



SOUTH BERWICK CONSERVATION/OPEN SPACE PLAN

**Southern Maine Regional
Planning Commission
and
The South Berwick Open
Space Committee**

December, 2012



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Why Plan for Conservation/Open Space

South Berwick has been in the forefront of conservation success stories and planning over the last 20-30 years. Much of the successful conservation work in town has been accomplished by non-profits (such as the Great Works Regional Land Trust, the Nature Conservancy), the state of Maine and other collaborative efforts such as Mt Agamenticus to the Sea. However it may not be widely known, but South Berwick also adopted one of the first Cluster Development Ordinances in New England (now referred to as a Conservation Subdivision) in the late 1970's. The town itself was also a strong proponent of the initial Mt A conservation efforts in the early 80's. Yet the town has never formally –or informally- adopted its own open space plan.

This is important for a few reasons. First, as the town considers strategies on the local level to increase their commitment of increasing conservation lands in South Berwick, residents will invariably want to know what the priorities are going to be. This is evident in a number of communities where impact fees, town bonding for conservation, land banks, fee's - in - lieu of land donation with funds received from development proposals, or simply yearly set asides for conservation lands at town meetings have been met with the question, “where will this money be spent” and also “why there”.



Secondly, a plan for conservation should not simply be seen as method to encourage the preservation of habitat and/or natural features. More and more it has become an important part of the quality of life discussion in Maine and an essential part of the “Maine brand”. The Brookings Study of a few years ago highlighted this Maine brand and the need to preserve it not only for the quality of life of Maine residents, but as an essential part of the business climate in Maine and our efforts to recruit new business, keep existing business and also maintain a high value tourism component within the state. While many residents might prefer to keep their local resources a well kept secret, in order to gain financial support for conservation it may be necessary to point out that adding conservation lands is actually a good capital investment by the town.

Finally, increasing conservation lands should be seen as a capital investment by the town. Obviously conservation can be used for recreation such as water access and trails (which historically has been funded as a town investment), it can be used to protect water quality (protecting a town resource), but it can also be seen as part of the towns land use and development strategy. Perhaps the most important example of this is efforts to conserve the Mt A region. Analysis has shown that without these regional efforts thousands of additional housing units would be possible in the Mt A region. Consider the impact on town services when one adds 500-1,000 residential units in the area in Emery's Bridge/Belle Marsh/Ogunquit Road areas. In 2003, SMRPC conducted an analysis on a hypothetical 50 lot subdivision in South Berwick and found

that based on current revenue and expenditure patterns in the town the project would have cost the town \$31,000 more per year to provide services than the project would provide in income. Impact studies by a number of organizations provide evidence that servicing residential construction that far from town services adds significant costs to the budget of a municipality.

It has also been shown that properties next to conserved lands actually are valued at a higher level than similar property not located near conservation lands. This actually helps to increase the town tax base. A net increase in tax revenue is realized because the increased property values of land adjacent to conservation land create more tax revenue than if the land was built out.

In the end however, increasing conservation lands and setting out to accomplish that according to a set of focus areas or priorities has been shown to be a well received local effort in a number of different towns and regions. Wells and York are two local examples of communities where conservation is funded (either through yearly dedications or individual budget referendums) with overwhelming support. North Berwick has enacted an impact fee for conservation and recreation. Saco has done the same. New Hampshire has a number of communities who have bonded for conservation purchases. It is clear that many communities consider such activities worthwhile expenditures.

South Berwick Open Space Committee

South Berwick has always been invested in planning and conserving valuable natural resources. This began during the early Mt A acquisitions and has continued through the recent efforts of the Great Works Regional Land Trust, the Nature Conservation and the town itself. To further this effort, the South Berwick Planning Board asked that the South Berwick Conservation Commission prepare an Open Space Plan in the 2010 time frame. Notice of such an effort was sent out in the town newsletter and in 2011 the Conservation Commission formed a subcommittee for the purpose of developing an open space plan. Volunteers were sought and over 25 people have, at various times, participated in the effort.



In the winter of 2012, the Southern Maine Regional Planning Commission received a grant from the Maine Coastal Program to work on a number of issues related to implementation of the Piscataqua Region Estuaries Partnership Management Plan. Developing conservation plans within this watershed was one of the implementation strategies within that plan. Work began with the Committee in February 2012.

It is critical to understand that this plan is not advocating the immediate or outright purchase of these areas. There are a number of different mechanisms to achieve the goals of protecting these lands all of which are laid out in the implementation section of this plan. Certainly, purchase or protection by easement may be the clearest way to achieve a desired conservation goal. However, there is also a need for lands to be incorporated as open space through the development approval process, through the purchase of development rights and through education of landowners. These focus areas merely provide the town with a “focus” for these efforts.

It is also important to note that these focus areas do not preclude town interest in conservation of other areas. The Committee went through an elaborate weighting of all the different conservation values that are present in South Berwick as well as seeking public input. It may end up that a parcel becomes available outside of a focus area, but with many of the values that the Committee felt were important. That does not necessarily mean that opportunity should be missed. This plan should serve as a planning guide for future conservation planning efforts, not a regulatory guide.



Vaughan Woods/Hamilton House

Results of Local Survey and Public Input

In the summer of 2011, the Committee began to solicit public input for the preparation of the Open Space Plan. Questionnaires were made available during the election of 2011, at various events within the community, and online as well.

Approximately 200 responses were received through this process. The full results can be found on the following pages. While many natural resource features and categories were clustered somewhat close together the top five priorities were as follows:

1. Clean Water for Drinking and Swimming – 92%
2. Maintain and Improve Open Spaces, Recreational Areas and Natural Resources We Have Currently – 84%
3. Hiking and Walking Trails – 80%
4. Trees, Plants and Green Spaces – 80%
5. Expand Open Spaces, Recreation Areas and Natural Resources for Future Generations – 75%

In order to get additional local input, the Committee conducted an additional outreach effort by placing a 24 x 36 aerial map of the town in Town Hall and asking residents to place pins on their favorite places within South Berwick. Residents could include any feature they felt was important from a scenic vista to a fishing hole to a place to simply sit and listen to nature.

Some notable features that were identified included:

1. Vaughan Woods
2. Mt A area near Bennet Lot Road
3. Salmon Falls River
4. Balancing Rock/Gorge Area



Finally the Committee also went through an exercise of their own by placing dots on their favorite places in town. Again there were no restrictions as to what a Committee member might think was most important. In the end, while there was no clear confluence of features to be rated as most important, a few things stood out:

- The Warren Pond area
- The Vaughan Woods area
- The Town Forest
- Balancing Rock/Gorge area

What is clear is that people truly value the areas that have been conserved and offer public access.



Balancing Rock

Survey Results as of January 20, 2012

Category		Very	Moderate	Low	No Response
Historic Places	% #	65.28 126	29.53 57	5.70 11	4
State Parks	% #	69.59 135	24.23 47	6.70 13	3
Public Parks	% #	73.2 142	22.16 43	5.15 10	3
Scenic Pastoral Views, Landscapes, and Water Views	% #	70.1 136	22.68 44	7.73 15	3
Hiking and Walking Trails	% #	80.31 155	16.06 31	4.15 8	4
Fishing and Boating Access	% #	40.21 78	38.66 75	21.65 42	3
Bike Paths and Sidewalks	% #	66.84 129	26.94 52	6.74 13	4
Water Sports	% #	27.32 53	40.72 79	32.47 63	3
Lakes and Ponds	% #	72.16 140	20.62 40	7.73 15	3
Rivers and Streams	% #	72.16 140	20.62 40	7.73 15	3
Ball Fields and Areas for Organized Sports	% #	42.49 82	38.86 75	19.17 37	4
Mount Agamenticus	% #	70.62 137	22.68 44	6.19 12	3
Town Forest	% #	55.44 107	29.53 57	15.54 30	4
Powderhouse Hill	% #	63.4 123	22.68 44	14.43 28	3
Clean Water for Drinking and Swimming	%	92.27	4.64	3.61	

	#	179	9	7	3
Wildlife	%	77.2	17.62	5.7	
	#	149	34	11	4
Trees, Plants, and Green Spaces	%	80.41	13.92	6.19	
	#	156	27	12	3
Farms, Orchards, and Fields	%	72.16	22.16	6.19	
	#	140	43	12	3
Maintain/Improve Open Spaces, Recreational Areas, and Natural Resources We have Currently	%	84.46	10.88	5.18	
	#	163	21	10	4
Expand Open Spaces, Recreational Areas, and Natural Resources for Future Generations	%	75.26	17.01	8.25	
	#	146	33	16	3

What does the Comprehensive Plan say about Open Space?

Like many Comprehensive Plans, South Berwick's plan spends a good deal of time



discussing natural resources and making recommendations on how to preserve open space. In many cases these references to open space and conservation are interwoven with land use recommendations as part of a greater strategy to maintain rural character, encourage development near services and the village and to preserve wildlife habitat and the Mt A region in particular.

The strategies that refer to conservation and open space may be broken down into subcategories of:

1. Open Space Protection through development review/regulation
2. Funding methods of protecting open space through acquisition and easements
3. Open space protection by working with other interested organizations
4. Weaving open space protection into larger zoning ideas and zoning changes (somewhat different than number 1 above)

Rather than go through these recommendations in detail, those that have relevance to the committee's work have been extracted from the South Berwick Comprehensive Plan and shown on the following pages. This relationship will be highlighted in the implementation/action matrix at the end of this plan. It should be noted that by moving forward with some of these recommendations and assigning them for action, this plan helps move the implementation of the South Berwick Comprehensive Plan forward.

It should also be pointed out that while only specifically mentioned in one or two instances the development of open space priorities is an integral part of many of the conservation related recommendations – particularly during a Planning Board review process and/or the use of town funds or donations to acquire “sensitive lands”. Again, having a document to point to during these discussions can be very helpful to focus the effort.

SOUTH BERWICK COMPREHENSIVE PLAN

GOALS AND STRATEGIES

GOAL		STRATEGIES	
	LAND USE		
A	Promote infill development (infill development is the use of vacant land in built up portions of Town).	1	Examine the feasibility of “Contract Zoning” in which proposed developments are allowed to exceed established base densities. In return consider the developer paying a density transfer fee that is allocated to a Trust or similar vehicle for purchasing development rights in highly valued rural areas.
B	Provide adequate management and controls of subdivisions and other divisions of land in rural areas to reduce invasive development.	1	Maintain the Subdivision Ordinance requiring two plans to be filed when a development is proposed in the R-3, R-4 and R-5 districts, as well as the expanded portion of the R-2 district. Plans shall present both a clustered approach to the subdivision of land as well as a plan showing normal lot sizes in the district. The Planning Board shall have the option of choosing the plan, which is most representative of the principles and policies of the Comprehensive Plan.
		2	Examine and develop “Conservation Subdivision Guidelines.” Encourage the use of Conservation Subdivisions.
		3	Apply recommendations of the Natural Resources Committee for developing Conservation Subdivision Guidelines.
		4	Strongly encourage preserved lands within conservation subdivisions to be contiguous with other preserved lands to create greenbelts.
		5	All potential subdivisions within R-3, R-4, and R-5 shall consider their relationship to Resource Protection Zones, other critical habitat and buffers, prime farmland soils, and all environmental inventories within GIS overlay maps.
		6	Examine and encourage opportunities for the selling and buying of development rights to secure environmentally

SOUTH BERWICK COMPREHENSIVE PLAN

GOALS AND STRATEGIES

			critical areas safe from development in the R-3, R-4, and R-5.
C	Develop standards for the rural zones, which avoid scattered strip development along country roadsides and other potential forms of sprawl.	1	Encourage private landowners and the Town to further the conservation efforts of the Mt. Agamenticus area.

GOAL

STRATEGIES

		2	Encourage the buying of development rights for open space, and the placement of conservation easements.
		3	Promote enrollment in current use taxation programs such as Tree Growth, Farm, and Open Space.
D	Protect environmentally sensitive lands and severely restrict development where there are significant development limitations, including wetlands, steep slopes and flood plains.	1	Continue to encourage programs to help landowners protect and preserve wildlife habitat, including fisheries and help them take advantage of conservation programs to preserve undeveloped lands.
		2	Work closely with “Beginning with Habitat” to guide conservation efforts and its relation to development town wide.
		3	The Planning Board and Code Enforcement Office shall consider use of all available mapping compiled for this plan including, but not limited to those maps generated by the Maine Department of Inland Fisheries and Wildlife, Maine natural Areas Program, The Nature Conservancy, US Fish and Wildlife, South Berwick Conservation Commission, and the Great Works Regional Land Trust as a basis for determining development constraints. Ensure compatibility with Geographic Informational Systems (GIS) mapping.
		4	Explore the possibility of the Conservation Commission and other Town commissions to study and recommend for the Town funding strategies for purchasing

SOUTH BERWICK COMPREHENSIVE PLAN

GOALS AND STRATEGIES

			development rights, creating Trusts and Land Banks, density transfer fees, and other mechanisms proven effective in protecting environmentally sensitive lands.
		5	Continue to develop close working relationships with land trusts and conservation commissions such as the Great Works Land Trust, York Land Trust, Wells Conservation Commission, York Conservation Commission, and Eliot Conservation Commission for the Rural Districts.
		6	Seek land acquisition funding from government administered funds such as the Land and Water Conservation Fund, Maine Outdoor heritage Fund, and the Land of Maine Future's Board.
GOAL			STRATEGIES
		7	Create a new Capital Reserve account called "Natural resources & Recreation Development" and invest seed money for the upcoming fiscal year. Moneys obtained through efforts including those listed in strategies H7 – H9 and from other sources, can be secured for future acquisitions eventually defined and permitted by this account.
E	Ensure as land is developed, networks for open space, transportation, and wildlife are developed and maintained.	1	Amend the Zoning and Subdivision Ordinances to require that important natural resources, as defined in this Plan, are retained as land is developed. These resources and networks should be tied into a plan for open space.

SOUTH BERWICK COMPREHENSIVE PLAN

GOALS AND STRATEGIES

GOAL			STRATEGIES
NATURAL RESOURCES			
A	Ensure passive land uses through easements and buffer zones in areas of scenic value.	1	Revise Subdivision Ordinance to mandate protection of scenic areas.
		2	Encourage development that considers preservation of scenic vistas and sets aside recreational and passive open space.
B	Evaluate land use with respect to physical, chemical and biological characteristics of soils, such as depth of water table, texture, permeability, slope, etc. as defined by the USDA Natural Resources Conservation Service.	1	Protect prime agricultural soils. Acquire easements or purchase development rights. Consider Transfers of Development Rights.
C	Preserve deer wintering areas (as currently defined) as significant natural resources.	1	Prohibit subdivisions from deer yards and require conditional use permits for all other newly established uses, which impact deer yards.
D	Establish a riparian buffer zone within wildlife corridors, include fisheries, as defined important by Inland Fisheries and Wildlife, Strafford Rivers Conservancy, Great Works Regional Land Trust, Maine Audubon and Maine Natural Areas Program on waterways such as the Salmon Falls estuary, Great Works River, and the greater Mount Agamenticus area.	1	Establish conservation corridors between existing conservation lands.
		2	Work with Berwick, North Berwick, Wells, York and Eliot to create conservation corridors and, where appropriate, add existing protected lands.
		3	Establish a greenbelt along the Salmon Falls and Great Works Rivers through the acquisition of easements, land purchases and State grant programs.
		4	Work with neighboring communities and the State of

			New Hampshire on the preservation of the Salmon Falls Corridor.
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SOUTH BERWICK COMPREHENSIVE PLAN**GOALS AND STRATEGIES**

GOAL			STRATEGIES
E	Work with land owners to promote public use and access to natural areas where appropriate to the landowner and the resource.	1	Through the Town newsletter and Assessing Office, communicate to residents the benefits available in landowner preservation options (tree growth, open space and easements).
		2	Work to develop incentives on the local level for conservation and recreational easements. Consider Wells ordinance examples.
		3	Develop an instrument for Town acceptance of easements, donations and gifts related to land conservation.
F	Remain involved with the preservation of the Mount Agamenticus Region.	1	Acquire easements on properties with critical natural resources. Property tax compensation through existing State programs on newly created local programs should be examined.
		2	Continue to advocate that the Land for Maine's Future Board purchase important parcels in the Mt. Agamenticus area. Pursue other funding strategies for such land purchases.
G	Require land use development practices that preserve expanses of open space, agricultural and forest land.	1	Inventory farm and forest lands in the community and identify those areas, which, because of their high-grade soils, agricultural, forestry or other important resource values, warrant the most attention for preservation efforts.
		2	Explore transfer of development rights options for significant farmland and open space areas.
		3	Adopt a differential building cap or differential impact fee system for rural vs. high-density areas, which would conserve rural character and infrastructure.
H	Consider designating Town owned open space lands as permanently conserved.	1	Consider adoption of ordinance language similar to Wells Open Space Ordinance.
I	Consider creation of a land bank to	1	Consider using designated revenue sources such as

SOUTH BERWICK COMPREHENSIVE PLAN

GOALS AND STRATEGIES

	purchase high-value open space and working landscape easements.		annual appropriations and undesignated revenue sources such as tree growth and open space withdrawal penalties and/or sales of tax acquired properties. A possible format for land bank disbursements could include a point ranking system for parcels and execution of the Town Council.
		2	Investigate Wells Open Space ranking system and North Berwick's use of impact fees to fund open space purchases.

Other Open Space Planning in the South Berwick Region



South Berwick and the surrounding region has certainly received its fair share of open space conservation planning, and as demonstrated later – actual conservation over the past two decades. Much of this has been attributable to the focus on the Mt. Agamenticus region. Various conservation groups and efforts including the Great Works Regional Land Trust, the MTA2C Conservation Initiative, and the Piscataqua Region

Estuaries Partnership have all examined conservation priorities in the region. To some extent, these priorities have provided the background and data for the efforts of the Committee, who was more focused on South Berwick itself.

It is important to put into context the various other efforts and see what the other initiatives have found to be the most highly valued natural resource areas in the region and South Berwick.

Piscataqua Region Conservation Lands Focus Areas

The Piscataqua Region Estuary Program (PREP), based out of the University of New Hampshire provides environmental planning support and services to towns within the Piscataqua Region watershed, including ten towns in Maine. Recently, PREP has begun to become more involved with projects and planning on the Maine side of the watershed. Recently PREP has funded a regional Conservation Plan for the Maine side of the watershed (as a companion piece to a Conservation Plan developed for New Hampshire a few years ago).

The Regional Conservation Plan highlights a number of regional Conservation Focus Areas for Maine. These were formulated by a GIS modeling program and were supported by a group of stakeholders, including biologists, land trust representatives and state officials. The Conservation Focus Areas, and a description of these areas can be found on the maps following. This section is taken directly out of the PREP Conservation Plan.

