CHAPTER __*
OPEN SPACE PLAN

** Note to the Reader: It is anticipated that this document will eventually be incorporated as part of the town's master plan at which time the chapter would be numbered appropriately for its location within the plan.*

I. INTRODUCTION

There are three primary purposes that underlie the preparation of this open space plan. The first is to establish a vision for open space planning in New Ipswich that will guide future preservation efforts. Second is the completion of an inventory of natural resources in order to identify the most significant and critical area of importance and third is the development of an implementation strategy for use by the Planning Board and the town as a whole in achieving the community's open space objectives.

The preparation of this chapter is based on a variety of source information including community forums, a town-wide questionnaire, a previously completed natural resource inventory, and recommended standards for open space and resource protection. Some of this information, such as the vision and goals for open space preservation, have been presented previously in this master plan. However, the significance of these statements and concepts necessitates that they be re-emphasized within this chapter in order to establish a basis for the recommendations presented in the implementation strategy.

II. COMMUNITY OPEN SPACE VISION

The term *open space* is used to describe places that come in a variety of forms, ranging from municipal parks to large wilderness areas, and accommodate an assortment of uses and activities. In the context of this report the term is used in a similarly broad context that includes neighborhood and community parks or playgrounds, productive agricultural and forest lands, large habitat areas that support a diversity of wildlife, as well as natural systems such as rivers, wetlands and floodplains. These large, unfragmented habitat areas, as well as the "green corridors" that link them together, also provide opportunities for traditional New Hampshire recreational activities that residents of the community have historically enjoyed.

There are several key concepts related to open space planning in New Ipswich that have evolved from community input at various stages during the planning process. These concepts, which are summarized below, provide the basis for the town's open space vision that has been used to identify an implementation strategy for future actions.

1. Keep the environs of the town free from the effects of pollution related to water, air, noise and light
2. Maintain the traditional New England character of the town by preserving the visual characteristics of the following:
    a. Farmlands
    b. Forest areas
    c. Hillsides and ridgelines
    d. Rivers, ponds, and streams
    e. Historic structures, sites and artifacts
    f. Tree-lined country roads offering scenic views throughout the town
3. Support sustainable, resource-based industry related to agriculture and forestry

4. Preserve a variety of habitat types that can sustain viable populations of native animals, plants, and aquatic species
5. Provide access to an adequate supply of land and facilities that offer a variety of recreational opportunities for residents
6. Promote a land use development pattern that encourages a variety of density alternatives ranging from the more densely developed, historic village settlements to more sparsely developed rural areas

Protecting as many of these aspects of the landscape in New Ipswich as possible is critical to preserving the essence of what residents draw on to help define their sense of place. These features also provide an important part of the identity that residents share with one another that contributes to the fabric of the community as a whole.

As a means to organize the general guidelines outlined above into a strategic approach for implementing the town's overall objectives, this plan establishes two broad categories of open space; Habitat Oriented (H/O) areas and Neighborhood/Community (N/C) based sites. The former of the two types, H/O areas, is intended to encourage the preservation of large scale tracts of land that manifest significant ecological features, unique landscape characteristics, and the potential for natural resources management, as well as corridors that provide linkages to other preserves or open space properties, and open space "buffers" that protect ecosystems on existing conservation lands. The potential for recreational opportunities that are compatible with the preservation and protection of natural ecosystems is also encouraged as an integral part of these H/O open space areas.

The latter category, neighborhood/community based areas, are intended to provide open space within the more developed, or more likely to be developed, portions of the town. These N/C areas would typically include playgrounds, parks, playing fields, and other facilities-based activities, as well as undeveloped open space sites within areas of higher density housing, such as cluster housing or village areas. Structures or buildings on N/C open space properties should support the recreational, cultural or historical values and needs of the community.

It should be emphasized that these two types of open space areas are not necessarily mutually exclusive. For example, there are still some tracts of land within the more developed portions of town containing significant natural resources that warrant classification as an H/O open space area. Therefore, each tract or site must be evaluated in the context of the surrounding area to determine its significance within the town's overall open space planning objectives.

III. ENVIRONMENTAL INVENTORY AND ANALYSIS

An important foundation that supports the conclusions and recommendations presented in this open space plan is the inventory of existing conditions as they relate to natural resources and other special characteristics of the town. The identification and evaluation of these features were documented in the Natural Resource Inventory (NRI) completed by the town in 2003/04. The NRI included a detailed summary and analysis of the town's natural resources

and environmentally sensitive areas, which are summarized in this section, that provides the baseline of information used to develop recommendations for future open space preservation efforts.

A. Existing Development Patterns and Protected Lands

While the primary focus of this chapter is to identify the future need and priorities for open space the analysis must also take into consideration the future growth and development that will need to be accommodated within the community. Map 1, Existing Development Patterns, illustrates the town's existing development pattern in conjunction with the location of protected open space and conservation areas. The town is approximately 32.5 square miles in size, including water bodies, which is equivalent to about 21,000 acres. Existing land use has been mapped based on parcel level land use codes from the town's assessment data base. Land use has been generalized into six categories for purposes of open space planning which are: developed, partially developed, undeveloped, protected, and municipal/school. The "developed" category includes all parcels 10 acres or less in size that have an existing residential or commercial structure. There are 1,323 such parcels, with a total land area of approximately 6,000 acres, which are considered to be essentially built out although some may have further limited development potential. This represents approximately 29% of the town's total area. The "partially developed" category includes all parcels, 183 in total, greater that 10 acres in size that also have an existing residential or commercial structure. These parcels contain approximately 5,400 acres in total, approximately 26% of the town, and are assumed to have further development potential although the fact that the site has some existing development may delay, or otherwise affect, the amount and timing of any future development. The "undeveloped" land use category signifies those parcels without existing structures although their potential for future development may be constrained by environmental factors such as steep slopes or wetlands. There are 364 undeveloped parcels with a total area of approximately 8,700 acres, or 41% of the town's total area. The "municipal/school" land use category denotes parcels used for town activities and school district facilities.

