity. Cities, towns, state agencies, private industry and special interest groups may apply for Transportation Enhancement funding for their project. Federal funds will pay up to 80% of the cost of the project, with the applicant being responsible to provide matching funds.
www.nh.gov/dot/org/projectdevelopment/planning/tecmaq

Watershed Restoration Grants for Impaired Waters and High Quality Waters. NH DES Water Division. For watershed based projects to address water quality issues. Grants are given to associations, organizations, and agencies. This grant program helps to fund all aspects of watershed management including organization, building, planning and assessment.
www.des.nh.gov/organization/divisions/water/wmb/was/categories/grants

Federal Programs

Agricultural Management Assistance (AMA). U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). Agricultural Management Assistance (AMA) provides cost share assistance to agricultural producers to voluntarily address issues such as water management, water quality, and erosion control by incorporating conservation into their farming operations. Producers may construct or improve water management structures or irrigation structures; plant trees for windbreaks or improve water quality; and mitigate risk through production diversification or resource conservation practices, including soil erosion control, integrated pest management, or transition to organic farming. www.nh.nrcs.usda.gov/programs

Agricultural Water Enhancement Program (AWEP). U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). AWEP is a voluntary conservation program that provides financial and technical assistance to farmers for applying agricultural water enhancement activities that conserve ground and surface water and improve water quality on agricultural lands. www.nrcs.usda.gov/programs/awep

Conservation Reserve Program (CRP). USDA Farm Service Agency. For converting highly erodible land to vegetative cover. Annual rental or other incentive payments for certain activities are offered. Cropland owners and operators who have owned or leased the land for at least 1 year can apply for funds. www.apfo.usda.gov/FSA

Conservation Stewardship Program (CStP). U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). CStP is a voluntary conservation program that rewards good land stewards and encourages producers to address resource concerns in a comprehensive manner by undertaking additional conservation activities and improving, maintaining and managing existing conservation activities. www.nrcs.usda.gov/PROGRAMS/new_csp/csp

Cooperative Conservation Partnership Initiative (CCPI). U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). The Cooperative Conservation Partnership Initiative (CCPI) is a voluntary conservation initiative that enables the use of certain conservation programs with resources of eligible partners to provide financial and technical assistance to owners and operators of agricultural and nonindustrial private forest lands. www.nrcs.usda.gov/programs/ccpi

Conservation Innovation Grants (CIG). U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). CIG is a voluntary program intended to stimulate the development and adoption of innovative conservation approaches and technologies while leveraging Federal investment in environmental enhancement and protection, in conjunction with agricultural production. Under CIG, Environmental Quality Incentives Program funds are used to award competitive grants to non-Federal governmental or non-governmental organizations, Tribes, or individuals. www.nrcs.usda.gov/technical/cig

Environmental Quality Incentives Program (EQIP). U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). EQIP is a voluntary program that provides assistance to farmers and ranchers who face threats to soil, water, air, and related natural resources on their land. Through EQIP, NRCS provides assistance to agricultural producers in a manner that will promote agricultural production and environmental quality as compatible goals, optimize environmental benefits, and help farmers and ranchers meet Federal, State, Tribal, and local environmental requirements. www.nrcs.usda.gov/programs/eqip

Farmland and Ranchland Protection Program (FRPP). U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). This program provides matching funds to help slow the conversion of farmland to non-agricultural uses. An entity holds the conservation easement deed, and land must contain important farmland soils, and a conservation plan. The easements are for 30 years, but priority is given to perpetual easements. The Farmland Protection Program is a voluntary program implemented by the United States Department of Agriculture (USDA) and the Natural Resources Conservation Service (NRCS), and provides funding to State or local governments with existing farmland protection programs to purchase conservation easements. To be eligible for the FRPP, the land must be: part of a pending offer from a non-governmental organization, state tribe, or local farm protection program; on prime, unique, or other important farmland soil; covered by a conservation plan developed with/through the Natural Resources Conservation Service; privately owned; large enough to sustain agricultural production; accessible to markets for what the land produces and surrounded by parcels of land that can support long-term agricultural production. www.nrcs.usda.gov/programs/frpp