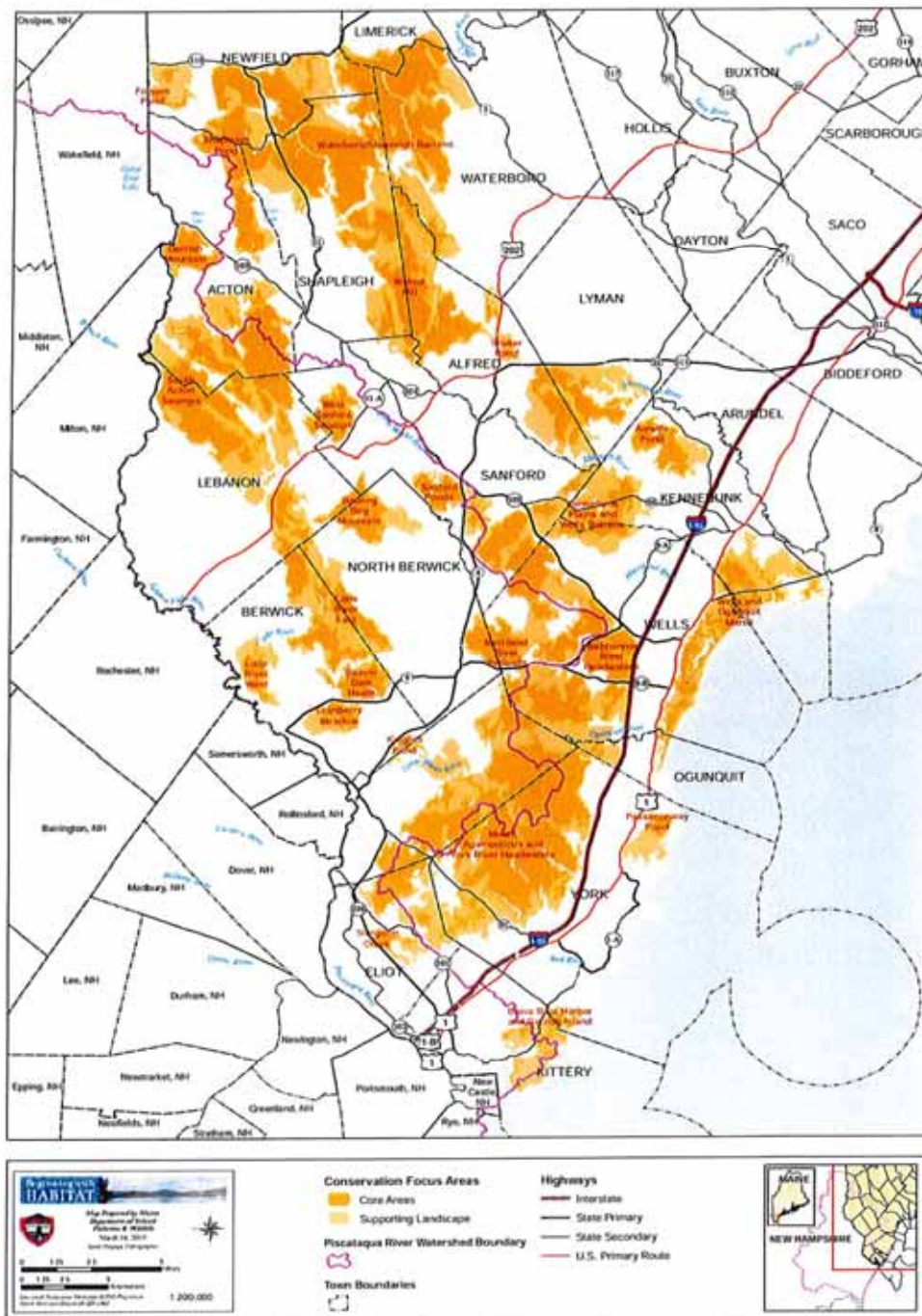
Similar to the local effort here in South Berwick, the PREP group came up with a ranking system for resource values addressing unfragmented blocks of habitat (the highest ranking), riparian zones, wildlife habitat, rare species, vernal pools, and other factors.

The final focus areas were broken into Tier One and Tier Two areas. Interestingly, they line up with the Land Trust Focus areas described below.

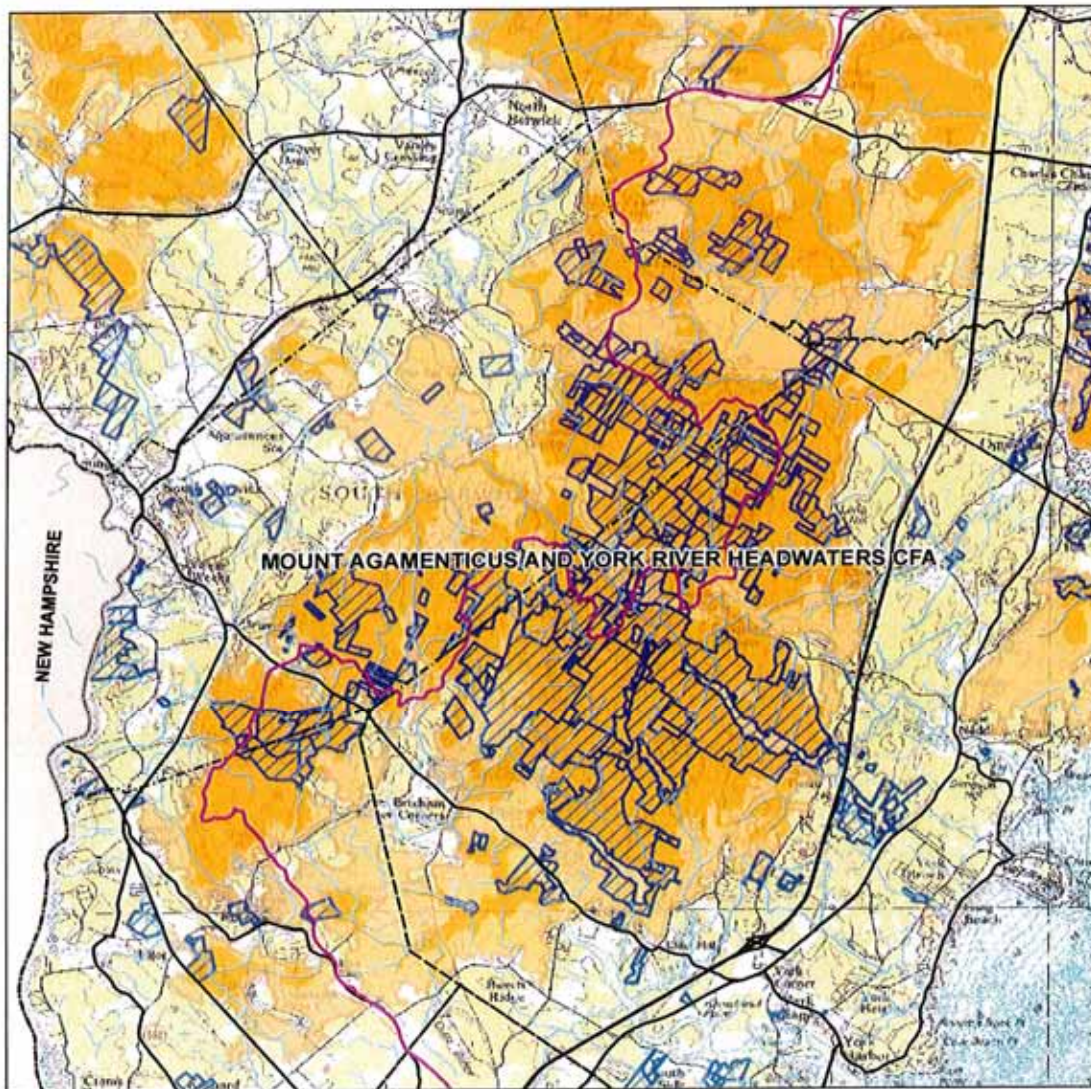


*A State Endangered **Blanding's** turtle swimming through a palustrine emergent marsh wetland. (Joanne Glode photo).*

CONSERVATION FOCUS AREA DESCRIPTIONS



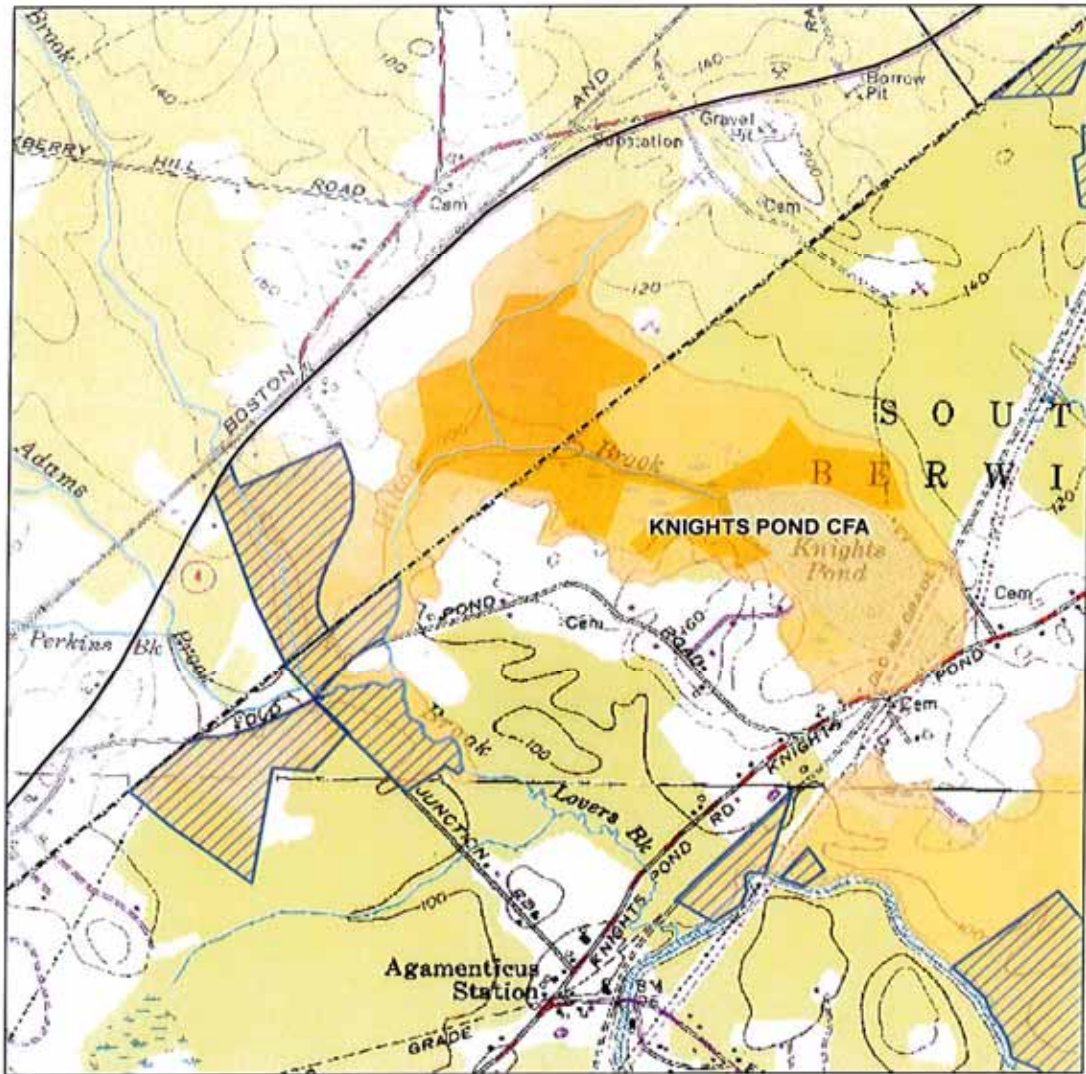
CONSERVATION FOCUS AREA DESCRIPTIONS



CONSERVATION FOCUS AREA DESCRIPTIONS

MOUNT AGAMENTICUS AND YORK RIVER HEADWATERS		
TOWNS: York, South Berwick, Eliot, Wells, Ogunquit		
WATERSHED: Green Brook (Ogunquit River), Bennett Brook, Marsh Brook (Great Works River), Cider Hill Creek, Smelt Brook (York River)		
	CORE AREA	SUPPORTING LANDSCAPE
SIZE	19,797 acres	15,000 acres
SIGNIFICANT ECOLOGICAL RESOURCES		
Forest Ecosystem		
Area w/in undeveloped habitat block	18,457 acres	9,929 acres
Area w/in unfragmented forest block	14,692 acres	1,895 acres
Freshwater Systems		
Undeveloped stream reaches	342	134
River & stream miles	80 miles	18.5 miles
Significant Wildlife Habitat		
Inland wadingbird and waterfowl habitat	44 mapped totaling 834 acres	12 additional IWWH mapped and 282 additional acres within supporting landscape
Tidal wadingbird waterfowl habitat	16 mapped totaling 328 acres	1 additional TWWH mapped totaling 13 additional acres in supporting landscape
Deer wintering area	1,291 acres	145 acres
Significant vernal pool	1 mapped	none mapped
Shorebird feeding / roosting area	none mapped	none mapped
Significant Plant & Animal Occurrences		
Rare plant populations	Wild Leek, White Wood Aster, Upright Bindweed, Atlantic White-cedar, Spotted Wintergreen, Sweet Pepperbush, Flowering Dogwood, Eastern Joe-pye Weed, Featherfoil, Smooth Winterberry Holly, Slender Blue Flag, Mountain Laurel, Spicebush, Broadbeech Fern, Pale Green Orchis, Alga-like Pondweed, Chestnut Oak, Tall Beak-rush, Sassafras, Swamp Saxifrage, Columbia Water-meal	
Rare animal populations	Spotted Turtle, Wood Turtle, Blanding's Turtle, Northern Black Racer, Ribbon Snake, Swamp Darter, Brown Snake, New England Cottontail, Spring Salamander, Scarlet Bluet, New England Bluet, Ringed Boghaunter	
Rare natural communities	Atlantic White Cedar Swamp, Chestnut Oak Woodland, Hemlock-Hardwood Pocket Swamp, Pitch Pine Bog, White Oak - Red Oak Forest	
Exemplary natural communities and ecosystems	Leatherleaf Boggy Fen, Mixed Graminoid-Shrub Marsh, Pipewort-Water Lobelia Aquatic Bed, Red Maple-Sensitive Fern Swamp	
Water Supply		
High yield aquifer	A significant sand and gravel aquifer is mapped in the supporting landscape east of Knights Pond	
Wellheads and wellhead protection zones	Several public water supply wells are present in this CFA	
CURRENT CONSERVATION STATUS		
Permanently Protected, Managed as natural area or ecological reserve (GAP 1 & 2)	11,766 acres	2,678 acres
Permanently Protected, Managed primarily as working forest (GAP 3)		
Not permanently protected, but in public or institutional ownership (GAP 3a)		
RELATIONSHIP TO OTHER PLANS		
Area identified in other planning initiatives	The Mount Agamenticus region is included as a focus area in Maine's Wildlife Action Plan and is identified as a conservation priority GWRLT Conservation Plan This area is the focus of the MtA2C conservation initiative and is highlighted as a conservation priority in several town comprehensive plans	

CONSERVATION FOCUS AREA DESCRIPTIONS



- Conservation Focus Areas**
- Core Areas
 - Supporting Landscape
 - Major Roads
 - Streams
 - Piscataqua River Watershed Boundary
 - Town Boundaries
 - Conservation Lands



CONSERVATION FOCUS AREA DESCRIPTIONS

KNIGHTS POND		
TOWNS: Berwick, South Berwick		
WATERSHED: Hiltio Brook, Lover's Brook, Great Works River		
	CORE AREA	SUPPORTING LANDSCAPE
SIZE	114 acres	337 acres
SIGNIFICANT ECOLOGICAL RESOURCES		
Forest Ecosystem		
Area w/in undeveloped habitat block	111 acres	150 acres
Area w/in unfragmented forest block	n/a	n/a
Freshwater Systems		
Undeveloped stream reaches	3	2
River & stream miles	1 mile	0.4 miles
Significant Wildlife Habitat		
Inland wadingbird and waterfowl habitat	3 mapped totaling 35 acres	57 additional acres within SUPPORTING LANDSCAPE
Tidal wadingbird waterfowl habitat	n/a	n/a
Deer wintering area	none mapped	none mapped
Significant vernal pool	none mapped	none mapped
Shorebird feeding / roosting area	n/a	n/a
Significant Plant & Animal Occurrences		
Rare plant populations	Swamp Saxifrage	
Rare animal populations	Spotted Turtle	
Rare natural communities		
Exemplary natural communities and ecosystems		
Water Supply		
High yield aquifer	Mapped sand a water aquifer at northern edge of CFA	
Wellheads and wellhead protection zones	One public water supply well mapped along southern edge of CFA	
CURRENT CONSERVATION STATUS		
Permanently Protected, Managed as natural area or ecological reserve (GAP 1 & 2)	0 acres	111 acres (correct figure?)
Permanently Protected, Managed primarily as working forest (GAP 3)		
Not permanently protected, but in public or institutional ownership (GAP 3a)		
RELATIONSHIP TO OTHER PLANS		
Area identified in other planning initiatives		

Great Works Regional Land Trust Focus Areas

As the Land Trust serving the town of South Berwick and surrounding communities, the Great Works Regional Land Trust (GWRLT) plays a vital role in the conservation of land. GWRLT finished a strategic planning effort in 2009, which also highlighted key focus areas for conservation. As stated in the document:

This plan identifies five Focus Areas for proactive conservation efforts. These are geographic areas where numerous conservation priorities (water, farms and forests) overlap and, when conserved, return exceptional benefits to our communities. All six towns are represented in the selection. These are often locally known “special places” that have long been publicly used, but privately owned. Changing ownership and land use threaten traditional access and use of these areas. Focus Areas, however, do not include all the valuable resources that exist within the six towns.

These Focus Areas have the following attributes in order of priority:

Conservation Priorities, present and significant * (water, farms and forests)

Public benefits, easily described and available *

Defined geographic boundaries *

Feasible/achievable conservation *

Measurable success *

Builds the organization/broadens base of support *

Partnership opportunities *



Blanding's Turtle

Each Focus Areas has a list of natural resources that are protected through the conservation effort (water quality, recreation, scenic views, etc.). These resources will guide the acquisition activities and priorities, as well as stewardship activities and priorities once properties are protected. The identified resources will convey to supports, neighbors and the community why this area is worthy of attention.

These focus areas can be seen on the following pages along with descriptions of what makes these areas special. The pages are taken directly out of the Great Works Strategic Plan.



3. TATNIC HILLS

FOCUS AREA

Wells, South Berwick, Ogunquit.

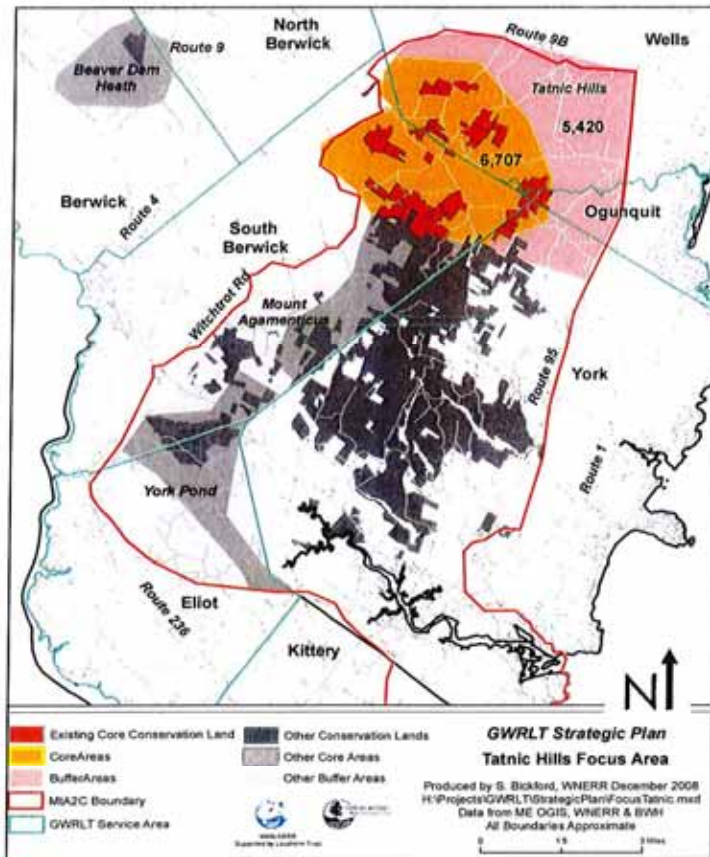
Bordered by Boyd's Corner, Thurrell and Rodier Roads to the west, Routes 9 and 9B to the north, the Turnpike to the east and butting up to the Mt. Agamenticus Focus Area. To the South is a portion of the Mt. Agamenticus to the Sea Conservation Initiative (see Appendix 8.1).