The existing development patterns illustrated on Map 1 highlight the strong concentration of development creating a swath that runs generally from the town's northeast corner down to the Massachusetts state line. This development pattern encompasses the frontage of most roadways in this north-south corridor and has been influenced by the town's historic settlements around the village areas, as well as the topographical features of the town. Additional development also branches out from this central area along Route 124 to the north and south, as well as along Timbertop/Hubbard Pond Roads in the northeast portion of town and Ashby Road in the southeast corner of town.

The remaining land use category on Map 1 denotes the town's protected land areas. Within New Ipswich there are approximately 80 parcels, or portions of parcels, that are essentially protected (or proposed for protection) from further development and therefore, constitute the town's conservation lands base. These parcels range in size from less than one acre to almost 300 acres. These parcels are protected by the town, as well as other public and private organizations, either through fee simple ownership or conservation easements.

There are approximately 2,400 acres of conservation land within the town, representing a little over 11% of the town's total area, which are illustrated on Map 1. Of that total, the Town of New Ipswich is responsible for overseeing the management of approximately 175 acres in 11 parcels. The State of New Hampshire owns six (6) parcels with a combined area of approximately 205 acres. The remaining 70 parcels are either privately owned or protected by a third party interest. Two of the most prominent organizations that oversee a large portion of the privately protected lands are the New England Forestry Foundation (NEFF) and the Society for the Protection of New Hampshire Forests (SPNHF). A detailed listing of ownership, parcel size, and means of protection (i.e. fee simple ownership, easement, etc.) for all conservation lands is contained in the appendix of the town's NRI.

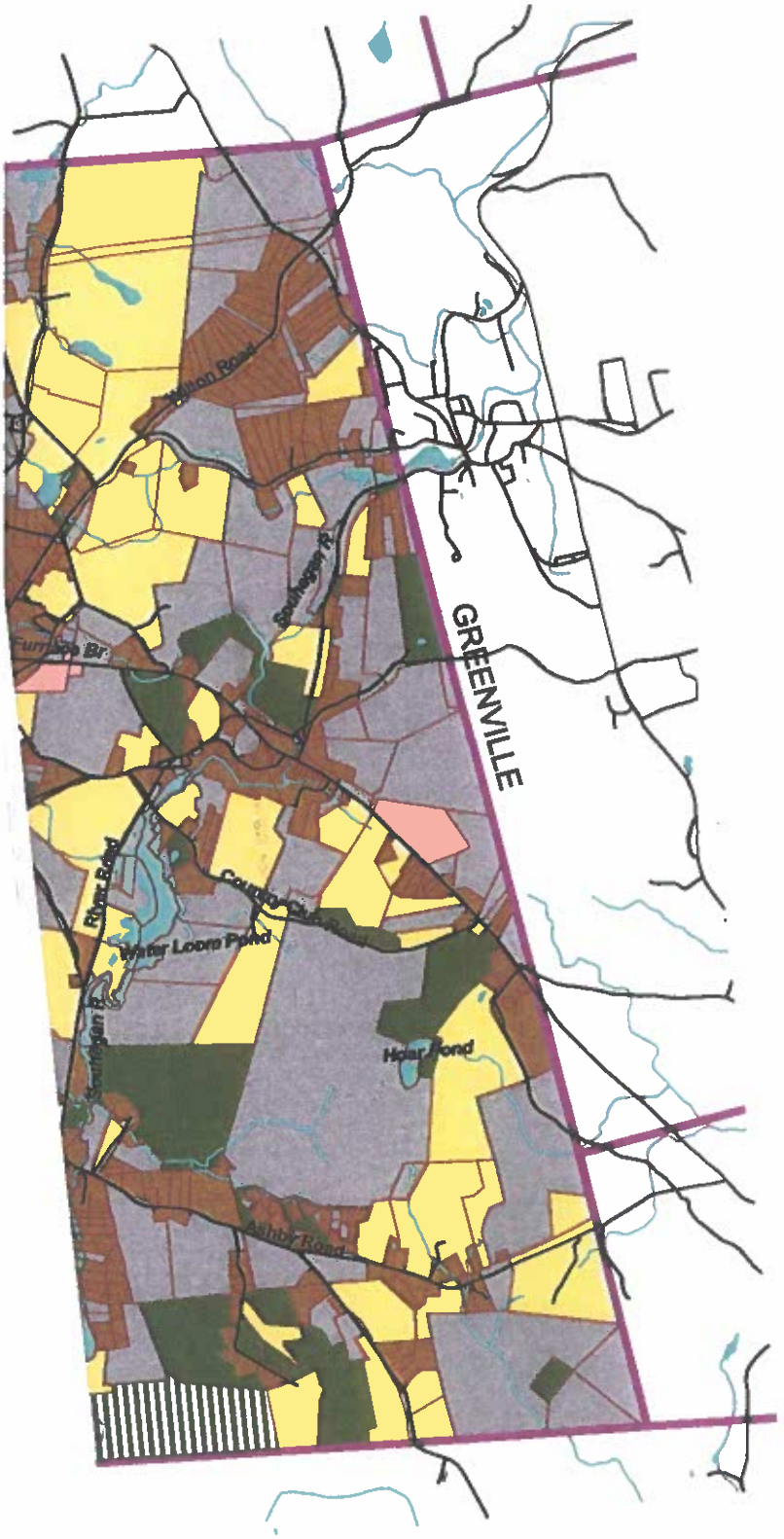
Also highlighted on Map 1 are two parcels currently under negotiation for a conservation easement. The first is owned by the Hampshire Country School, which has its facilities located in the Town of Rindge with the majority of the property extending into New Ipswich. The Northeast Wilderness Trust (NWT) is working with the school to preserve approximately 1,000 acres of undeveloped land that encompasses the Wapack Trail corridor and other natural resources on the property. The NWT is in the process of fundraising approximately $1.3 million to purchase the easement. The second is a parcel located on the Massachusetts state line where the NEFF is in the process of securing a conservation easement on approximately 200 acres of a site that straddles the border of New Ipswich and Ashburnham, MA.