Healthy Forests Reserve Program (HFRP). U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). The purpose of the Healthy Forests Reserve Program (HFRP) is to assist landowners, on a voluntary basis, in restoring, enhancing and protecting forestland resources on private lands through easements, 30-year contracts and 10-year cost-share agreements. is a voluntary program established for the purpose of restoring and enhancing forest ecosystems to: 1) promote the recovery of threatened and endangered species; 2) improve biodiversity; and 3) enhance carbon sequestration. To be eligible for enrollment, land must be private land or Tribal land which will restore enhance or measureable increase the likelihood of recovery of a threatened or endangered species must improve biological diversity or increase carbon sequestration. www.nrcs.usda.gov/programs/hfrp/proginfo

Grassland Reserve Program (GRP). U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). The Grassland Reserve Program (GRP) is a voluntary program offering landowners the opportunity to protect, restore, and enhance grasslands and shrubland on their property. The Natural Resources Conservation Service and Farm Service Agency coordinate implementation of GRP. The program will conserve vulnerable grasslands from conversion to other uses and valuable grasslands for wildlife uses in New Hampshire. GRP offers producers several enrollment options: permanent easements, 30-year easements, rental agreements (10, 15, 20, or 30-year duration) and restoration agreements. For permanent easements, USDA makes a

payment based on the fair market value of the property less the grazing value. For 30-year easements, USDA pays 30 percent of what would be paid for a permanent easement. For rental agreements, USDA pays 75 percent of the grazing value in annual payments for the length of the agreement. www.nrcs.usda.gov/programs/grp

North American Wetlands Conservation Fund. The North American Wetlands Conservation Act (NAWCA) of 1989 provides matching grants to organizations and individuals who have developed partnerships to carry out wetlands conservation projects in the United States, Canada, and Mexico for the benefit of wetlands-associated migratory birds and other wildlife. There is a Standard and a Small Grants Program. Both are competitive grants programs and require that grant requests be matched by partner contributions at no less than a 1-to-1 ratio. Funds from U.S. Federal sources may contribute towards a project, but are not eligible as match. www.doi.gov/partnerships/wetlands

Partners For Fish and Wildlife. U.S. Fish and Wildlife Service. The Partners Program provides technical and financial assistance to private landowners and Tribes who are willing to work with us and other partners on a voluntary basis to help meet the habitat needs of our Federal Trust Species. The Partners Program can assist with projects in all habitat types which conserve or restore native vegetation, hydrology, and soils associated with imperiled ecosystems such as longleaf pine, bottomland hardwoods, tropical forests, native prairies, marshes, rivers and streams, or otherwise provide an important habitat requisite for a rare, declining or protected species. Locally-based field biologists work one-on-one with private landowners and other partners to plan, implement, and monitor their projects. Partners Program field staff help landowners find other sources of funding and help them through the permitting process, as necessary. www.fws.gov/partners

Wetlands Reserve Program (WRP). U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). The Wetlands Reserve Program is a voluntary program offering landowners the opportunity to protect, restore, and enhance wetlands on their property. The USDA Natural Resources Conservation Service (NRCS) provides technical and financial support to help landowners with their wetland restoration efforts. The NRCS goal is to achieve the greatest wetland functions and values, along with optimum wildlife habitat, on every acre enrolled in the program. This program offers landowners an opportunity to establish long-term conservation and wildlife practices and protection. www.nrcs.usda.gov/Programs/wrp

Wildlife Habitat Incentives Program (WHIP). U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). The Food, Conservation, and Energy Act of 2008 reauthorized WHIP as a voluntary approach to improving wildlife habitat in our Nation. The Natural Resources Conservation Service administers WHIP to provide both technical assistance and up to 75 percent cost-share assistance to establish and improve fish and wildlife habitat. WHIP cost-share agreements between NRCS and the participant generally last from one year after the last conservation practice is implemented but not more than 10 years from the date the agreement is signed. www.nrcs.usda.gov/programs/whip

Publications

Conserving the Family Farm, UNH Cooperative Extension
www.extension.unh.edu/resources/resource/20/Conserving_the_Family_Farm

Conserving Your Land, Center for Land Conservation Assistance
www.spnhf.org/landconservation/conserve-your-land.asp

NH Municipal Conservation Fund Guidebook, SPNHF & Center for Land Conservation Assistance
www.clca.forestsociety.org/publications

Saving Special Places: Community Funding for Land Conservation, SPNHF & Center for Land Conservation Assistance
www.spnhf.org/landconservation/community-resources.asp