Natural resources include: farmland, forests, water quality, rare or endangered species, wetlands and vernal pools, riparian buffers, natural undeveloped block/contiguous habitat, working landscape, public access/trails, and scenic views from public vantage points. The Core Area consists of 6,707 acres and a Buffer Area of 5,420 acres. Currently 1558 acres are conserved in the Core Area and none in the Buffer Area.

The Tatnic sub-region of the Mt. Agamenticus Focus Area is approximately 16 square miles and two to five miles from the coast. It supports a matrix of ledge outcroppings, pocket swamps, forested wetlands,

cattail marshes, wet scrublands and some of the densest concentration of vernal pools and associated upland in New England. This rich assemblage of habitat types hosts a diversity of plant and animal species, including some identified by the Maine Natural Areas Program as rare, threatened or endangered, including the Blanding's Turtle, Swamp Darter, and Ribbon Snake.

It contains two adjacent unfragmented forest blocks of 1,980 and 2,978 acres. The area also serves as the headwaters of five brooks in the Ogunquit and Great Works River watersheds that drain into the Rachel Carson National Wildlife Refuge and Great Bay National Estuarine Research Reserve. Since 1986, GWRLT has closed on 28 Tatnic projects totaling 1126 acres. The Nature Conservancy, with assistance from GWRLT, has protected an additional 174 acres for a total of 1300 acres (May 2009). This includes contiguous protected lands on Tatnic Hill (244), Orris Falls Conservation Area (180) and Tatnic Woods (73). These conservation lands are part of a larger effort to build a network of conserved lands between the Tatnic Hills and the York River – a distance of 8.5 miles.



Tatnic Woods in Tatnic Hills Focus Area is especially abundant in vernal pools.



Second Hill and Mt. Agamenticus seen from Tatnic Ledges.

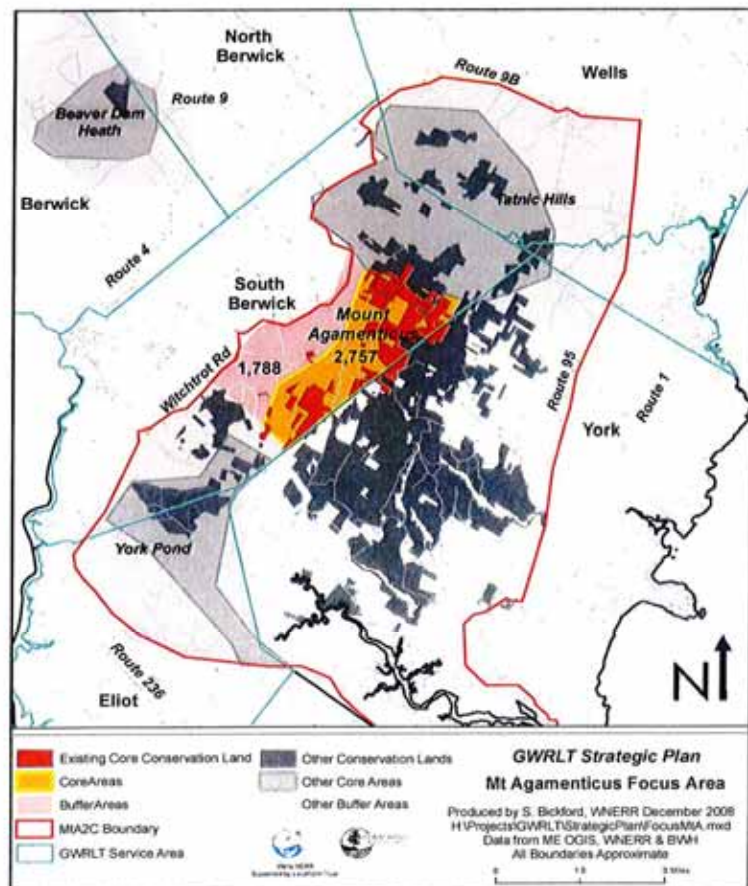
4. MT. AGAMENTICUS FOCUS AREA

Located in South Berwick and abutting the Tatnic Focus Area to the north, the Mt. Agamenticus Focus Area runs from Thurrell and Emery's Bridge Roads southeast to the York town line as part of the larger Mt. Agamenticus to the Sea Conservation Initiative (see appendix 8.1).

Natural resources include: farmland, forests, water quality, rare or endangered species, wetlands and vernal pools, riparian buffers, natural undeveloped block/contiguous habitat, working landscape, public access/trails and scenic views from public vantage points. The Core Area consists of 2,757 with a Buffer area of 1,788 acres. Currently, 1,320 acres are conserved in the Core Area and 18 acres in the Buffer Area.

The greater Mt. Agamenticus area includes rugged terrain, several ponds and wetlands that comprise the largest contiguous block of undeveloped coastal land between Acadia and the Pine Barrens in New Jersey. In addition to the 680 foot Mt. Agamenticus, there are Second and Third Hills, Horse Hill, Chicks Brook, Warren Pond and water district reservoirs (in York).

The area's numerous upland and wetland complexes are ecologically significant because they contain plant and animal assemblages that are at their northern range limits. At least three animal and twenty plant species are restricted to this extreme southern portion of Maine and many other common species in this area occur only sparingly further northward. This pattern extends to natural communities as well. The Atlantic White Cedar swamp, hemlock-hardwood pocket swamp and pitch pine bog that occur in this area are all restricted to southern Maine, and the oak-pine-hickory forest that extends from Mt. Agamenticus north through Third Hill includes the only remaining intact chestnut oak woodland community in the entire state. Of the 21 rare plant species known to occur in the Mt. Agamenticus area, fourteen are considered rare because Maine is the northeastern limit of their range, meaning they are more common further southward and westward. For a few of these species, this place supports the furthest northeastern occurrences in their range.



5. YORK POND/YORK RIVER FOCUS AREA

Located in Eliot and South Berwick, beginning north of Route 91 with the "Dragonfly Wetlands" and south to the lands surrounding both York and Upper Bartlett Mill Ponds, the property continues down the main stem of the York River to the town boundary with York. This area is also part of the Mt. Agamenticus to the Sea Conservation Initiative – see Appendix 8.1.

Natural resources include: unfragmented forests, water quality, rare and endangered species, wetlands and vernal pools, riparian buffers, natural undeveloped block/contiguous habitat, public access and trails as well as historical and cultural sites. The Core Area consists of 2,956 acres and the Buffer Area has 4,684 acres. There are currently 638 fee-protected acres of the Core Area (owned by the Town, GWRLT and the State of Maine) and 118 acres protected in the Buffer Area.

This is part of a 2,949-acre block of unfragmented forest surrounding York Pond and Upper Bartlett Mill Pond representing the headwaters of the York River down to where it enters York. The Trust has completed six acquisitions (York Pond I-VI) plus Parent (50 acres) for a total of 520 protected acres (May 2009).

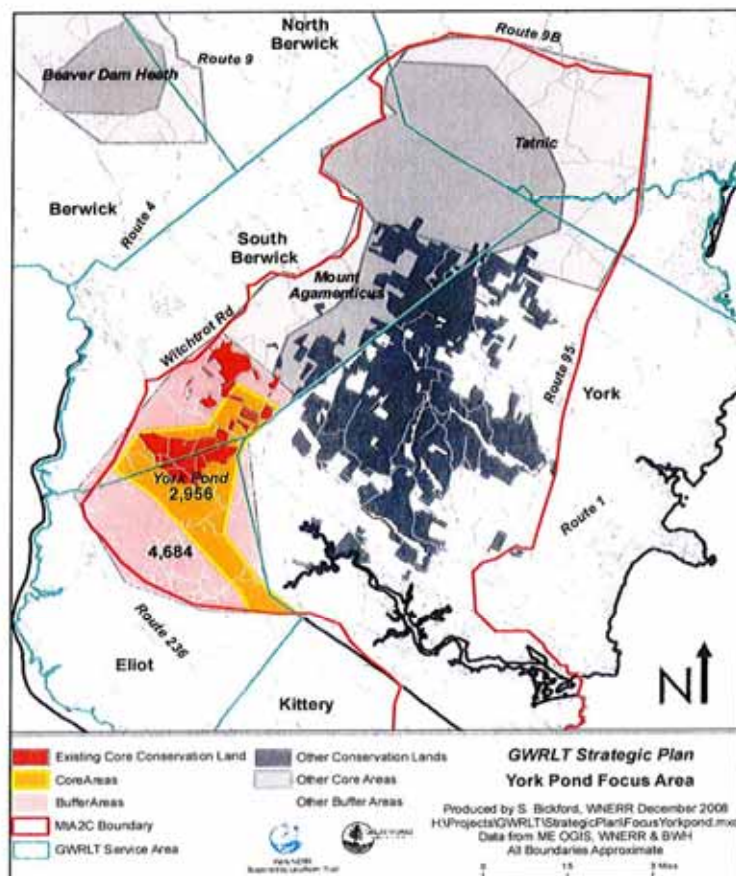
The "Parson Property" in Eliot (York Pond I) was the first municipal partnership effort by the Trust (1995). It protected 107 acres between York Pond and the Upper Bartlett Mill Pond. Partnerships with Maine Department of Inland Fisheries and Wildlife (through the Maine Outdoor Heritage Fund), The Nature Conservancy and the Town of South Berwick have followed.



Hikers along Rookery Pond in York Pond Focus Area.



Outlet of York Pond.



Mt A to the Sea



The Mt A to the Sea Conservation Initiative has been held up both statewide and nationally as a model for collaborative conservation planning.

The website for the initiative states the following:

The Mount Agamenticus to the Sea Conservation Initiative (MtA2C)

is an effort led by a coalition of ten national, regional and local partners representing federal and governmental agencies, statewide land protection organizations and three local land trusts to protect a network of connected conservation lands and natural resources within a 48,000-acre focus area in Southern Maine for the benefit of people and wildlife.



To date, almost 13,000 acres have been conserved in the MtA2C region. By 2032, we will protect at least 6,000 more acres to bring the total conserved land in the Mount Agamenticus to the Sea focus area to 19,000 acres.

MtA2C's vision is a future that sustains livable and economically vibrant communities where:

- *Every child has access to open spaces and wild places;*
- *Food and forest products are locally and sustainably produced;*
- *Clean water in our reservoirs, rivers, and streams flows into our estuaries and along our beaches;*
- *Wetlands and intact blocks of forest support viable populations of native plant and animal species;*
- *Year round outdoor recreational opportunities are a short drive, bike ride, or walk away;*
- *Resilient infrastructure and ecosystems adapt to changing environmental conditions.*

Conservation History

Since the late 1800s, the York and Kittery Water Districts have been acquiring lands to ensure and protect drinking water supplies for the residents of York and Kittery. Over the past century, the Districts have acquired 4,445 acres of land in the area of Mt. Agamenticus.

The residents of southern York County also have a long and impressive history of conservation as well. Since the 1970s, engaged and concerned citizens have helped to protect an additional 5,000 acres of land from Wells to Kittery. York residents will remember, for example, voting to spend \$200,000 in 1980 to protect the summit of Mt. Agamenticus, which was slated for the development of 3,000 residential housing units on 3,500 acres.



Between 1999-2001, The Nature Conservancy, Great Works Regional Land Trust and the York Land Trust completed The Mt. A. Challenge, a conservation effort that raised over \$3.2 million and protected 2,000 acres of land around Mt. Agamenticus.

The successes of the Mt. Agamenticus Challenge, combined with the increasing threat of development, inspired the formation of the current land protection effort: the Mt. Agamenticus to the Sea Conservation Initiative.

On the following pages maps are shown which illustrate:

- The Mt A to the Sea Project Area
- Focus areas within the project area as developed by the Maine Beginning with Habitat Program

Importantly, MTA2C also funds a part-time conservation coordinator who is available to work with towns such as South Berwick on conservation planning and implementation.

Mt. Agamenticus



WHY IS THIS AREA SIGNIFICANT?

The Mt. Agamenticus Focus Area comprises and is one of the largest remaining expanses of undeveloped forests in coastal New England. The uplands and wetlands around Mt. Agamenticus are inhabited by 12 animal species and 21 plant species that are considered rare in Maine. Many of these rare species are at the northern limit of their distribution range and are more abundant south of the Maine border. Similarly, some natural communities that occur in the Focus Area are restricted primarily to southern New England. The forest that extends northward from Mt. Agamenticus features Maine's only chestnut-oak woodland.

OPPORTUNITIES FOR CONSERVATION

- » Minimize fragmentation of habitat with development designs that optimize open space.
- » Continue using signs along roads to warn people about turtle crossings.
- » Use strategic open-space planning to maintain functional connections for wildlife among habitats.
- » Work with willing landowners to permanently protect remaining undeveloped areas.
- » Use forest management methods and design developments that protect vernal pools and the amphibians that depend on them.
- » Monitor for and remove invasive species.

For more conservation opportunities, visit the Beginning with Habitat Online Toolbox: www.beginningwithhabitat.org/toolbox/about_toolbox.html.

Photo credits, top to bottom: The Nature Conservancy, The Nature Conservancy, Margaret Pizer, The Nature Conservancy, J. Albright

Rare Animals

Spotted Turtle
Wood Turtle
Blanding's Turtle
Brown Snake
Ribbon Snake
Northern Black
Racer

Spring Salamander
New England Cottontail
New England Blue
Ringed Boghaunter
Dragonfly
Swamp Darter
Scarlet Bluet

Rare Plants

Wild Leek
Slender Blue Flag
Mountain Laurel
Spicebush
Broadleaved Fern
Pale Green Orchis
Chestnut Oak
Tall Beak-rush
Sassafras
Swamp Saxifrage
Featherfoil

White Wood Aster
Upright Bindweed
Atlantic White-cedar
Spotted Wintergreen
Sweet Pepperbush
Flowering Dogwood
Eastern Joe-pye Weed
Columbia Water-mel
Alga-like Pondweed
Smooth Winterberry
Holly

Rare and Exemplary Natural Communities

Atlantic White Cedar Swamp
Chestnut Oak Woodland
Pocket Swamp
Leatherleaf Bog
Grassy Shrub Marsh
Sandy Lake Bottom
Pitch Pine Bog
Red Maple Swamp
White Oak-Red Oak Forest

Significant Wildlife Habitats

Inland Wading Bird & Waterfowl Habitat
Deer Wintering Area
Significant Vernal Pools



The forests and wetlands of Mt. Agamenticus are home to numerous rare animals and plants. *The Nature Conservancy*

FOCUS AREA OVERVIEW

The Mt. Agamenticus Focus Area extends from York Pond in Eliot northeast through the Tatnic Hills area in Wells. The Focus Area includes rugged terrain, several lakes and ponds, and numerous small wetlands that together comprise the largest contiguous block of lightly developed land in southern York County and one of the largest remaining areas of undeveloped forest in coastal New England. Mt. Agamenticus is the most outstanding feature in the area, both topographically and ecologically. Other prominent physical features are Horse Hill, Second and Third Hills, Chick's Brook watershed, Chase's Pond, Folly Pond, Middle Pond, Bell Marsh, Warren Pond, Welch's Pond, Round Pond, and York Pond.

The area's numerous upland and wetland areas are ecologically significant because they host plant and animal species that are living at the northernmost limit of their geographic ranges. In Maine, for example, at least three animal and 20 plant species occur only in this extreme southern portion of the state. Many additional species found in the Focus Area occur only sparingly farther northward. Natural communities reflect this pattern as well. For example, the Atlantic white cedar swamp, hemlock-hardwood pocket swamp, and pitch-pine bog that occur in this area are all restricted to southern Maine. The only remaining intact chestnut-oak woodland community in the entire state extends north from Mt. Agamenticus through Third Hill.

Public Access Opportunities

- » Mt. Agamenticus Wildlife Management Area
- » York Pond Lot

The Focus Area has one of the richest concentrations of vernal pool habitat in the state, supporting state-listed Blanding's and spotted turtles in concentrations rarely encountered elsewhere.

Of the 21 rare plant species known to occur in the Mt. Agamenticus area, 14 are considered rare in Maine because the state represents the northeastern limit of their range. They are much more common to the south and west. The Mt. Agamenticus area, in particular, is the northern limit for a few of these species, such as large beak-rush (*Rhynchospora macrostachya*) and flowering dogwood (*Cornus florida*).

Two rare plant species found in the Focus Area—wild leek (*Allium tricoccum*) and alga-like pondweed (*Potamogeton confervoides*)—do not reach the edge of their geographic range in Maine. However, wild leek is uncommon in Maine because it lives only in nutrient-enriched hardwood forests, while alga-like pondweed occurs only in shallow, soft-water ponds.



The Nature Conservancy

The largely undeveloped expanse of forests in the Mt. Agamenticus region is important for maintaining water quality. York and Kittery Water Districts have been acquiring lands to ensure and protect drinking water supplies for the residents of York and Kittery. Over the past century, the Districts have acquired 4,445 acres of land in the area of Mt. Agamenticus.

CONSERVATION CONSIDERATIONS

- » Minimize fragmentation of habitat through development designs that optimize open space.
- » Continue using signs along roads to warn people about turtle crossings.
- » Use strategic open-space planning to maintain functional connections for wildlife among habitats.
- » Work with willing landowners to permanently protect remaining undeveloped areas.
- » Close adherence to Best Management Practices for forestry (see Forestry Endangered and Threatened Species Guide) and development activities near vernal pools will ensure the protection of these wetlands and the amphibians that depend on them.
- » The integrity of wetland habitats depends on proper maintenance of hydrology and water quality. Intensive logging,

Ecological Services of the Focus Area

- Protection of water quality in numerous streams, ponds, and aquifers
- Source habitat for many wildlife species in rapidly developing landscape

Economic Contributions of the Focus Area

- Acreage for timber management
- Public open space for surrounding communities with benefits to land values
- Tourism and recreation (hiking, biking, and wildlife watching)

clearing, soil disturbance, new roads, and development on buffering uplands can result in greater runoff, sedimentation, and other non-point sources of pollution that harm wetlands and aquatic systems.

- » Preserving natural communities and other sensitive features can be achieved best by maintaining the integrity of the larger natural systems in which these features occur. Conserving the larger systems helps ensure both common and rare natural features will persist in this part of the state.
- » Conservation planning for the uplands should include set-

For more information about Focus Areas of Statewide Ecological Significance, including a list of Focus Areas and an explanation of selection criteria, visit www.beginningwithhabitat.org

ting aside some areas from timber harvests.