As illustrated on Map 1, the existing conservation lands in New Ipswich are relatively dispersed throughout the town. There are several exceptions to this however, such as in areas along the Wapack Range and around Tophet Swamp, where assemblage of multiple parcels has been used to establish larger blocks of protected land. The current size and configuration of these parcel groupings however, does not yet ensure against the future fragmentation of some of the town's priority open space areas, which are discussed in the following section.

B. Unfragmented Blocks of Land and Corridors

The use of the term unfragmented blocks has received a growing level of recognition over the last decade with regard to open space planning. Their initial use was related primarily to preservation of wildlife habitat but their relevance offers broader opportunities for evaluating open space priorities within the community. Unfragmented blocks are generally defined as large tracts of land with few or no roads, houses, businesses or other human habitation. Their significance is based on size (larger is generally better) and their location within the state. For example, land in the southeastern tier of New Hampshire has been very fragmented by development and therefore, smaller blocks of remaining unfragmented land are more significant than they would be elsewhere in the state.

Existing Development Patterns
MAP 1



General Land Use
- Developed*
- Partially Developed**
- Undeveloped
- Municipal/School
- Surface Water

Conservation/Protected Property
- Protected
- Under Negotiation

- Wapack Trail
- Town Boundary
- Parcel Boundary

*Developed = Parcel <10 acres with structure
** Partially Developed = Parcel >10 acres with structure

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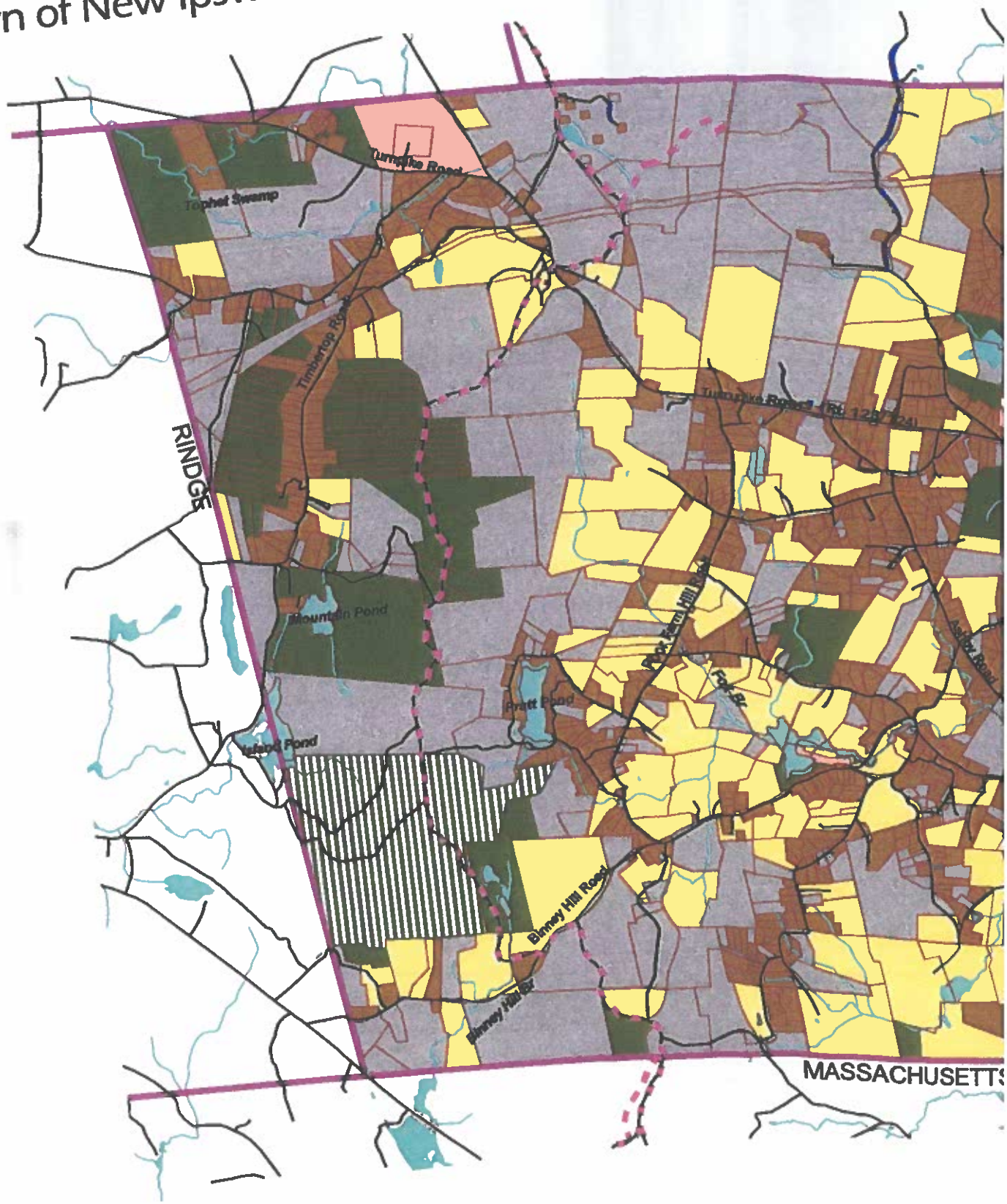
Open Space Plan