- » It is important for off-road vehicles to stay on existing authorized trails and remain out of all wetlands.
- » With expected changes in climate over the next century, plant and wildlife species will shift their ranges. Maintaining landscape connections between undeveloped habitats will provide an important safety net for biodiversity as species adjust their ranges to future climate conditions.
- » Invasive plants and aquatic organisms have become an increasing problem in Maine and a threat to the state's natural communities. Disturbances to soils and natural vegetation and introductions of non-native species to terrestrial and aquatic habitats can create opportunities for colonization. Landowners and local conservation groups are encouraged to become aware of the potential threat of invasives, of methods to limit establishment, and/or of appropriate techniques for removal. For more information on invasive plants visit: <http://www.maine.gov/doc/nrimc/mnap/features/invasives.htm>.






Spotted Turtle, Jonathan Mays

RARE SPECIES AND EXEMPLARY NATURAL COMMUNITIES OF THE FOCUS AREA






	Common Name	Scientific Name	State Status*	State Rarity Rank	Global Rarity Rank
Animals	Spotted Turtle	<i>Clemmys guttata</i>	T	S3	S3
	Wood Turtle	<i>Clemmys insculpta</i>	SC	S4	G4
	Blanding's Turtle	<i>Emydoidea blandingii</i>	E	S2	G4
	Northern Black Racer	<i>Coluber constrictor</i>	E	S2	S2
	Ribbon Snake	<i>Thamnophis sauritus</i>	SC	S3	S3
	Swamp Darter	<i>Etheostoma fusiforme</i>	SC	S1	S3
	Brown Snake	<i>Storeria dekayi</i>	SC	S3	S3
	New England Cottontail	<i>Sylvilagus transitionalis</i>	SC	S2	G4
	Spring Salamander	<i>Gyrinophilus porphyriticus</i>	SC	S3	S3
	Scarlet Bluet	<i>Enallagma pictum</i>	n/a	n/a	G3
	New England Bluet	<i>Enallagma laterale</i>	SC	S1	G3
	Ringed Boghaunter Dragonfly	<i>Williamsonia lintneri</i>	E	S1	G2
Plants	Wild Leek	<i>Allium tricoccum</i>	SC	S2	S3
	White Wood Aster	<i>Aster divaricatus</i>	T	S2	S2
	Upright Bindweed	<i>Calystegia spithamea</i>	T	S1	G4G5
	Atlantic White-cedar	<i>Chamaecyparis thyoides</i>	SC	S2	G3
	Spotted Wintergreen	<i>Chimaphila maculata</i>	E	S1	S3
	Sweet Pepperbush	<i>Clethra alnifolia</i>	SC	S2	S3
	Flowering Dogwood	<i>Cornus florida</i>	E	S1	S3
	Eastern Joe-pye Weed	<i>Eupatorium dubium</i>	T	S1	S3
	Featherfoil	<i>Hottonia inflata</i>	T	S1	G4
	Smooth Winterberry Holly	<i>Ilex laevigata</i>	SC	S2	S3
	Slender Blue Flag	<i>Iris prismatica</i>	T	S2	G4G5
	Mountain Laurel	<i>Kalmia latifolia</i>	SC	S3	S3
	Spicebush	<i>Lindera benzoin</i>	SC	S3	S3
	Broadbeech Fern	<i>Phegopteris hexagonoptera</i>	SC	S2	S3
	Pale Green Orchis	<i>Platanthera flava</i>	SC	S3	G4
	Alga-like Pondweed	<i>Potamogeton confervoides</i>	SC	S1	G3G4
	Chestnut Oak	<i>Quercus montana</i>	T	S1	S3
	Tall Beak-rush	<i>Rhynchospora macrostachya</i>	E	S1	G4
	Sassafras	<i>Sassafras albidum</i>	SC	S2	S3
	Swamp Saxifrage	<i>Saxifraga pensylvanica</i>	T	S2	S3
Natural Communities	Columbia Water-meal	<i>Wolffia columbiana</i>	T	S2	S3
	Atlantic White Cedar Swamp	Atlantic White Cedar Swamp		S2	G3
	Chestnut Oak Woodland	Chestnut Oak Woodland		S1	n/a
	Pocket Swamp	Hemlock-Hardwood Pocket Swamp		S2	n/a
	Leatherleaf Bog	Leatherleaf Boggy Fen		S4	n/a
	Grassy Shrub Marsh	Mixed Graminoid-Shrub Marsh		S3	n/a
	Sandy Lake Bottom	Pipewort-Water Lobelia Aquatic-Bed		S3	n/a
	Pitch Pine Bog	Pitch Pine Bog		S1S2	n/a
	Red Maple Swamp	Red Maple-Sensitive Fern Swamp		S4	n/a
	White Oak-Red Oak Forest	White Oak-Red Oak Forest		S3	S3

State Status*






-  Endangered: Rare and in danger of being lost from the state in the foreseeable future, or federally listed as Endangered.
-  Threatened: Rare and, with further decline, could become endangered; or federally listed as Threatened.
-  Special Concern: Rare in Maine, based on available information, but not sufficiently rare to be Threatened or Endangered.

*State status rankings are not assigned to natural communities.

State Rarity Rank

-  Critically imperiled in Maine because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres).
-  Imperiled in Maine because of rarity (6–20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
-  Rare in Maine (on the order of 20–100 occurrences).
-  Apparently secure in Maine.
-  Demonstrably secure in Maine.

Global Rarity Rank

-  Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation.
-  Globally imperiled because of rarity (6–20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
-  Globally rare (on the order of 20–100 occurrences).
-  Apparently secure globally.
-  Demonstrably secure globally.

Data for Conservation Planning



While data for conservation planning may be available from a variety of sources the primary source of data for this work in Maine comes from the Beginning with Habitat (BWH) program located within the Department of Inland Fisheries and Wildlife.

BWH focuses on a few specific areas of habitat at a landscape scale:

1. The importance of riparian habitat along streams, brooks, rivers, and associated wetlands. These areas function as tremendous travel corridors for wildlife and most importantly contain 75% of all the species diversity in Maine. To some degree, these areas are protected by Shoreland Zoning. The extent of that protection is much debated.

The Maine Department of Inland Fisheries and Wildlife consider these riparian areas the backbone of any wildlife preservation effort.

2. The wide range of high value plant and animal habitat within the community. IFW has highlighted the ecological diversity of the town with mapping of; deer wintering areas; assemblages of rare plants, animals and natural communities found within the town; “essential” wildlife habitats, which requires IFW review for endangered animals and their habitat; and “significant wildlife habitat” (such as high and moderate value waterfowl or wading bird habitat). These areas are found on the maps on the following pages.

3. Finally, and perhaps most importantly, the identification of large relatively unbroken blocks of habitat which can support animals with large home ranges (such as moose and fishers) as opposed to suburban species (such raccoons and skunks). These unfragmented blocks offer valuable opportunities to preserve a wide range of species in a rapidly developing landscape. The implications for wildlife diversity in the face of “sprawl” in these locations may be an important planning concern. Many of these unfragmented blocks also cross town boundaries.



South Berwick contains a number of these unfragmented blocks; particularly ones at a scale that are deemed crucial for species diversity and conservation planning. These blocks and their relative sizes are shown on the maps that follow. These areas function as important wildlife habitat and form the critical values, which people attribute to the Mt. Agamenticus area - it's rural and wilderness like setting in a rapidly growing area and near the coast. These blocks are considered important on a statewide and/or regional level because of their size.

South Berwick also contains two noteworthy Deer Wintering areas as mapped by MDIFW. One is located off Thurrell Road and the other is located between Rte 91 and Rte. 236. Deer wintering areas are heavily vegetated areas where deer tend to winter over due to the undeveloped nature of the area as well as the dense tree cover (and possibly lower snow depths). These areas are also found on the Wildlife Habitat Map.

The point locations of the rare plant species are located on the maps. For the purposes of this section we have not identified the specific species with the actual location. However, it is important to note the general location as applications come in for possible development review.

Wetland Wildlife and Fisheries Habitat

South Berwick also has several notable Waterfowl and Wading Bird Habitat locations as mapped by MDIFW. These are areas fairly spread out through the town and are comprised mainly of larger freshwater wetlands in a few locations. Nearly the entire length of the Piscataqua River in South Berwick is considered Tidal and Wading Bird Habitat. These are found on the Wildlife Habitat Map.



These high value wetlands are protected by a large extent through Shoreland Zoning Standards. It should be noted Maine Shoreland Zoning guidelines only cover freshwater wetlands of ten acres or greater. Forested wetlands of any size are not included in shoreland zones; although they would be covered by the DEP administered Natural Resources Protection Act (NRPA).

Other wetland resources are spread throughout South Berwick. These wetlands have been mapped (2 acres and above in size) through the National Wetlands Inventory.

Vernal pools - which can be found in abundance in the Mt A area and South Berwick are also now regulated by NRPA. Some mapping of significant vernal pools has been done although only one is shown in South Berwick. Vernal pools are notable for a wide variety of wildlife including breeding grounds and habitat for endangered Blanding's Turtles, salamanders and frogs.

All of this data serves as the backbone for the co-occurrence analysis of conservation priorities, which follows later in the plan.

Please note that large scale copies of all natural resource maps can be found in the Town Office.

New England Cottontail Habitat

Once common in southern Maine, New England cottontail rabbits, sometimes called “coney rabbits”, have declined by over 80%. These small, brown rabbits depend on large patches of connected shrubland to live. Loss of habitat is the primary cause of their decline. Today, most shrublands are small and isolated and can no longer support New England cottontail populations.



New England Cottontail Kelly Boland, USFWS

New England cottontails have been listed as endangered in Maine and are on the candidate list under the federal endangered species act (similar to a waiting list). South Berwick is special, and is one of a small handful of southern Maine towns that still have New England cottontails. Here, utility lines, reverting fields, shrubby wetlands, and young forest provide some of the low growing habitat that they need. However, this habitat is uncommon and declining along with nearly 50 other shrubland-dependent species in New England.



Yellow Warbler – Kirk Rogers

The Department of Inland Fisheries and Wildlife, the U.S. Fish and Wildlife Service and other wildlife and conservation groups have made it a priority to protect and manage shrubland habitats that are important to the survival of the New England cottontail and Maine’s other shrub-dwelling wildlife (e.g. ruffed grouse, eastern towhee, and American Woodcock). South Berwick is in one of the identified priority focus areas for NEC



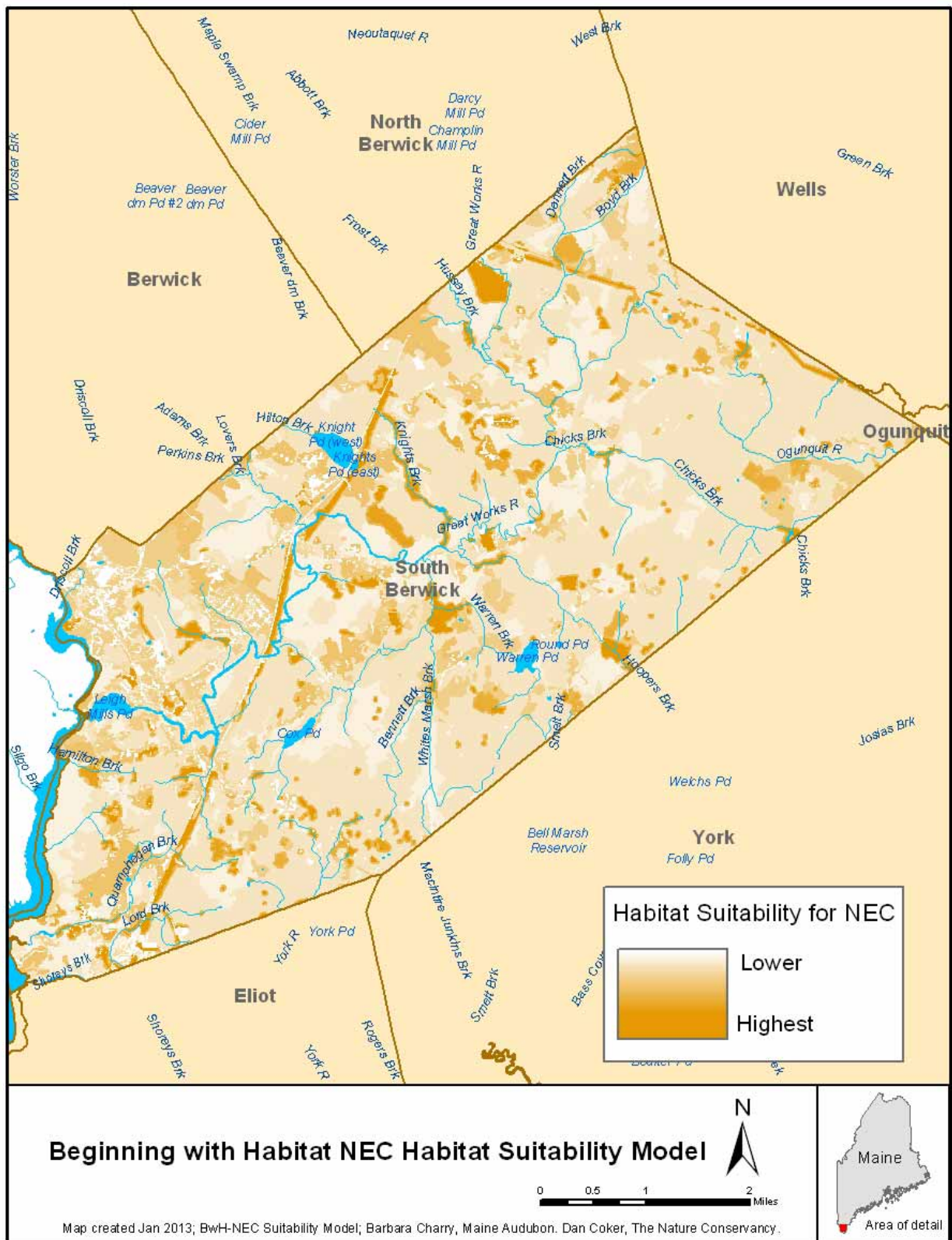
Shrub Wetland - USFWS

restoration in Maine (Fuller and Tur 2012) and can make a significant difference by keeping the New England cottontail in mind when planning use of the current and future open space. If land is available near a shrubby utility line, or adjacent to riparian areas, old fields, or managed forestland, there may be funding available to help public and private landowners protect, plan, and manage their land. Protecting and managing habitat can 1) Buffer and protect water resources, 2) Increase wildlife diversity, 3) support the local economy by employing contractors, such as foresters, or local businesses, 4) Create educational opportunities for schools, and 5) Preserve and promote local farms that provide important wildlife habitats.

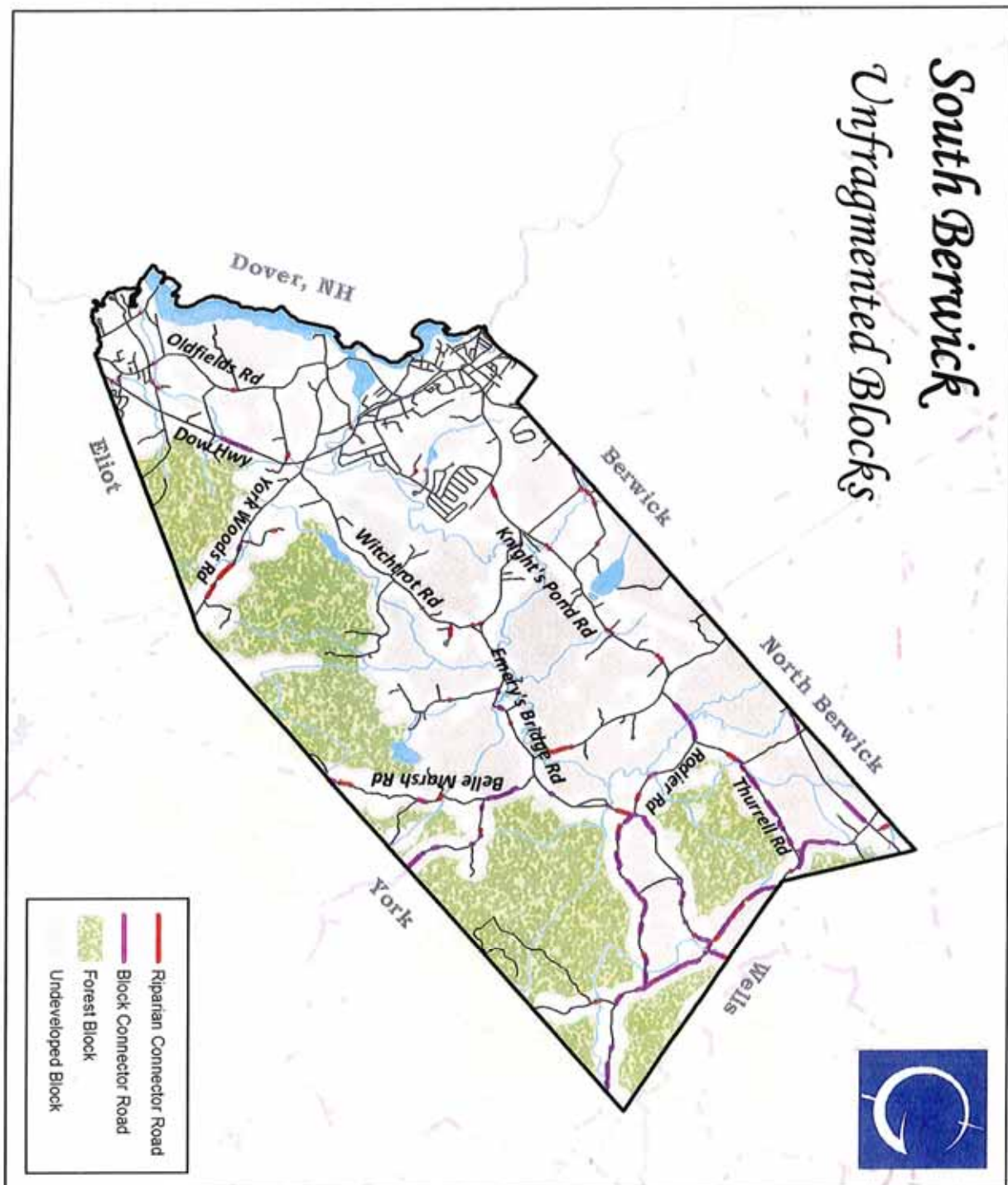
For more information visit www.newenglandcottontail.org.

Fuller, S. and A. Tur. 2012. Conservation Strategy for the New England Cottontail (*Sylvilagus transitionalis*).