Town of New Ipswich, NH



Prepared by RKG Associates, Inc. - January 2006
SOURCES: Assessment Records, Town of New Ipswich and NH GRANIT

One of the primary characteristics of unfragmented habitat is their lack of roads since roads increase animal mortality and act as a barrier to wildlife movement. Consideration of road placement and configuration is one of the most important factors when planning for development with regard to habitat protection. Unmaintained dirt roads, such as Class VI highways, do not represent the same threat to wildlife as a paved highway.

One reason that unfragmented blocks are so valuable to wildlife is that they offer connectivity, or "corridors", between a range of contiguous habitats that often encompass many habitat types. This factor helps to support a diverse array of native wildlife that are common to the area. However, these corridors, or linkages, can also have a narrower shape or configuration that still allows for the movement of wildlife or the establishment of recreation trails between larger tracts of land. Establishment of these linkages is most often appropriate along river and stream corridors that allows for the movement of wildlife and people and also creates a buffer to protect the shoreline of these water bodies. However, linkages can also be preserved along ridgelines, through natural drainageways, and other naturally occurring features of the terrain.

This diversity of habitat within large unfragmented blocks is a characteristic that makes these land areas important not only to wildlife, but to open space planning in general and a key component for establishing priorities within the New Ipswich open space plan. Large unfragmented blocks provide uninterrupted tracts of forested land that may also include some or many of the following features that are high priorities for open space planning in New Ipswich:

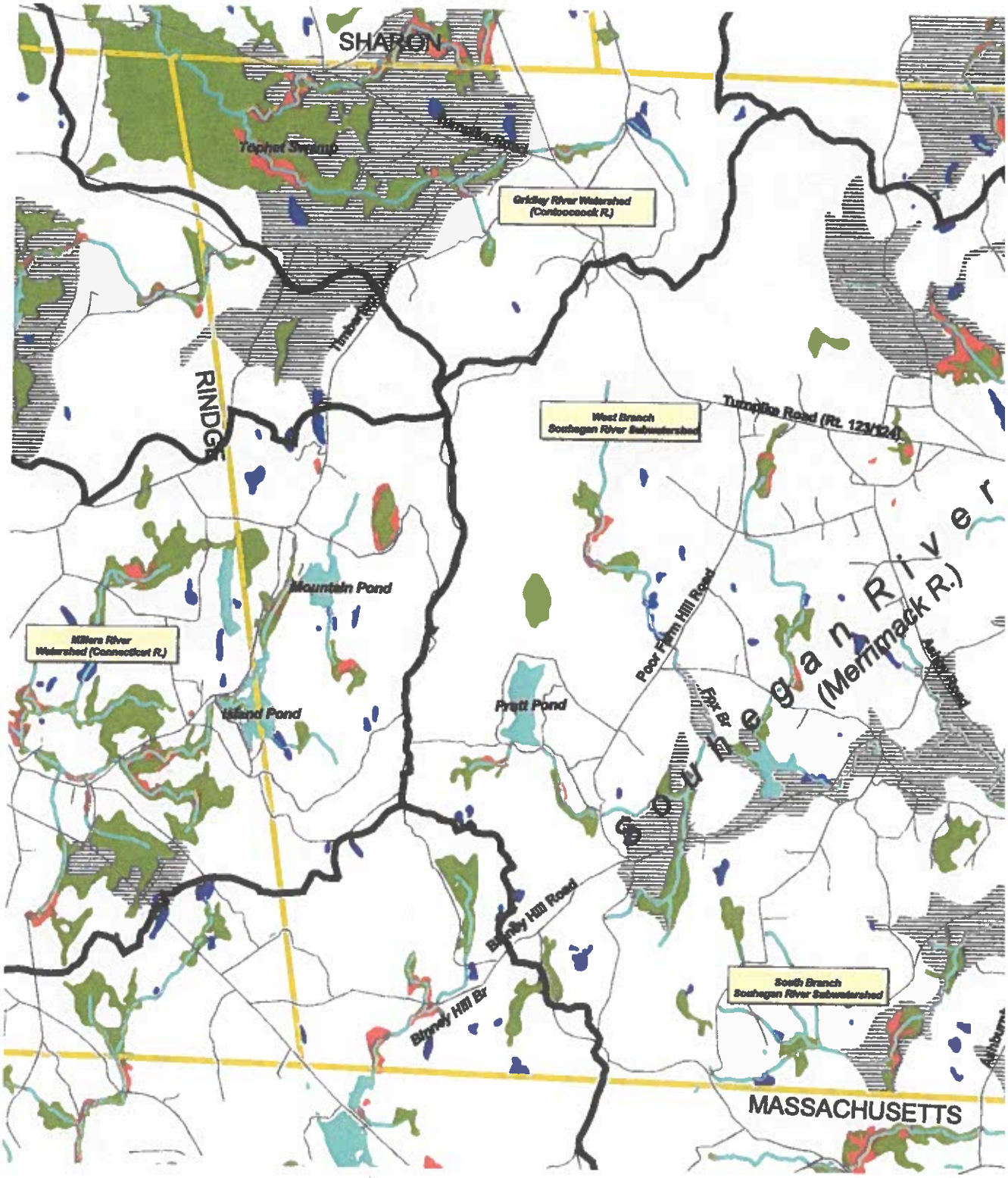
- Large wetlands or wetland clusters
- Undeveloped riparian areas along rivers and ponds
- Unique or critical habitat such as deer yards or mountain tops
- Sensitive watershed areas
- Adjacency to agricultural or open areas providing edge habitat

In addition to the features noted above, large unfragmented blocks also offer opportunities for community recreation, such as hunting, hiking, and trail networks that cannot generally be provided on smaller tracts of land. Preserving large blocks of land also offers the potential for minimizing the impacts of development of some of the town's most scenic and visually prominent landscape features associated with the ridgelines and adjoining hillsides of the Wapack Range. These large tracts of land also provide the potential for managing woodlands as a renewable economic resource that creates jobs and supports wildlife habitat.

There are 29 blocks of unfragmented land in New Ipswich that range in size from 18 acres to approximately 4,800 acres. These blocks were initially delineated by the New Hampshire Fish & Game (NHF&G) Department, as part of its Wildlife Action Plan (WAP), using a Geographic Information System (GIS) and data layers from GRANIT, the state's GIS data system. The blocks were defined by creating a buffer around roadways, ranging from approximately 250 feet to 380 feet, depending on the road classification (i.e. NHDOT Classes of I through V, as well as private roads). Areas that were identified as being developed for residential, commercial, or industrial uses, based on GRANIT data and aerial

Open Space Plan

Town of New Ipswich, NH



Prepared by RKG Associates, Inc. - January 2006
SOURCES: Town of New Ipswich NRI and NH GRANIT

2. Wetlands

Wetlands represent the interface between the aquatic and terrestrial environments. Wetlands provide a variety of functions, which include: helping to filter excess nutrients and contaminants from runoff before they enter surface waters; the temporary storage of flood waters; erosion control through the stabilization of river banks and other shoreland areas; as habitat for a variety of water-dependant and upland species of animals; and, as recreational areas for a variety of activities.

Wetlands are defined based on a combination of plant species, soil types, and duration of flooding/saturation by water. For town-wide planning purposes, the source of information used to identify wetlands is based on the definition used in the National Wetlands Inventory (NWI) that was produced during the 1980s by the U.S. Fish and Wildlife Service (USFWS) based on an analysis of aerial photography from that time period. A detailed overview of wetlands classification based on this system is provided in the New Ipswich NRI. While most wetlands are valuable for one or more of the functions noted previously, some wetlands are particularly important because of their scarcity within the large ecosystem that includes New Ipswich or because of their suitability as wildlife habitat.

Wetlands that should be given special consideration within the town's open space planning activities are discussed below.

Vernal Pools

Vernal pools are temporary bodies of freshwater that provide essential breeding and nursery habitat for many wildlife species. These wetland areas generally exist for only a brief portion of the year, having been filled by spring rains or snow melt only to dry up during hotter periods. Vernal pools are often very small but can support rich communities of vertebrate and invertebrate species. At this time, vernal pool locations in New Ipswich have not been mapped.

Palustrine Emergent Marsh (PEM)

Within the wetland classification system used by the USFWS to create the NWI, the Palustrine category refers to the group of wetlands dominated by trees, shrubs, plants, grasses and mosses, that are not part of a river or lake regime. They are typically referred to as marshes, swamps, bogs, and fens. Within the Palustrine category, marshes with emergent vegetation have been identified by the New Hampshire Natural Heritage Inventory (NHNHI) and the New Hampshire Fish & Game Department (NHF&G) as having limited occurrences throughout the state. Therefore, their protection is more critical in order to preserve one of the state's native wetland communities. There are approximately 280 acres of PEM wetlands in New Ipswich that are located along the various stream channels and ponded areas as illustrated on Map 3. The emergent wetland class is characterized by erect, rooted, herbaceous hydrophytes (water loving plants) that are present for most of the growing season.

Large Wetland Complexes

Large wetland areas are another important category since their size allows them to fulfill their functions to a greater degree than smaller wetland areas. For example, larger wetlands are capable of storing larger quantities of flood water, filtering more particulates, offering more recreation potential, and providing more diverse wildlife habitat. The minimum size threshold as to what constitutes a large wetland complex is relative to the size of all wetlands in the community. The NHF&G established five acres as the statewide threshold in the department's recently completed Wildlife Action Plan (WAP), which is also considered a suitable threshold for New Ipswich's inventory of wetlands. These large wetland complexes are illustrated on Map 3. There are 54 large wetland complexes containing approximately 1,600 acres located in New Ipswich (Note: some of this acreage crosses municipal boundaries but the majority lies within New Ipswich). In defining wetlands greater than five acres in size the NHF&G used the NWI palustrine wetland category combined with areas of very poorly drained soils (Hydric A from the Natural Resources Conservation Service soils map). The largest of these complexes is Tophet Swamp at over 700 acres but numerous others are associated with the Souhegan River corridor and its tributaries.

Wetland Clusters

From a wildlife habitat perspective, wetlands that are less than five acres in size but within close proximity to one another, are also important when evaluating open space protection alternatives. Once again, the approach used by NHF&G in the WAP is considered appropriate for New Ipswich, wherein clusters were defined as three or more wetlands less than five acres in size that are within approximately one half mile of each other. Based on this classification, New Ipswich contains 115 wetland clusters that contain approximately 170 acres scattered throughout the town. Given the smaller nature of these wetland areas, field verification will be required to determine whether they constitute true wetlands based on vegetation, soils and water regime.

D. Groundwater

Groundwater is found in the soil and bedrock formations that make up the surficial and bedrock geology that underlies the town's land area. The amount of groundwater occurring in a given location depends on the characteristics of these soil and bedrock formations and the ability to store water, a characteristic referred to as porosity. Groundwater is the source for all water supplies in New Ipswich, providing water to residential and non-residential wells within the community.