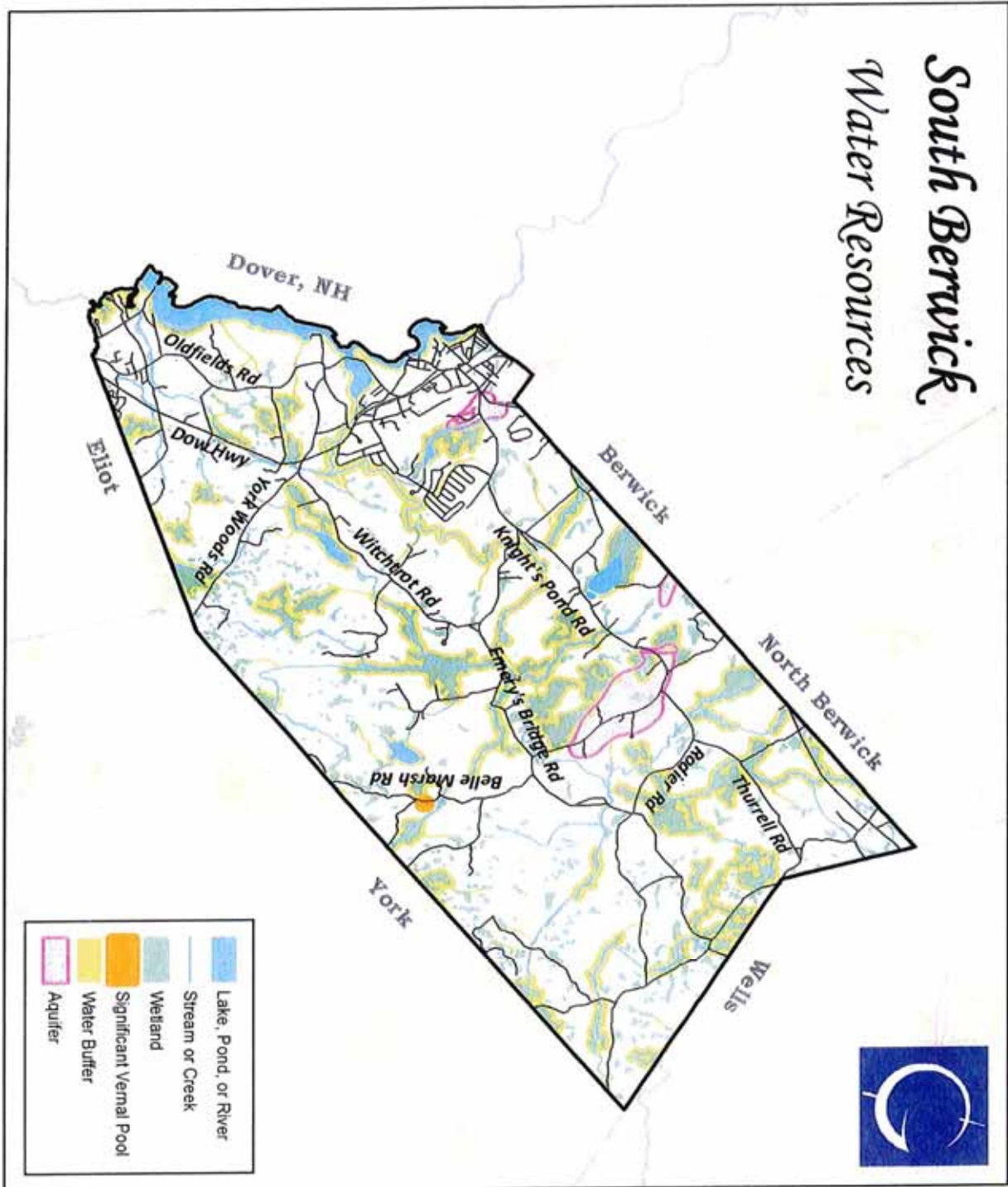
Available at www.newenglandcottontail.org.



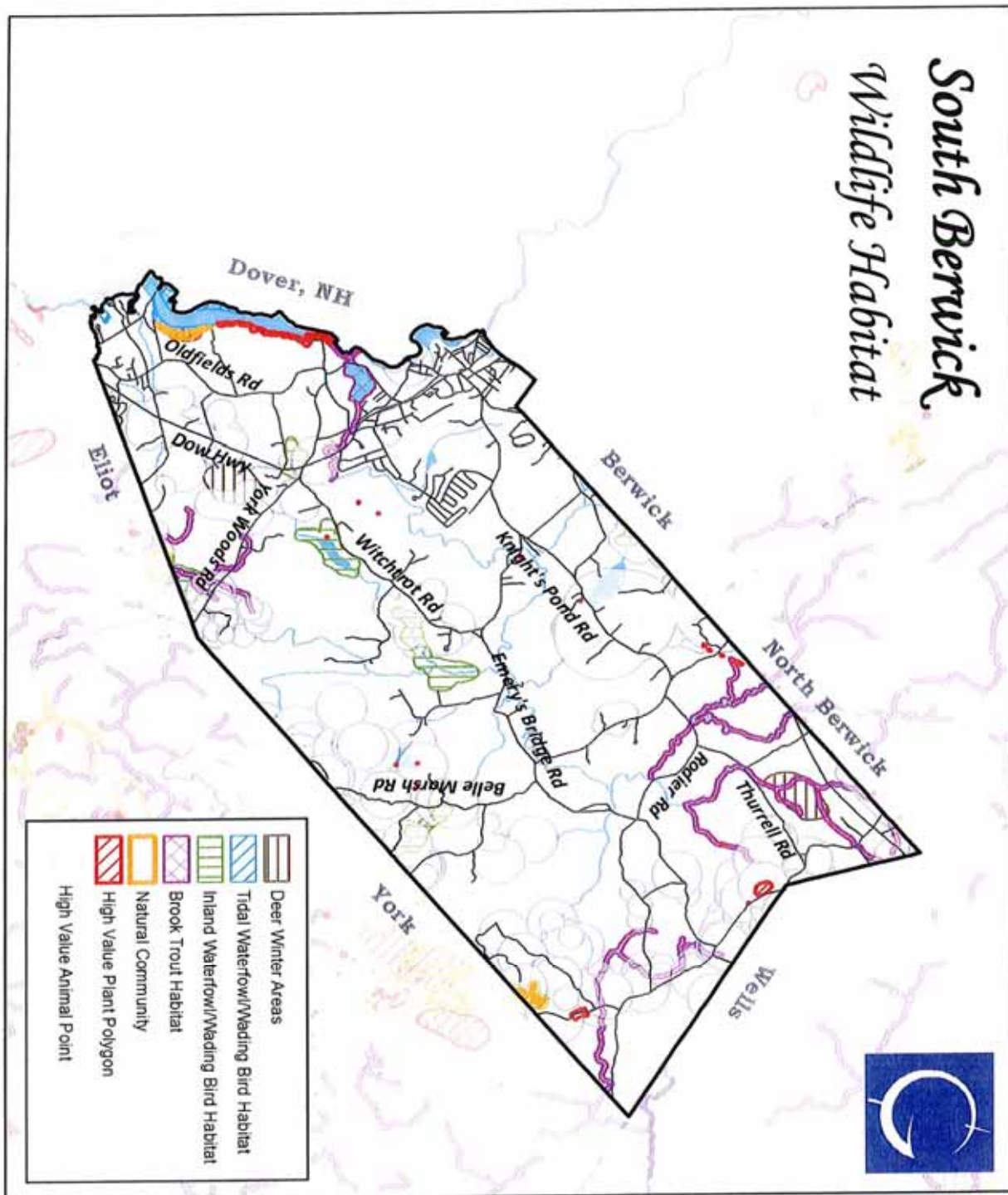
South Berwick Unfragmented Blocks



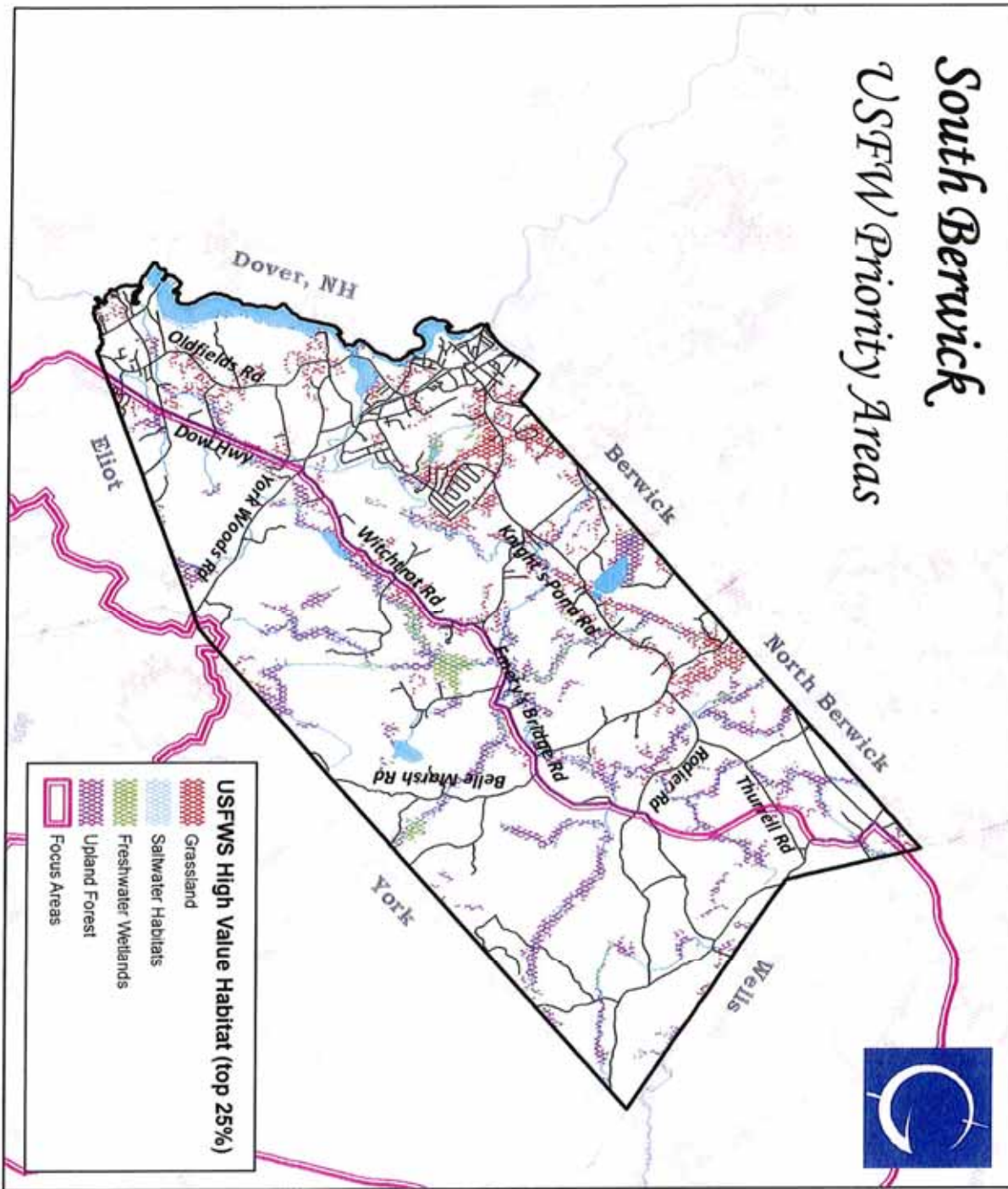
South Berwick Water Resources



South Berwick Wildlife Habitat



South Berwick *USFW Priority Areas*



Existing Conservation Land in South Berwick

South Berwick is blessed not only with abundant natural resources, but large amounts of conservation lands, which protect many of these resources. A look at the conservation lands map on the following pages highlights these holdings.

In sum the conservation lands break down in the following manner:

Total area of South Berwick:	21,109 acres
Total area of Conservation Land:	3,773 acres (17.9%)
Total area in Tree Growth AND Farm/Open Space:	2,737 acres (13%)
Total in Conservation and Tree Growth/Farm	6,510 acres (30.8%)

While this amount of conservation/tree growth land may seem high a few important points should be made; Land in current use is not necessarily protected land. These properties can be removed from such programs at any time - subject to certain withdrawal penalties. Secondly, if the concern might be that these properties do not return any tax revenue to the town, it should be noted some parcels do provide some level of tax revenue as they may be in the form of easements. Finally, any calculation of open space and conservation land does not include the benefits that are derived from the land not being developed and costing the community money in services (such as schools), nor does the calculation account for the benefits of the recreation provided, the increased value associated with the quality of life in the community or the protection of natural resources such as drinking water quality, flood control, wildlife and fishing opportunities, etc. These are always difficult economic arguments to quantify when discussing conservation lands.

The map of conservation lands that follows does not break down the lands by ownership, but rather looks at the conservation lands as a whole. There are a number of different organizations who contribute to the protection of the landscape and natural resource base in South Berwick, these include: the Great Works Regional Land Trust, the state of Maine (through IFW and Dept. of Conservation), the town of South Berwick itself and other nonprofit organizations such as the Nature Conservancy and also Water Districts. While lands may be managed for different purposes - such as water quality, wildlife habitat, rare species, etc) the lands for the most part can be viewed as “protected”. Some lands offer public access while others do not.

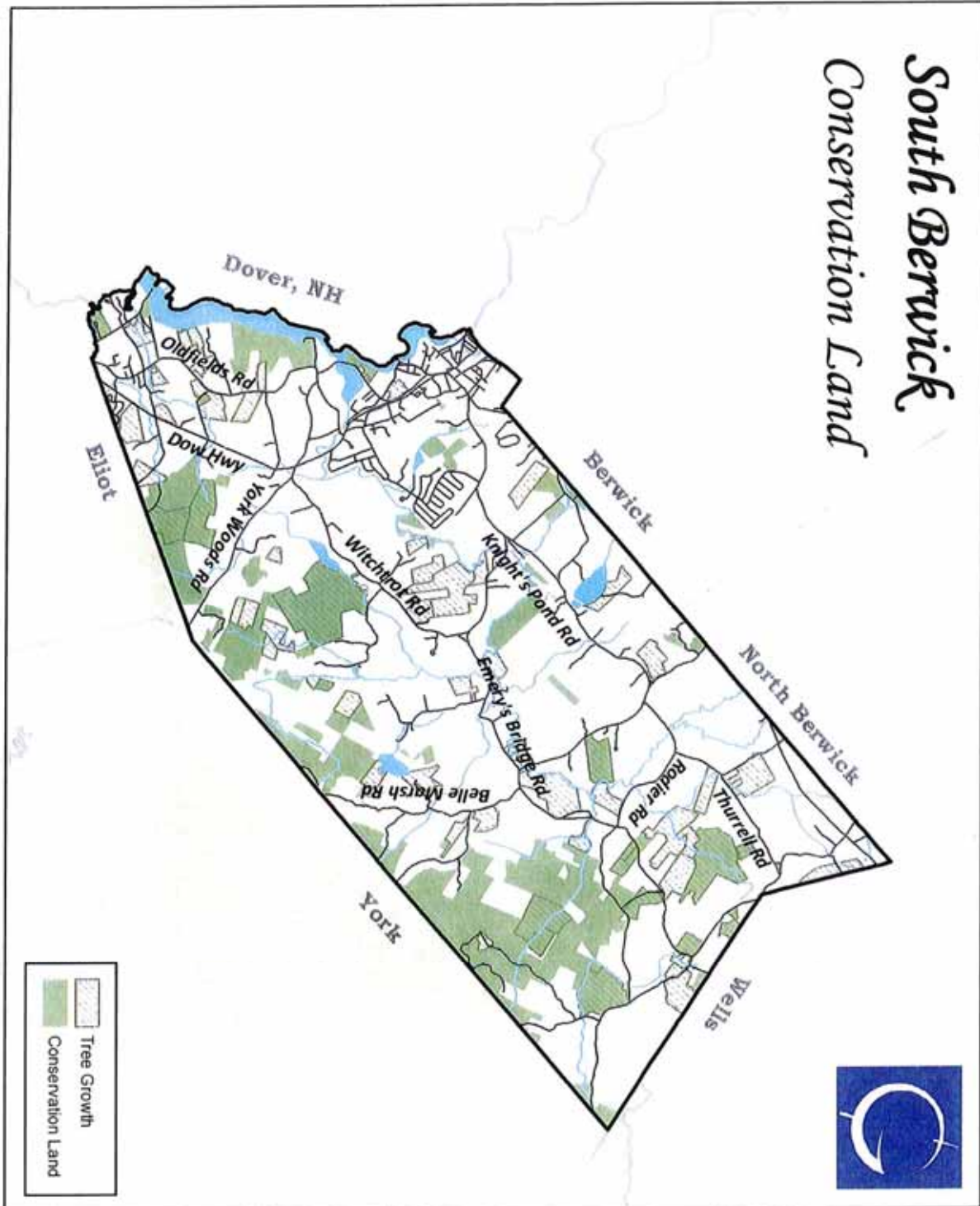
A great deal of the conservation activity that has taken place over the past 15 years has been in the Mt Agamenticus region of South Berwick and York and also in the York Pond region of Eliot (also extending into South Berwick). These have been true

collaborative projects involving numerous organizations, towns and Land Trusts. These actions have been heralded at both the state and national level as a model of how to accomplish conservation work across town and regional boundaries. While state involvement and the involvement of the Nature Conservancy have lessened regarding the Mt A region over the past 5 years, it is apparent that the land trusts in the region as well as private funders still believe there is work to be done within the area.



Town Boat Launch/Park on Salmon Falls River

South Berwick Conservation Land



Establishing Open Space/Conservation Priorities in South Berwick

The most important part of this plan and the primary reason for its development is the establishment of conservation and open space priorities. As has been noted in a prior section a great deal of prioritizing has already been achieved through the PREP, GWRLT and MTA2C plans. The Committee reviewed these plans and based on their importance have included them with the towns own recommendations.

However, the Committee also felt it was vital to establish local priorities for South Berwick itself. The other plans were more regional in nature with priorities defined by raw data for the most part. The Committee also used this data as noted, but also wanted to impart their own values into the discussion. For instance, areas like the Balancing Rock and Gorge area might not be noted in any regional conservation priority list, but most residents of South Berwick consider these resources as valuable.

The priorities as shown in the maps to follow were developed as described by the Axis GeoGraphics process, which is presented on the following pages. The Committee attempted to establish their own list of prioritized resource values, while also considering public input through the survey and some of the input received with mapping exercises around the community. In order to accurately map some items and not create clutter on the mapping product, some items were joined on the resource maps. In the end the Committee felt the focus areas reflected their desires and also represented a South Berwick vision for conservation.

The focus areas are intended for guidance to town officials, Planning Board members, Land Trust officials and other interested in the conservation of valuable areas of South Berwick. The highlighted areas are not intended to be the only resources in town to concentrate on, but as opportunities arise, they should be given priority. Any efforts to conserve these areas will be by willing owners only and will be assisted by the strategies that follow in the implementation matrix.

We have also included a map which shows the existing conservation land within the town with a priority area overlay. This is a valuable map for all to explore as

it can be used to connect conserved lands, establish trails systems and provide even greater value to the lands that have already been conserved.

In the end the map is only as good as the effort that goes in to implementing the plan. For that reason the strategies should be examined and followed if at all feasible.



Counting House Park



July 10, 2012

**South Berwick, ME
Open Space Plan
Co-Occurrence Mapping**

Process

As part of the Town of South Berwick's Open Space Planning process, I was contracted by the Southern Maine Regional Planning Commission (SMRPC) to assist with compiling, analyzing, and distilling the existing sources of publicly available conservation-themed map data into a more understandable format. The goal of the process is to give the Town a set of maps and/or data that they can use to identify locations to focus their efforts or attention in their open space planning.