Groundwater occurring in concentrations sufficient to yield larger, sustained amounts of water to a well is referred to as an aquifer. In New Ipswich, these aquifer areas are comprised of stratified drift deposits in geologic formations referred to as glacial outwash and kame terraces. As illustrated on Map 3, these aquifers are primarily located in the Souhegan and Gridley River valleys. Presently, these aquifers have not been developed for use by a municipal water system or other large-scale withdrawal. While it may be possible to withdraw larger quantities of groundwater from these aquifers, a more detailed study would be required to determine the capability of these resources to sustain such a system.

Maintaining the long-term viability of these aquifers for use as potential water supplies in the future will be dependent upon sustaining the recharge capabilities of overlying land areas and preventing the leaching of contaminants into the subsurface water table. Recharge to aquifers is diminished when impervious surfaces, such as pavement and buildings, are located above the aquifer that prevent rain fall and other surface runoff from returning to the formation. Similarly, contaminants picked up by such recharge sources, or from poorly operating septic systems, can also impact water quality and negatively effect its potential as a drinking water supply. The town will need to manage both impervious surface and sources of contamination over these aquifer areas if it is to secure their long-term viability as a water supply.

E. Wildlife Habitat

Wildlife habitat is a very broad and all-encompassing term that can vary greatly in its meaning since most undeveloped areas, and even many developed areas, can support some types of wildlife species. However, certain types and configurations of habitat are considered more important for maintaining viable populations of wildlife within New Ipswich and its larger ecosystem. Generally speaking, habitat is more significant when it: supports a rare species; represents a unique area within the landscape; provides an abundance of food or other resources; provides a buffer for wildlife against the effects of development; and/or, supports several types of habitat. [1] More specifically, the following types of habitat are considered significant for supporting wildlife as well as many of the town's other open space priorities.

Riparian Areas

The shorelines of lakes, ponds, and rivers are referred to as riparian areas and are extremely important from a wildlife habitat perspective. Shorelines provide nesting and perching sites for many birds such as ospreys, herons, kingfishers, and sandpipers. River corridors are important as migration areas for birds and mammals and the natural vegetation along these corridors, as well as their adjoining floodplains, provides important sources of food and shelter. Protection of riparian areas by means of vegetated buffers and building setbacks also serves to protect water quality by minimizing the impacts of runoff as well as offering the potential for recreational activities such as trails or water-related uses. For wildlife habitat and migration purposes a riparian buffer/setback of 300 feet is recommended, since this size will allow the greatest potential for uninhibited use by most species, especially larger mammals.

Wetlands

The importance of wetlands has been discussed to some degree in the previous section on water resources. However, it bears restating that wetlands are significant wildlife habitat for a variety of reasons. Wetlands support a number of wildlife species that are specifically adapted to those areas, such as beaver and otter, and are also important to a large number of bird species during migration. Wetlands are important from a food source perspective and act as nursery areas for a variety of species to nurture their offspring. As noted previously, wetlands that should receive special consideration in the town's open space plan are those

[1] Identifying and Protecting New Hampshire's Significant Wildlife Habitat: A Guide for Towns and Conservation Groups, by Kanter et. al., NH Fish & Game Department, 2001

complexes that are greater than five acres in size, wetlands that are classified as Palustrine Emergent Marshes (PEM), and wetland clusters of three or more that are less than one acre and within one-half mile of each other.

Agricultural and Open Land

Agricultural and other open lands are important from a wildlife perspective for several reasons. Agricultural crop land can provide important food for certain species during times when normal food supplies are limited. Other open lands, such as fields, grasslands, and shrubland, offer a diversity of habitat that has greatly diminished over time in New Hampshire as the state became predominantly forested. Grass and shrublands may represent food supplies for various species and are important to other species that require "edge habitat" that occurs where fields, forests, or other habitat join one another. It is important to note that both agricultural areas and open lands require human management to prevent those areas from reverting to forests. As discussed previously, actively managed agricultural lands are also important to the town, since they represent part of the rural character and historic industrial base that residents consider to be a key aspect that partially defines New Ipswich as a community.

Unique or Critical Habitat

Certain types of habitat are valuable for wildlife because their occurrence either within the town or the broader ecosystem is relatively rare. Other types of habitat are important because they provide critical sources of food, shelter, or breeding areas. In New Ipswich, there are a number of locations that have characteristics that fulfill these criteria that should be considered priorities for open space planning and protection.

Deer Wintering Areas (DWA) – During the winter months deer rely on certain locations, which are used regularly from year to year, referred to as deer wintering areas. These DWAs, also known as deer yards, are densely wooded with evergreens and can vary in size from several acres to a few hundred acres. There are eight DWAs identified in the town's Natural Resource Inventory (NRI) that range in size between approximately 100 and 350 acres, although one of these areas (between Wilton and Greenville Roads) may no longer be active due to subdivision activity that has occurred there.

Heron Rookeries – These are wooded/swampy areas where Great Blue Herons regularly return to breed. The NHNHI classifies heron rookeries as habitat of high importance with only 37 known locations in the state. There is a heron rookery in New Ipswich located in Binney State Forest off Binney Hill Road. The site is protected by state ownership but potentially subject to encroach from development on adjoining properties.