Sources

The following data sources were used in this series of mapping and analysis:

- South Berwick parcel polygons and assessor records, courtesy of Andrew Land, GIS consultant for the town;
- Properties held in "Tree Growth" status, derived from assessor records;
- Conservation land, derived from SMRPC and parcel data;
- Aquifer data from the Maine Office of GIS (MEGIS);
- Data layers distributed through the Beginning With Habitat Program, originating from US Fish and Wildlife (USFW), Maine State Planning Office (SPO), Maine Natural Areas Program (MNAP), and Maine Department of Inland Fisheries and Wildlife (MDIFW). Layers included:

- Unfragmented Blocks (MDIFW)
- Forest Blocks (MDIFW)
- Block Connector Roads (MDIFW)
- Riparian Connector Roads (MDIFW)
- Wetland Characteristics (SPO)
- Buffered wetlands, Great Ponds and Estuaries, Streams, Wetlands (MNAP)
- Significant Vernal Pools (MDIFW)
- Deer Winter Areas (MDIFW)
- Tidal Waterfowl and Wading Bird Habitat (MDIFW)
- Inland Waterfowl and Wading Bird Habitat (MDIFW)
- Brook Trout Habitat (MDIFW)
- High Value Animal Points (MNAP)
- High Value Wildlife Habitat (USFW)
- High Value Plant Polygons (MNAP)
- Natural Communities (MNAP)

Methods

The goal was to produce a single unified map highlighting priority areas for conservation or protection, based on the goals and priorities of the Open Space Committee.

To that end, I began by creating a workable unit of analysis that would allow for enough detail to prioritize areas, while remaining coarse and non-specific enough to protect privacy concerns of residents. I settled on a uniform 10-acre grid covering the entire town.

Next, I grouped the constituent data layers into a few thematic categories or ease of display: First, legal or protection status, which captures whether a particular area is already protected as conservation land, or is held in Tree Growth status, indicating a current use that maintains open space.

Second, I grouped water resources, including wetlands, surface water, aquifers, and buffers of water features.

The third group consisted of species-specific habitat layers, including deer yards, brook trout habitat, inland and tidal wading bird habitat.

Finally, I grouped those areas identified as important habitats through other studies, including high value plant polygons, high value animal points, and natural communities.

Through a series of spatial selections and joins, I gave each 10-ac. grid square a value of one for each occurrence of any of the layers above within that square. For example, if a square intersected with a wetland buffer, a deer yard, and a property in Tree Growth, it would attain a score of 3.

The one exception to that ranking concerns existing conservation land. Any grid that was entirely contained within existing conservation land was not given a value of 1 for that occurrence, since any land that is entirely protected does not need to be considered for further protection. However, if a grid intersected with conservation land, but was not entirely contained by it, then it was given a score of 1, to indicate that it is adjacent to conservation land, and therefore has value in expanding the existing block of protected space.

The layer representing wetland characteristics was not included, since it precisely overlaps with the other wetland layers, and adds nothing to the geographic analysis, only adding descriptive data that may be better used in decision making through other processes. The areas identified as High Value Wildlife Habitat by USFW were also not added to my calculations, since they were derived from many of the same sources, and would likely result in double-counting for occurrences of all the same features I already used.

The values given above were totaled and each grid square was given that summary value. Those values were then displayed on a map, and used to show relative values of “suitability” or “desirability” as potential open space, based on the number of constituent parts that lie within.

These results were presented to the South Berwick Open Space Committee in July, 2012.

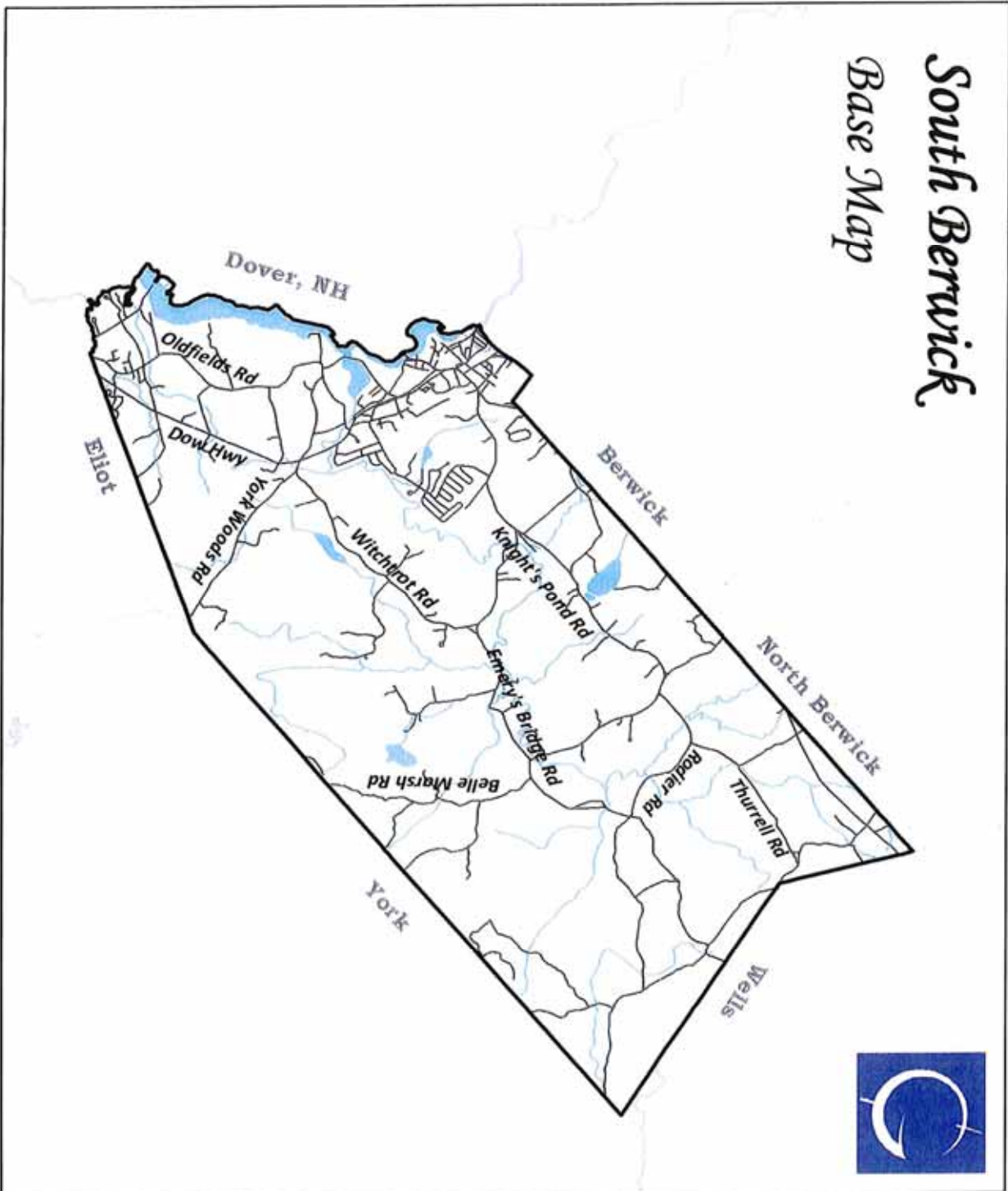
Open Space/Conservation Plan
Ratings by Committee

		OPEN SPACE/CONSERVATION PLAN FACTORS																							
Name	Recreational Values				Water Quality Values				Habitat Values						Environment & Health Values				Scenic & Cultural Resources			Land Productivity Values			Other
	Pubic Water Access	Trails	Proximity to Settled Areas	Adjacency to Publicly Accessible Conserved Land	Aquifer Recharge	Proximity to Streams	Proximity to Lakes, Ponds or Rivers	Highly Erodible Soils	Unfragmented Forested Lands	Deer Wintering Area	Waterfowl Habitat	Rare Animal Location	Rare Plant Location	Adjacent to Conserved Land	Wetlands	Steep Slopes	Flood Plains	Wellhead Protection	Ridge Tops	Scenic Views	Historic	Forest Land	Farm Land	Prime Agricultural Soils	
		5	5	10		10	10		20					10	10						5	15			
	20	20			10				10			5	5					10		10				10	
		15			10				20	10	10			5	10					5	5	10			
	10	10		10					20					20					10			20			Check H2O District, More
	3	3	1	2	4	4	5	3	5	2	10	10	10	2	9	1	4	3	2	3	4	4	3	3	
	2	3	5	5		5	3	5	3		5			5	5		6	5	5	3			5	5	15-Urban
		5		5		5	5		20			10		20	10		10	5					5		
	1	5	1	3	10	5	5	1	5	1	5	5	5	5	5	1	1	13	1	5	2	5	5	5	
	4	6	4	7	4	4	4	2	8	3	3	3	3	7	8	2	2	2	2	2	2	7	7	4	
					5	5	5	5	20	5	5	5	5	10	5	5	5	5					5	5	
		5		10	10	5	5		10			5	5	10	5			10		5		5	5	5	
		10	10		10				10	5	5	5	5		5		5		5	5	5			5	10 for Bike
Totals	40	87	26	52	63	43	42	16	151	26	43	48	38	94	72	9	33	53	25	38	23	66	35	42	

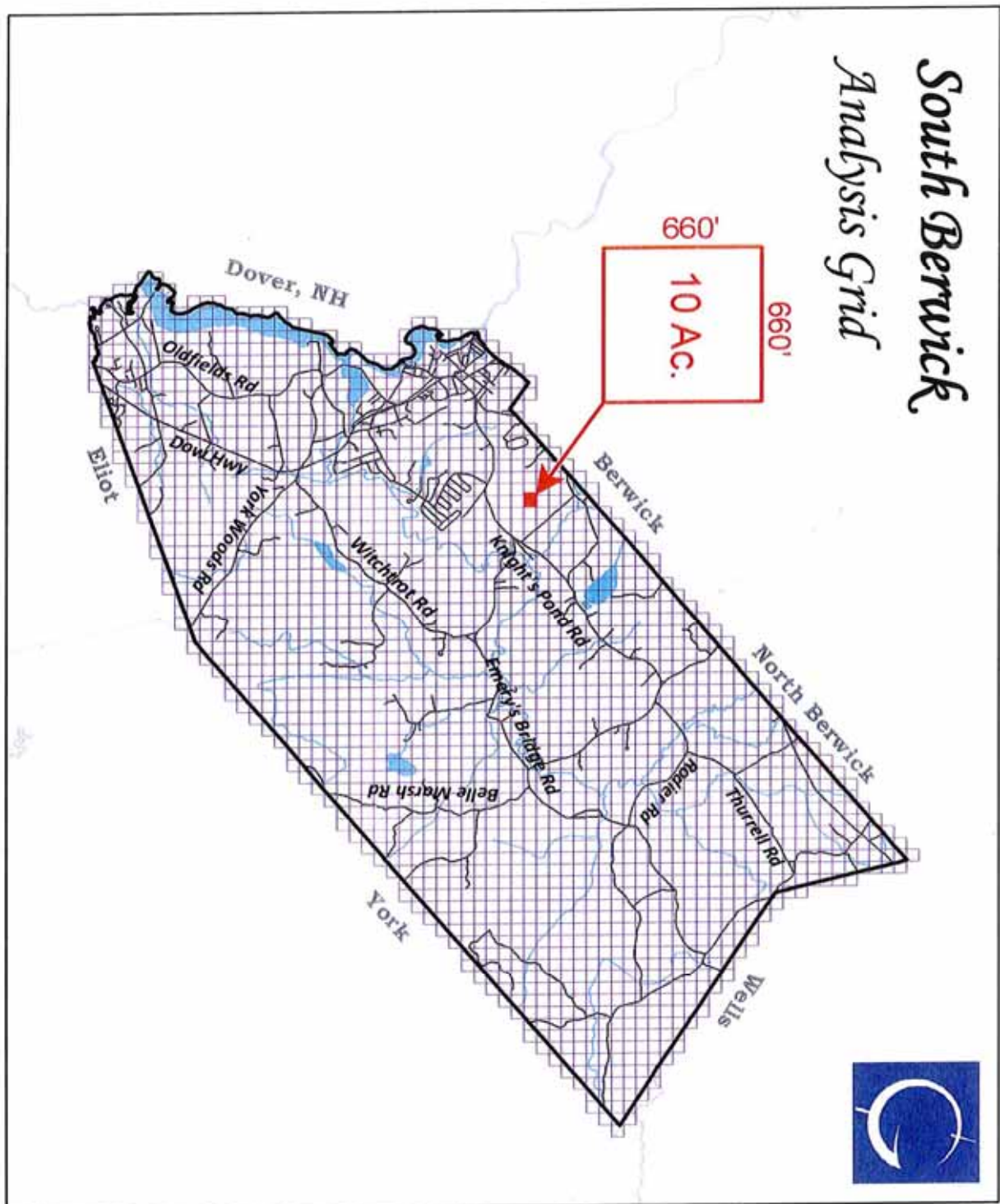
Committee Rankings

1. Unfragmented Forest Lands with habitat values (151)
2. Habitat Values adjacent to conserved lands (94)
3. Trails (87)
4. Wetlands for Environmental and Health Values (72)
5. Forest Lands for land productivity (66)
6. Aquifer recharge (63)

South Berwick Base Map



South Berwick Analysis Grid



South Berwick Conservation Priorities

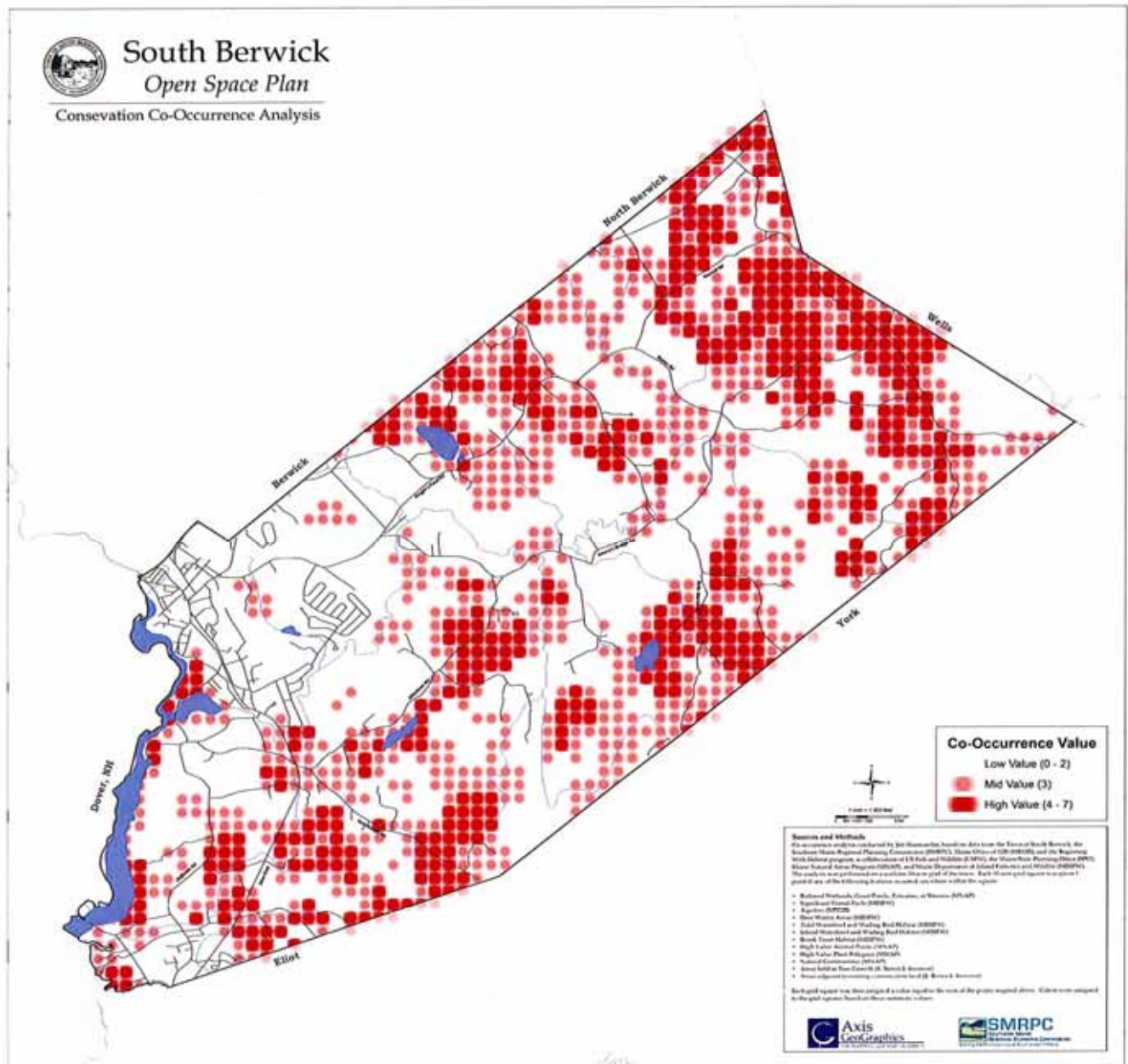
The map on the following page represents the focus areas as mapped by Axis Geographics and the process of the Committee. A few items should be noted:

1. A number of the high priority areas are already protected through either conservation easements or by outright ownership. That shows that the work to date has been very successful and strategically sound. (The maps of the local focus areas shown in concert with the regional focus areas is illustrative). The co-occurrence model attempted to account for this by not including conservation land as a value but the areas still received a high number.
2. While the areas are still clustered around the important Mt A/Tatnic/York Pond areas the model has provided other features to be focused on. This includes:
 - **Areas along the Salmon Falls River south of Vaughan Woods**
 - **Areas around Knights Pond**
 - **Additional lands along Witchtrot Road**
 - **Areas in the far northwest part of town**
3. Opportunities exist in abundance to expand upon existing conservation lands and continue to add these high value areas to the conservation landscape in South Berwick.
4. As the data is a GIS data set, further analysis can be undertaken to see why a specific grid has received a high priority. For instance by clicking on a grid in the database, one can find the underlying occurrences which result in the score for that grid. In addition, the data can be easily revised to see only grids which received a 6, 7 or whatever score you may want to examine. For instance, a 7 would be the highest value of all.
5. The data can be updated as needed. New information (such as vernal pools which has a limited data set) can be added to the GIS files and new calculations in the co-occurrence model can be made.
6. The areas in lighter red (mid-value) - particularly those adjacent to the higher value grids also are important as potentially supporting landscapes.
7. Large Scale Conservation maps are available in the town office.