Special Land Features – Unusual geologic features, such as hilltops and dramatic changes in topography, are unique features in the southern portion of the state. These environments often create unusual sets of growing conditions and can support vegetation and wildlife that would not otherwise occur in this area. The Wapack Range, which is comprised of Pratt, New Ipswich, Barrett, and Kidder Mountains, qualifies as such a special land feature that should be given high priority within the town's open space planning activities. This ridgeline, and its adjoining hillside terrain, is part of a 21 mile,

regionally recognized hiking trail that runs between Mount Watatic in Ashburnham, Massachusetts and North Pack Monadnock in Greenfield, New Hampshire. As such, this portion of New Ipswich is an important recreation area that also offers some of the most striking scenic views in the town. The significance of this mountain range is highlighted in the on-going Quabbin to Cardigain Conservation Collaborative (Q2C) initiative being promoted by the SPNHF to protect a broad corridor of interconnected conservation lands along the Monadnock Highlands, between the Quabbin Reservoir in central Massachusetts and Mount Cardigain in New Hampshire. Within this broad 100 mile corridor, encompassing approximately 3,000 square miles, the Wapack Range has been singled-out as one of several "focus areas" that warrant special consideration within the overall objectives of the Q2C initiative. In addition, the NHNHI lists two locations of natural communities (Acidic Rocky Summit/Rock Outcrop Community) along this ridgeline. These natural communities are considered to be of very high importance with only 23 known locations in the state.

Rare Species and Natural Communities – The NHNHI lists two additional natural communities and one plant species that are considered rare within the state. The two communities include a Red Maple Alluvial Swamp and an Acidic Level Fen, both of which are associated with the Tophet Swamp area. The plant species is the Spatterdock, which was last observed in the area around Binney State Forest.

F. Agriculture and Forestry Lands

As discussed previously in this chapter, an important component of the town's future open space planning effort is the preservation of land used for active agricultural and forestry operations. Also important is the preservation of areas that have the potential to be used for such purposes, although such activities may not be present at this time.

Lands devoted to agricultural and forestry uses are important open spaces from a visual and habitat perspective but also represent a component of the town's economic base and rural character that residents have indicated a desire to preserve. The town presently has approximately 39 active farms and six (6) Certified Tree Farms. The majority of the town's agricultural operations are involved in hay production; however, others include the raising of livestock and horses, blueberries, maple products, and greenhouses. The tree farms represent properties that are being actively managed for wood products, as well multiple use habitat values. According to records maintained by the SPNHF, there are currently five (5) Certified Tree Farms in New Ipswich that range in size from 30 to 300 acres, with a total of 630 managed acres.

Along with the active agricultural operations noted above, there are locations in town where the soils have been identified by the Natural Resources Conservation Services (NRCS) as being ideally suited and highly productive farmland. These soils are designated as either Prime Farmland or Soils of Statewide Importance. In some instances, these soils are located on properties that are presently being farmed; however, other locations may not be in production but remain undeveloped with structures. It will be important for the town's open space planning activities to support both the active farm and forestry operations and preserve

productive agricultural soils for potential long-term use. The location of these important agricultural soils are illustrated in the NRI.

IV. STRATEGY FOR PROTECTING OPEN SPACE

Previous sections of this chapter have outlined the town's vision for open space and presented an inventory of important natural resources and characteristics of the landscape considered to be priorities for future conservation efforts. This final section presents the two remaining components of the town's open space plan, which includes criteria for evaluating the significance of potential conservation parcels within the open space objectives and an implementation strategy that provides a list of actions to be taken to support the plan. The implementation strategy is divided into three broad categories that include: administration, education, and outreach; regulatory actions; and land and habitat preservation initiatives.

A. Open Space Protection Criteria

Using the vision concepts outlined earlier in this chapter as the overarching framework for open space protection, as well as the three tier classification system of unfragmented blocks and their associated inventory of natural resources, a number of criteria have been developed to assist in establishing priorities when evaluating a specific parcel, or group of parcels, with regard to their suitability in achieving the town's open space goals and objectives. The following criteria are recommended for use when evaluating and identify priorities relating to the potential open space value of land within the town or adjoining communities.

1. A parcel, or group of parcels, should be at least 30 acres in size when evaluating Habitat Oriented (H/O) parcels. Smaller parcels may be considered for specific purposes, especially for Neighborhood/Community (N/C) open space sites, such as providing public access, recreation, historic/cultural preservation, forming linkages for trails or natural corridors, or expanding previously protected areas.

2. Land that abuts or contains a segment of the Souhegan River corridor is considered to be a high priority. Preference may be given to locations that have the following characteristics.
   - Locations in less developed portions of the town that are part of large unfragmented blocks of land
   - Locations where the river corridor intersects or overlays identified aquifers or floodplains
   - Parcels containing additional significant upland or wetland habitat

3. Land that abuts property that is currently preserved as open space where protection of additional land will enhance and/or further protect the characteristics of the existing protected area.
   - Prime examples of such locations would be in the area of Tophet Swamp, the Wapack Range, Binney State Forest and Hoar Pond

4. The land contains exemplary natural communities, is part of a critical ecosystem, or contains one or more of the high priority natural resources listed previously in this chapter. Preference may be given for the following conditions.
   - The parcel is under imminent threat of development or significant encroachment from nearby development
   - The area has been identified as containing habitat/locations that support rare, threatened, or endangered species
   - Properties containing large wetlands or clusters of wetlands (greater than 5 acres), Palustrine Emergent Marshes (PEM), riverine wetlands or vernal pools