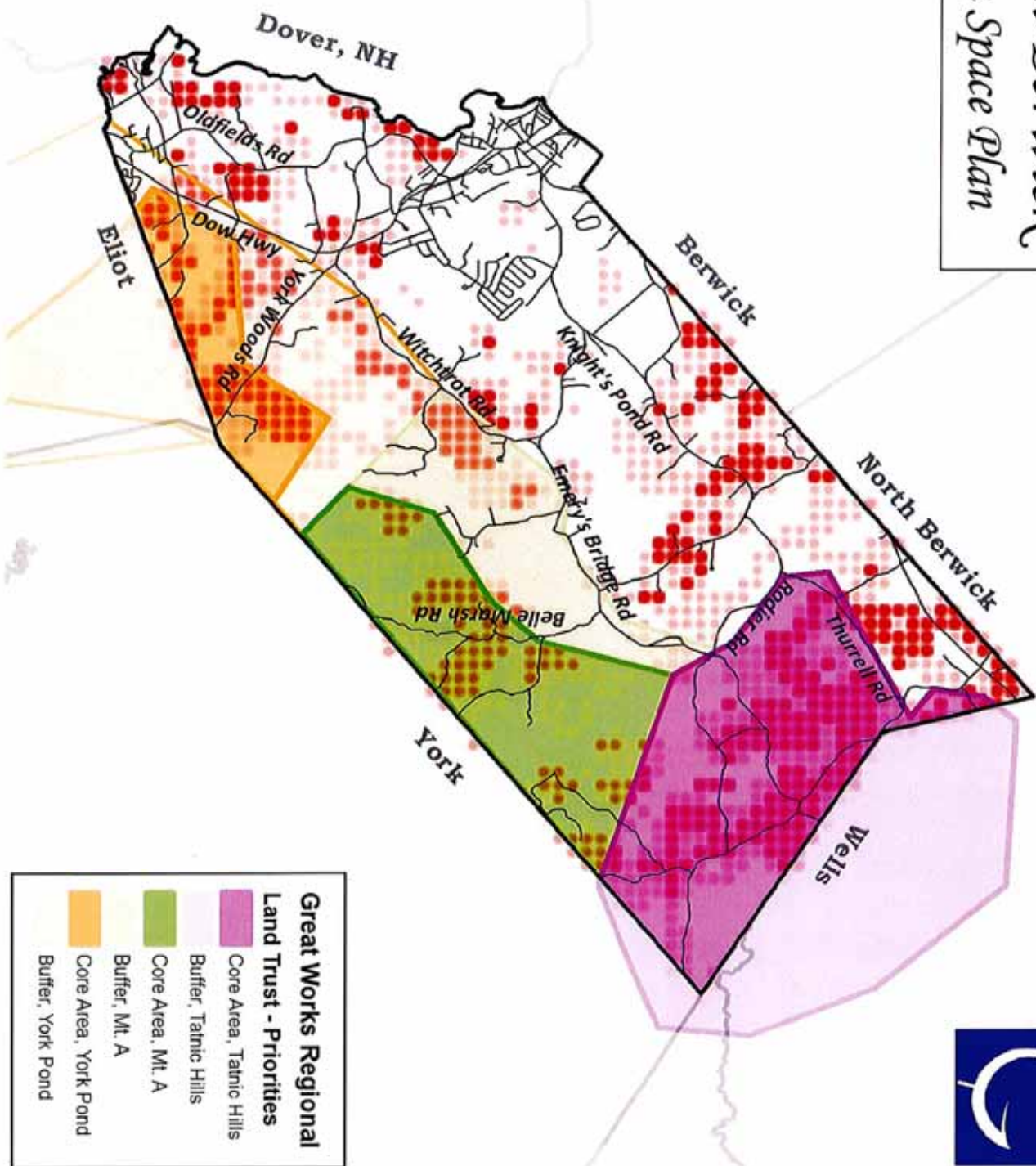


South Berwick Open Space Plan

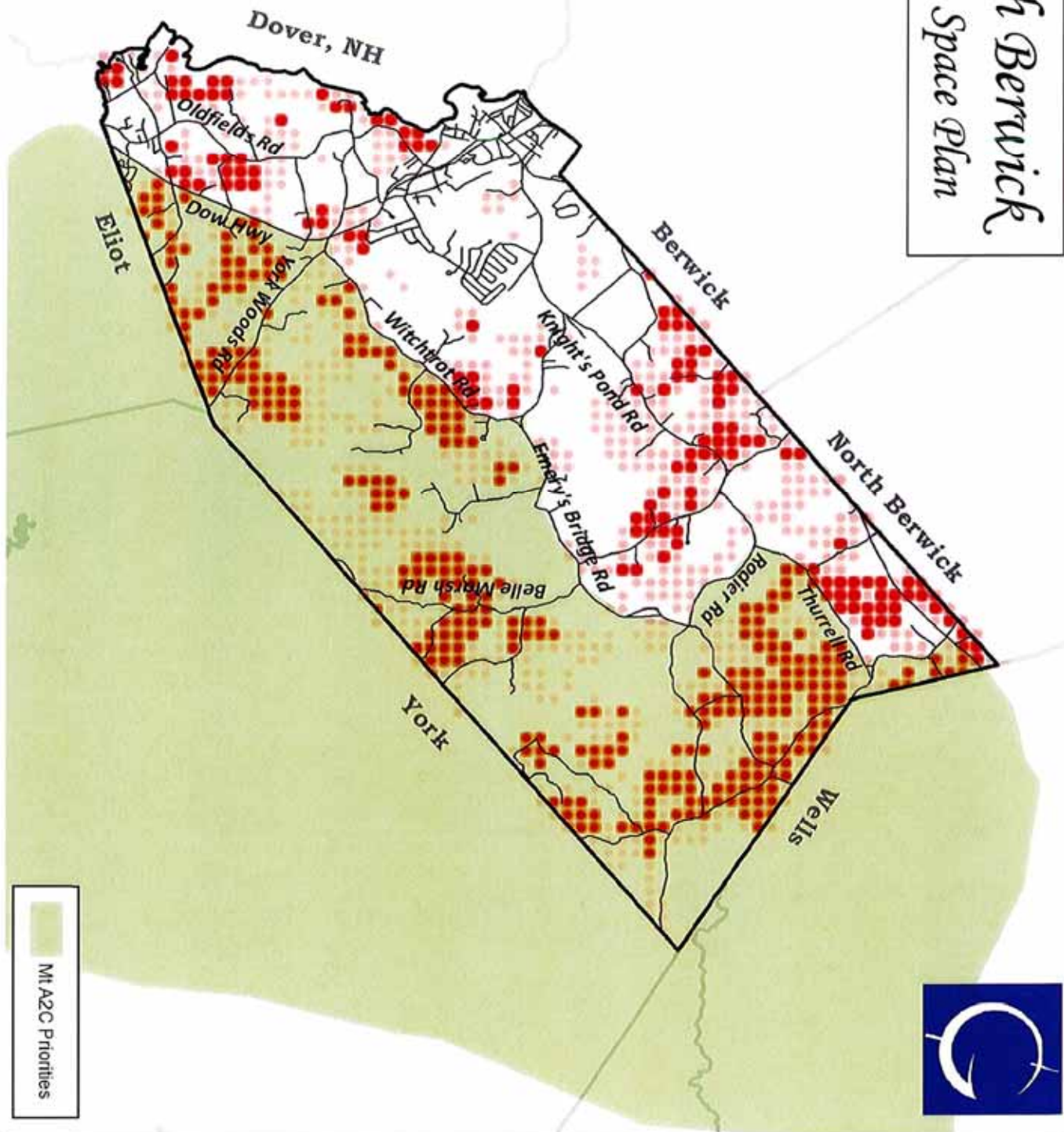
Conservation Co-Occurrence Analysis



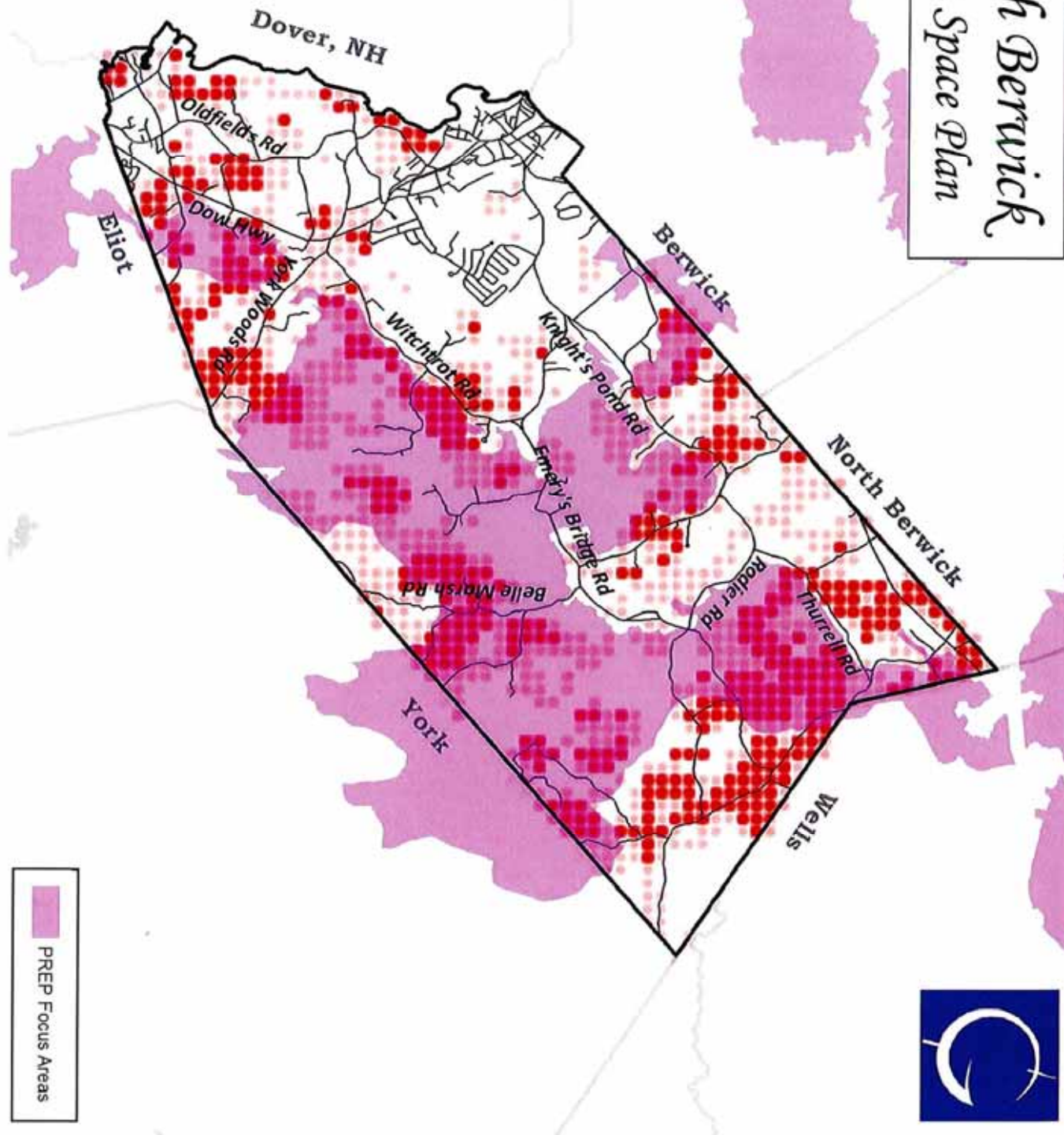
South Berwick Open Space Plan



South Berwick Open Space Plan



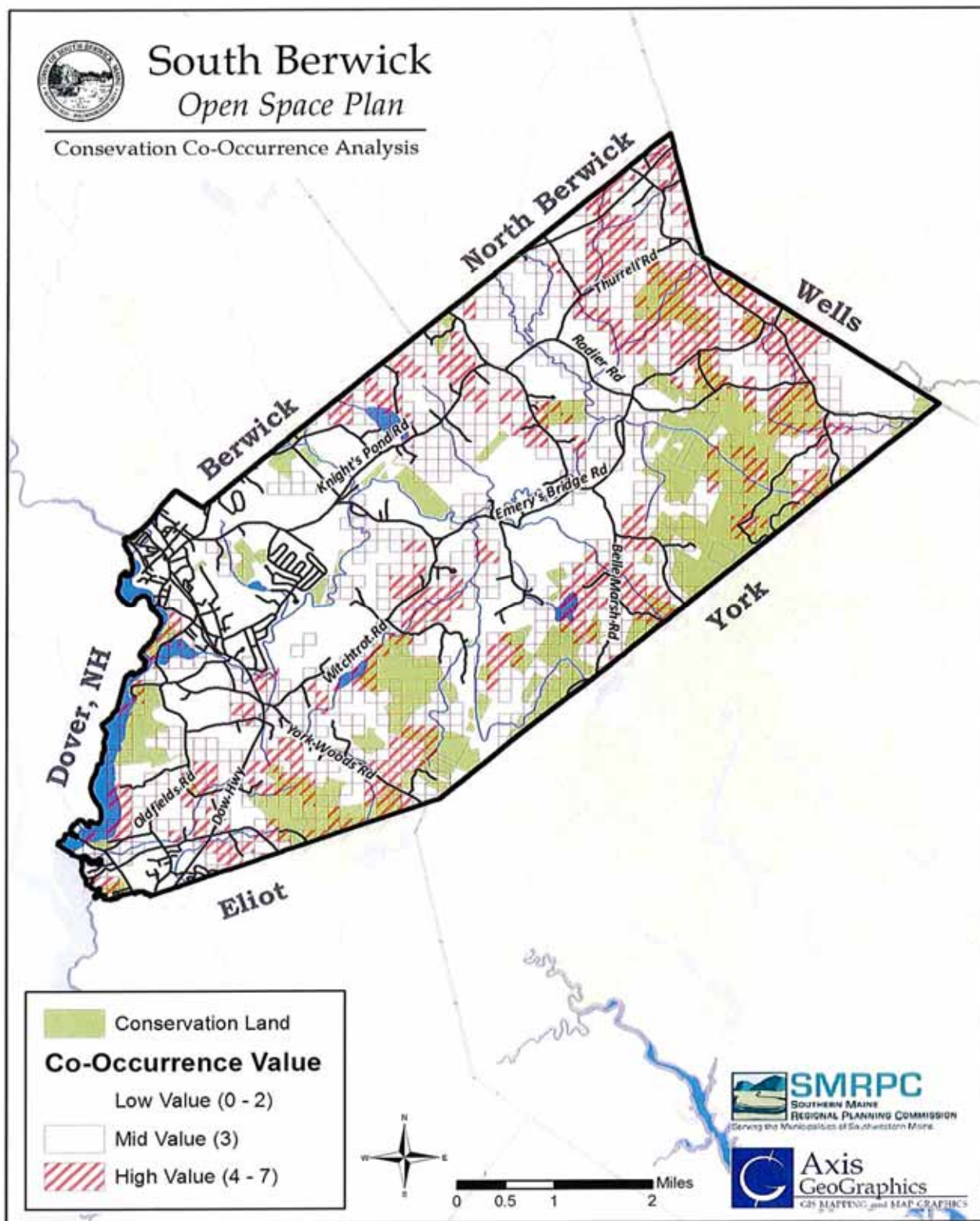
South Berwick Open Space Plan





South Berwick Open Space Plan

Conservation Co-Occurrence Analysis



Implementation Strategies and Matrix

To move this document from merely being a plan to something that will lead to action, one needs to understand and embrace the strategies that are contained in the following implementation matrix. It is particularly important that these strategies be considered by the town and if not fully adopted at least become part of a tool kit for conservation as the next round of development begins to take shape.

The matrix basically focuses on a few key items:

- First, how can we raise funds through various means to have money available for conservation purchases? This is critically important to provide matching dollars for grants, to assist the land trusts with their efforts or to simply enable the town to proceed with conservation purchases of their own. To have this money available in a timely fashion (primarily through a dedicated account focused on open space) is crucial as conservation deals unfold.
- Secondly, is how the Planning Board might use this document as they review development proposals? South Berwick established one of the first Cluster Development Ordinances in New England over 25 years ago. Having town prepared data and focus areas can provide the Board with ready-made assistance as they review projects either in or abutting focus areas. The data also provides would be developers and property owners with the background they need as they examine their development options.
- Finally, the strategies lay out ideas and options for working with both landowners and other regional groups to forward the conservation of the focus areas. These ideas are considered non-regulatory in nature but can achieve many of the same goals as above.

As this is not a regulatory or legal document, we also wanted to highlight the relationship to the towns Comprehensive Plan. For that reason we added a column which addressed whether a strategy was in the Comprehensive Plan directly, related to recommendations in the Comprehensive Plan or a new strategy which has arisen since the adoption of the Plan. It is quite clear that many of the strategies are directly found in the Plan (while the wording may be different the association is clear). The references to the plan refer to the strategies which were culled from the plan and are found in Chapter 3.

This connection to the Comprehensive Plan is critical as it enables the town to adopt certain strategies (if they so choose) which has the foundation of the Comprehensive Plan behind it. Such a connection makes everything more defensible while also forwarding the goals of the Comp Plan.

It is recommended that a designated Committee be assigned the task of keeping this plan on track and available as local decisions are being made. Without such a group, plans like this invariably will end up on the shelf.

Implementation Matrix

Goal	Strategy	Relationship to Comprehensive Plan (* beginning on Page 10 of this plan)
<p>1. Use this plan to build bridges between groups dedicated to the conservation of natural resources and open space protection in South Berwick and those who make decisions on these same resources (Council/Planning Board/Town meeting)</p>	<p>a. Formally request and seek the approval of the South Berwick Town Council of this plan.</p> <p>b. Request that the Town Council permanently establish an Open Space Action Committee, as a sub-committee of the Conservation Commission, charged with implementing the recommendations contained in this plan.</p> <p>c. Assign an individual from a newly formed Open Space Action Committee to work with Planning Board on applications that concern focus areas and other resource values as prioritized in this plan (for instance, assisting with subdivision applications that cross into focus areas; assisting with Cluster Development proposals).</p> <p>d. Look at existing Cluster Development ordinance to ensure that it meets the goals and addresses the strategies of this plan.</p> <p>e. Meet with the Conservation Committees/Open Space Committees of adjoining towns to establish dialogue regarding resource areas, which cross</p>	<p>NEW</p> <p>Direct Land Use Section D</p> <p>NEW</p> <p>Direct Land Use Section B</p> <p>Direct Natural Resources</p>

	<p>town lines.</p> <p>f. Assign an individual or individuals to work directly with landowners in focus areas to discuss stewardship of their land and options for conservation if they so choose (such as tax, possible tax benefits, state planning, etc.)</p>	<p>Section D</p> <p>Direct Natural Resources Section E</p>
<p>2. Maintain the natural resource values that currently exist on town and non-profit owned conservation related parcels or other parcels of land in town.</p>	<p>a. Encourage the Council to maintain a policy where the Open Space Action Committee or another such group may review the natural resource values of tax foreclosed properties prior to their sale and make a formal determination whether these properties fit into the principles/focus area areas of this plan.</p> <p>b. Work with the Council to apply permanent conservation easements on town owned properties (where appropriate).</p>	<p>Direct Natural Resources Section I</p> <p>New</p>
<p>3. Set-up an Open Space Fund and seek methods to maintain and expand upon the Open Space Fund, with such funds to be used for conservation purchases by the town, by non-profit groups, and to be used as matching funds for purchases through grant programs and other sources.</p>	<p>a. Set-up a South Berwick Land Bank Fund or Open Space Account, separate from the General Fund, to provide access for conservation dollars that may be used to provide matching funds for conservation purchases, for outright acquisition, to purchase easements and/or development rights.</p> <p>b. Using SMRPC Conservation Impact Fee/North Berwick Impact Fee as a model work with Planning Board on developing a Conservation</p>	<p>Direct Land Use Section D</p> <p>Direct Comprehensive Plan under Town Finances</p>

	<p>Impact Fee.</p> <p>c. Encourage the Council to adopt a policy whereby the proceeds from the sale of tax acquired property may be considered, on a case-by-case basis, for placement in an Open Space Account.</p> <p>d. Encourage the Council to adopt a process/policy whereby revenue received from the sale of land formerly in and taken out of Tree Growth and/or in the Open Space/Farmland Program is placed in the Open Space Account.</p> <p>e. As approved in Wells, seek to set aside a small amount of funds as an annual appropriation yearly at town meeting with such funds to be placed in the Open Space Account.</p> <p>f. When a particular open space opportunity, or as part of larger long-term effort to purchase open space, seek bond funding for the purchase of open space(s).</p> <p>g. Seek donations from developers – possibly in lieu of open space set asides – during the development approval process (sometimes a developer may be willing to contribute to an open space fund instead of providing open space as part of its development).</p> <p>h. Develop options for seeking private donations</p>	<p>Direct Natural Resources Section I</p> <p>Direct Natural Resources Section I</p> <p>Direct Land Use Section D & Natural Resources Section I</p> <p>NEW</p> <p>Related Land Use Section A</p> <p>Direct National Resources Section E</p>
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	(such as requesting private donations for conservation with tax mailing) with dollars raised to go towards the Open Space Account.	
4. Build bridges to regional conservation groups who may provide financial and technical assistance to South Berwick regarding implementation of this plan and other conservation initiatives.	<p>a. Organize a community-wide meeting on the use of conservation easements and other options for land protection using experts from various conservation groups. Include information and experts to assist residents as part of the meeting.</p> <p>b. Assign an individual from newly formed Action Committee to attend regional and statewide Land Trust Trainings and seminars, if appropriate.</p> <p>c. Continue to seek funding from Piscataqua Region Estuary Program for technical assistance grants to assist with implementing this plan (such as working with the Planning Board on ordinance changes.)</p> <p>d. Continue work with the Great Works Regional Land Trust, the MtA2C Coalition and other groups to advocate for conservation of focus areas and other resources identified in this plan.</p>	<p>NEW</p> <p>NEW</p> <p>Direct Natural Resources Section F</p> <p>Direct Natural Resources D</p>
5. Ensure that the work done as part of this plan is maintained and institutionalized as part of the town's long-term planning focus.	a. Update this plan as necessary and provide the Council a report every two years including a review and status report on these recommendations, an evaluation of conservation efforts within the focus areas, and an update on	Related

	<p>any new natural resource mapping that may be available.</p> <p>b. Work with assessor to ensure that information on the Tree Growth and Farmland/Open Space Programs are available and promoted to appropriate landowners. Develop fact sheet (if not already available) to send out to property owners in focus areas.</p> <p>c. Update the land Prioritization Matrix (as utilized by the Committee for prioritization) to examine open space proposals for acquisition, easement or protection that fall outside of the focus areas (for instance, if a parcel is proposed to be sold to the town or if the town is asked to help fund a project outside of the focus areas, how would the town determine whether it would be suitable for the use of public dollars)</p> <p>d. Seek small amounts of yearly funding to keep GIS data fresh and up to date. Data may be housed at SMRPC/Wells Reserve or the town, if software is available.</p>	<p>Direct Land Use Section C</p> <p>Related Land Use D</p> <p>NEW</p>
<p>6. Begin a process for encouraging a network of trails and/or sidewalks throughout the community.</p>	<p>a. Using the focus areas, existing conservation lands and existing sidewalk/trails as a backbone, look at establishing sidewalk/trail systems through South Berwick using the following as methods to establish these trails:</p>	<p>NEW</p>

	<ul style="list-style-type: none"> • Map existing sidewalk/trail networks • Through subdivision approval process, establish standards for the linking of open spaces, including sidewalk/trail networks. • Once a proposed sidewalk/trail network is envisioned, establish trail “networking” and establishment of greenbelt corridors as a priority use of Open Space Funds. 	<p>NEW</p> <p>Direct Land Use Section B</p> <p>NEW</p>
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*Land in
Tree Growth, Farm
And
Open Space*

FARM

Parcel ID	Owner Name	Address	crop	orch	past	hort I	hort II	Farm Acres	Year Entered	SW	MW	HW	Forest Acres	Year Entered
006-004-000	Demetracopoulos, Jean	42 Oldfields Road	0.00	0.00	11.45			11.45	2006	0.00	0.00	5.30	5.30	2006
008-017	Osgood, George	163 Witchtrot	0.00	0.00	8.40			8.40	2006	16.30	6.20	0.00	22.50	2006
010-042-A	Dudley -Black Dog Realty	69 Boyd's Corner Road	0.00	0.00	21.00			21.00	1998	0.00	10.00	0.00	10.00	1998
010-050	Smith, Daniel	66 Boyds Corner Road	0.00	2.00	0.00	2.00		4.00	2008	0.00	1.00	0.00	1.00	2008
010-058-000	Smith, Martin & Jane	62 Tufts Road	1.00	1.00	1.50			3.50	2006	4.00	14.00	3.50	21.50	2006
010-059-000	Smith, Martin & Jane	62 Tufts Road	0.00	0.25	4.00	0.25		4.50	2006	1.00	4.00	1.00	6.00	2006
010-079	Hasty, Thomas	69 Bennett Lot Rd	0.00	0.00	8.00			8.00	2006	0.00	3.00	0.00	3.00	2006
012-014	Webster, Walter	39 Pond Rd	0.00	0.00	24.00			24.00	2006	0.00	13.50	0.00	13.50	2006
012-019	Webster, Walter	39 Pond Rd	0.00	0.00	5.00			5.00	2006	0.00	0.00	0.00	0.00	2006
012-037-001	Morgridge, William & Rayn	PO Box 23	0.00	0.00	8.00			8.00	2001	24.00	0.00	0.00	24.00	2001
013-021-000	Michaud, Brian	227 Knights Pond Road	0.00	0.00	5.42			5.42	2004	0.00	0.00	5.00	5.00	2004
013-038-000	Tuttle, David J.	110 Dennett Road	15.60	0.00	22.20	10.20	0.50	48.50	2006	0.00	74.00	0.00	74.00	2006
014-039-000	Cannell, Peter J. & Wanda	149 Thurrell Road	4.00	0.00	20.00	4.00		28.00	1999	0.00	17.00	0.00	17.00	1999
		Total Acres by Type	20.60	3.25	138.97	16.45	0.50	179.77		45.30	142.70	14.80	202.80	
		Land Type price/ac	380	427	308	427	522			428	327	236		
		Total value by Type	7828	1388	42803	7024	261	59,304		19388.40	46662.90	3492.80	69,544	
Department of Agricultura and Maine Revenue Service Guidelines rev 01/2010														
Code	Land Type (appl order)	Observed Range	Suggested		Used									
AGC	Crop Land	150-600	400.00		400.00									
AGO	Orchard Land std	350-800	450.00		450.00									
n/a	Orchard Land dwarf	450-1150	650.00		n/a									
AGP	Pasture Land	100-525	325.00		325.00									
AH1	Horticultural Land I edible	350-650	450.00		450.00									
AH2	Horticultural Land II ornam	425-850	550.00		550.00									
AGB	Blueberry Land	200-800	400.00		n/a									
AGW	Waste		n/a		100.00									
AGS	Soft Wood				?									
AGM	Mixed Wood				?									
AGH	Hard Wood				?									

TREE GROWTH

Name	Address	City	St	Zip	MAP-LOT	SW	MW	HW	Total Acres	SW 428	MW 327	HW 235	First Year in plan	recent plan	Next Due	Remarks
SOUTH BERWICK ROD & GUN CLU	P.O. BOX 184	SOUTH BERWICK	ME	03908	001-014	0	17	0	17	0	5,559	0	1982	2006	2/8/2016	
JANSEN, EDMUND & MARY	914 PORTLAND AVENUE	ROLLINSFORD	NH	03869	001-018	0	30.92	0	30.92	0	10,111	0	1981	2010	4/20/2020	
DEPT OF INLAND & FISHERIES	41 STATE HOUSE STATION	AUGUSTA	ME	04333	002-003	0	0	60	60	0	0	14,160	1993	1993	exempt	
GREAT WORKS REGIONAL LAND TRUST	P.O. BOX 151	SOUTH BERWICK	ME	03908	002-011	2	35	48	85	856	11,445	11,328	2010	2010	3/15/2020	
KEEFER, DONALD & MARGUERITE	23 SPINNEY CREEK RD	ELIOT	ME	03903	002-038	0	19.7	0	19.7	0	6,442	0	2000	2011	2/16/2021	
GREAT WORKS (owner unknown)	P.O. BOX 151	SOUTH BERWICK	ME	03908	002-043	0	23	0	23	0	7,521	0	1994	2004	1/1/2014	
SMITH, CHARLES	20 CLARKS LANE	SOUTH BERWICK	ME	03908	002-047	0	16	0	16	0	5,232	0	1982	2009	2/14/2019	
EGER, ROBERT & KAREN	56 WARREN POND RD	SOUTH BERWICK	ME	03908	003-013,14,15	0	27	0	27	0	8,829	0	2000	2009	12/17/2019	
PERRY, MICHAELA	15 TOP O MARK DR	JAMESTOWN	RI	02835	003-023A	6	4	2	12	2,568	1,308	472	1988	2012	3/1/2022	
AHLGREN, JOHN, RENAULD FAM TRUST	119 KNIGHTS POND RD	SOUTH BERWICK	ME	03908	003-038	0	20	0	20	0	6,540	0	1982	2006	6/15/2016	
GREAT WORKS REGIONAL LAND TRUST	P.O. BOX 151	SOUTH BERWICK	ME	03908	003-047A	0	10	0	10	0	3,270	0	1987	2004	3/26/2014	
SPAULDING, GARY, TRUSTEE, JEFFREY & BALL, HAZEL TRUST	64 OLD SOUTH RD.	SOUTH BERWICK	ME	03908	003-050	0	20	0	20	0	6,540	0	1982	2008	3/24/2018	
EGER, ROBERT & KAREN	76 OLDFIELDS RD.	SOUTH BERWICK	ME	03908	003-053	0	18	0	18	0	5,886	0	1982	2010	12/27/2020	
EGER, ROBERT & KAREN	56 WARREN POND RD	SOUTH BERWICK	ME	03908	004-013	0	41	0	41	0	13,407	0	1990	2010	1/1/2020	
LABELLE, CONRAD & CONRAD	6 MOUNTAIN RD	SOUTH BERWICK	ME	03908	004-024	12.8	0.5	0.3	13.6	5,478	164	71	2002	2012	1/18/2022	
UTLEY, CANDACE & SMITH, E.	20 CLARKS LANE	SOUTH BERWICK	ME	03908	004-052	4	23	0	27	1,712	7,521	0	1982	2009	2/14/2019	
AUGUST REALTY, MARTIN PARENT	21 OLD RT 4 ROAD	BERWICK	ME	03901	004-083	0	11.75	0	11.75	0	3,842	0	1993	2012	1/27/2022	
GREAT WORKS REGIONAL LAND TRUST	P.O. BOX 151	SOUTH BERWICK	ME	03908	005-014	0	109	0	109	0	35,643	0	2003	2003	3/21/2013	
DEPT OF INLAND & FISHERIES	41 STATE HOUSE STATION	AUGUSTA	ME	04333	005-051	6	32	3	41	2,568	10,464	708	1991	1993	exempt	
DEPT OF INLAND & FISHERIES	41 STATE HOUSE STATION	AUGUSTA	ME	04333	005-052	8	73	4	85	3,424	23,871	944	1991	1993	exempt	
BALL, HAZEL TRUST	76 OLDFIELDS RD.	SOUTH BERWICK	ME	03908	005-005	13	7	12	32	5,564	2,289	2,832	1982	2005	12/27/2015	
CULLEN, SARAH	76 MENDUM AVE.	PORTSMOUTH	ME	03801	006-014	10.7			10.7	4,580	0	0	2008	2008	3/26/2018	
RUDDOLF & GUNST, JOHN K & KATHY L	126 OLDFIELDS RD	SOUTH BERWICK	ME	03908	006-020	18	3	0	21	7,704	981	0	1982	2006	1/18/2016	
CULLEN, SARAH	76 MENDUM AVE.	PORTSMOUTH	NH	03801	006-029A	17.5	3	27.9	48.4	7,450	981	6,584	1988	2006	3/7/2016	
SHAPLEIGH, RICHARD & LISA	213 OLDFIELDS RD	SOUTH BERWICK	ME	03908	006-032	8	0	3	11	3,424	0	708	1982	2011	6/2/2021	
LEE, JAMES & MAMIE	310 DOW HIGHWAY	SOUTH BERWICK	ME	03908	006-039	0	15	0	15	0	4,905	0	1982	2002	8/15/2012	
BECKER, RICK	143 MAIN ST	SOUTH BERWICK	ME	03908	008-002	0	10	2	12	0	3,270	472	1982	2009	10/5/2019	
GREEN, PETER TRUSTEE, FRED REVOC T	11 SUMMER ST	PORTLAND	ME	04102	008-006	98	160	30	288	41,944	52,320	7,080	1982	2006	1/30/2016	
HUGHES, DANA ET AL	181 WITCHTROT RD.	SOUTH BERWICK	ME	03908	008-026	40	13	0	53	17,120	4,251	0	1982	2009	2/16/2019	
JOY, DENISE	215 WITCHTROT RD.	SOUTH BERWICK	ME	03908	008-033	0	12	8	20	0	3,924	1,888	1988	2006	1/19/2016	
YARIAN, DAVID & FIA	90 EMERY'S BRIDGE ROAD	SOUTH BERWICK	ME	03908	008-042	66	29.3	0	95.3	28,248	9,581	0	1982	2011	1/11/2021	
DOWNING, CHARLES & BONNIE	P.O. BOX 125	SOUTH BERWICK	ME	03908	008-045	3	18	2.75	23.75	1,284	5,886	649	2001	2010	12/31/2020	
STEVENS, RICHARD D & CATHERINE A	285 EMERY'S BRIDGE RD	SOUTH BERWICK	ME	03908	008-063	16	14	0	30	6,848	4,578	0	1980	2004	2/3/2014	
EMERY, DONALD	12 EARLS RD	SOUTH BERWICK	ME	03908	008-069	15.5	7.8	0.5	23.8	6,634	2,551	118	1992	2009	6/23/2019	
STEVENS, RICHARD D & CATHERINE A	285 EMERY'S BRIDGE RD	SOUTH BERWICK	ME	03908	009-013, 74, 7	7	8	39	54	2,996	2,616	9,204	1980	2006	1/30/2016	
GREAT WORKS REGIONAL LAND TRUST	P.O. BOX 151	SOUTH BERWICK	ME	03908	009-035	17.6	48.9	0	66.5	7,533	15,990	0	1982	2006	2/13/2016	
EMERY, GEORGE HEIRS	C/O E. ARLINE EMERY, 310 E	SOUTH BERWICK	ME	03908	009-045	16	79	16	111	6,848	25,833	3,776	1982	2006	2/16/2016	
FORTIER, NORMAN & AUDREY	21 RODIER RD.	SOUTH BERWICK	ME	03908	009-056	10	5	6	21	4,280	1,635	1,416	1982	2006	12/19/2015	
ORFE, CHRISTINA	380 EMERY'S BRIDGE RD	SOUTH BERWICK	ME	03908	009-067	0	11	0	11	0	3,597	0	1994	2009	3/23/2019	
LIND, JEFFREY, OR BOHANAN, AUDREY	505 EMERY'S BRIDGE RD.	SOUTH BERWICK	ME	03908	010-023	73	23	0	96	31,244	7,521	0	1988	2009	6/24/2019	
GREAT WORKS REGIONAL LAND TRUST	P.O. BOX 151	SOUTH BERWICK	ME	03908	010-025, 26, 2	1	96	75	172	428	31,392	17,700	2000	2010	3/26/2020	multi lots
ALLEN, GERALD & VIOLA	22 NORTH BERWICK RD	WELLS	ME	04090	010-027	21	15	0	36	8,988	4,905	0	1989	2006	1/26/2016	
PERSON, BARRY	535 EMERY'S BRIDGE ROAD	SOUTH BERWICK	ME	03908	010-029	7	17	20.5	44.5	2,996	5,559	4,838	1996	2007	3/28/2017	
RUTH, JOHN E	607 EMERY'S BRIDGE ROAD	SOUTH BERWICK	ME	03908	010-039A	2	6	3	11	856	1,962	708	1993	2006	12/21/2015	
GREAT WORKS REGIONAL LAND TRUST	P.O. BOX 151	SOUTH BERWICK	ME	03908	010-049	2	14	5	21	856	4,578	1,180	2007	2007	3/26/2017	
HULME FAMILY LLC, C/O MICHAEL HULME	1224 CRUMMELL AVE	ANNAPOLIS	MD	21043	010-062	0	35.4	2	37.4	0	11,576	472	1982	2008	8/21/2018	
HULME FAMILY LLC, C/O MICHAEL HULME	1224 CRUMMELL AVE	ANNAPOLIS	MD	21043	010-064	1	9.47	0	10.47	428	3,097	0	1982	2008	8/21/2018	
GREBIN, YVONNE D.	522 EMERY'S BRIDGE RD	SOUTH BERWICK	ME	03908	010-065	0	13	0	13	0	4,251	0	1981	2002	9/10/2012	
AGRAFIOTIS, ALEXANDRA	548 EMERY BRIDGE RD	SOUTH BERWICK	ME	03908	010-074	0	0	28.7	28.7	0	0	6,773	1995	2006	1/30/2016	

TREE GROWTH

MYNES, COLLEEN & HAROLD	PO BOX 623	SOUTH BERWICK	ME	03908	010-076	0	1	19	20	0	327	4,484	1982	2002	6/14/2012
BLOUIN, DEBORAH	1068 EAST FAIRMONT DR.	TEMPE	AZ	85282	010-078A	0	7	3	10	0	2,289	708	1982	2006	1/25/2016
THEBERGE, DEROCHEMENT & BRADLEY	8 KIMBALL FARM LANE	YORK	ME	03909	012-015	11	31	10	52	4,708	10,137	2,360	1998	2008	1/5/2018
KNIGHT ET AL, ROBERT J.	P.O. BOX 32	SOUTH BERWICK	ME	03908	012-057	20	16	7	43	8,560	5,232	1,652	1982	2009	3/17/2019
JOHNSON, DANA, IRVING, ETHEL	309 HARVEY ROAD	SOUTH BERWICK	ME	03908	013-030	0	31	15	46	0	10,137	3,540	1982	2009	2/19/2019
STAPLES, THOMAS & ELAINE	75 THURRELL RD.	SOUTH BERWICK	ME	03908	014-002	0	69	0	69	0	22,563	0	1982	2006	2/2/2016
MINIUTTI, ALBINA, ANGELO, ANGELA	PO BOX 134	NORTH WATER	ME	04061	014-029	10	37	0	47	4,280	12,099	0	1982	2006	2/6/2016
HUNTER, SARAH	46 THURRELL RD	SOUTH BERWICK	ME	03908	014-048	5	0	30	35	2,140	0	7,080	1995	2006	12/20/2016
GREAT WORKS REGIONAL LAND TRUST	15 DOVER-ELIOT RD.	SOUTH BERWICK	ME	03908	015-001	8	5	7	20	3,424	1,635	1,652	1982	2008	9/9/2018
HOLMES, RALPH & RICHARD, C/O HAZEL	46 DOVER-ELIOT RD.	SOUTH BERWICK	ME	03908	015-019	20.5	0	2.9	23.4	8,774	0	684	1982	2009	3/2/2019
BALL, HAZEL TRUST	76 OLDFIELDS RD.	SOUTH BERWICK	ME	03908	016-002	12	0	0	12	5,136	0	0	1982	2006	1/4/2016
AIKMAN TRUSTEE, MARIAN M.	118 SLIGO ROAD	ROLLINSFORD	NH	03869	022-009	1.5	10.8	3.8	16.1	642	3,532	897	1994	2006	1/23/2016
ALTERIO, VIRGINIA	6 VINE ST.	SOUTH BERWICK	ME	03908	025-048	0	17	0	17	0	5,559	0	1982	2009	2/14/2019
62						590.1	1429	496.4	2515	252,563	467,133	117,139	836,834		

OPEN SPACE

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