5. The parcel would contribute to the overall preservation of Tier I open space unfragmented block areas identified on Map 2. The total size of the parcel may include undeveloped land in adjoining towns. In some situations, a smaller parcel (i.e. less than 30 acres) may be considered if it has the potential to provide linkage between protected parcels, or across a roadway, if sufficient frontage along the road remains undeveloped. Preference may be given for the following conditions.
   - The parcel has multiple occurrences of important resources as identified in this chapter and the Natural Resource Inventory
   - The parcel would create linkage between previously protected properties
   - Preserving the parcel would insure the protection of a scenic viewpoint that is readily accessible to the general public (i.e. from a roadway or other publicly owned vantage point)
   - Public access would be guaranteed for recreation activities such as hunting, fishing, hiking, picnicking, etc.
   - The land would be managed for sustainable forestry activities

6. Land that would preserve active agricultural and forestry operations. Preference may be given for the following conditions.
   - Locations where prime agricultural soils or soils of statewide importance are present
   - The agricultural area contributes to the support of a larger wildlife habitat area
   - Forestry operations that are certified tree farms or managed for sustainable yield
   - Forestry management areas that also allow for public use trails or other types of public recreation

7. Land that would contribute to the creation of a comprehensive trail network. Preference may be given for the following conditions.
   - Parcels that form linkages with an existing or planned trail system
   - Parcels that would guarantee public access in perpetuity (as opposed to a temporary agreement with the landowner)
   - Trail corridors that follow river/stream channels

B. Implementation Strategy

New Ipswich must develop a long-term strategy for preserving open space that employs a variety of approaches and methods. Such a multi-pronged strategy is necessary because of the complex and often unpredictable conditions created by decisions related to land ownership and other economic factors that influence the local and regional real estate markets. Furthermore, the approach must be long-term because decisions by landowners regarding the use, development or sale of their property often take many years to evolve due to factors such as personal finances or considerations that affect family estate planning.

There are four primary components of the town's proposed open space protection strategy that are outlined in the following sections. The first three focus on education, regulation, and cooperation. The fourth component involves the need to provide an adequate level of local funding to support the other segments of the town's overall strategy as well as creating the potential to achieve greater impact with regard to preserving large tracts of unfragmented open space when such opportunities arise.

1. Administration, Education and Outreach

a) Establish a permanent Open Space Task Force to oversee the implementation of recommendations in this plan. This Task Force would establish annual milestones to be achieved as part of the town's long-term open space planning strategy.

b) Establish an on-going education strategy to keep residents informed of changing land use, natural resources and open space conditions in the town. Some components of this strategy could include the following.

- Create marketing style campaign to "Protect the New Ipswich Landscape"
- Send semi-annual mailings to households regarding development and conservation trends and activities
- Establish management plans for town-owned conservation areas (info kiosk, trail maintenance, selective harvesting, etc.)
- Conduct more detailed ecological studies of critical habitat in town to highlight the need for future conservation efforts
- Create an accurate map of conservation land that shows partial easement areas that can overlay digital tax maps

c) Apply for grant funds for on-going education and outreach efforts from the New England Grassroots Environment Fund (NEGEF) which provides funding up to $2,500.

d) Require that the Open Space Task Force and/or Conservation Commission comment and advise the Planning Board, as well as other municipal boards and departments, on all major development proposals effecting the open space objectives of the community.

e) The Planning Board should adopt by reference, the Natural Resource Inventory (NRI) as part of the town's master plan. Copies of the NRI, including all maps, as well as this chapter of the master plan, should be provided to all town land use boards and

departments to promote a continued awareness of the town's critical resources in the municipal decision-making process.

f) The Planning Board should also adopt by reference as part of the master plan's supporting documentation, the Souhegan River Management Plan prepared by the Nashua Regional Planning Commission. The town should work with the Souhegan River Local Advisory Committee (SoRLAC) and the Souhegan River Watershed Association to implement the recommendations contained in the management plan. The town should also work through these organizations to secure funds from the New Hampshire Department of Environmental Services' (NHDES) Watershed Assistance and Restoration Grants program for implementing Best Management Practices (BMP) within the watershed.

g) Evaluate and make recommendations for future status of Class VI roadways with regard to open space objectives. For example, the upgrading of the Class VI portions of Binney Hill Road and Country Club Road would promote fragmentation of priority Tier I open space areas and therefore, should be discouraged.

h) Evaluate roadways in town for potential designation as Scenic Roadways under state statute, which would help to preserve the rural character of these corridors.

i) Conduct a build-out analysis for subwatersheds of the Souhegan River in New Ipswich. Use this data to determine current and future amounts of impervious cover based upon current zoning and to evaluate the impacts associated with impervious surfaces in the more highly developed subwatersheds.

j) Establish a list of "green developers" interested in working with landowners in New Ipswich to create conservation subdivisions.

k) Initiate the process of documenting Prime Wetlands in New Ipswich as provided for under state statute. Prime Wetlands mapping will identify the highest value wetlands, including larger wetlands (greater than 5 acres), which have been designated as a high priority for protection within this open space plan. This mapping effort could also potentially include the documentation of vernal pools, particularly on tracts of land in designated high priority open space areas.

l) Coordinate efforts of public and private recreation groups to identify suitable locations for facilities-based recreation facilities that can serve the current and future demands for organized recreation activities in the town. Work with the same groups, or establish a separate Trails Committee, to identify potential locations for a town-wide trail network. Coordinate with efforts of local snowmobile clubs to integrate existing trails used by these groups. The primary snowmobile trail network currently used in New Ipswich is illustrated on Map 2.

2. Regulatory Actions

The following provisions recommend a number of regulatory changes intended to preserve open space and better protect some of the town's critical natural resources. The proposed changes include recommendations that affect the zoning ordinance, as well as the subdivisions and site plan regulations. Therefore, the town should consider a comprehensive re-write of all three regulations in order to insure that the following provisions, as well as other recent changes, are incorporated in a well-integrated manner. However, if this approach is not considered practical at this time then these provisions can be added in a more incremental manner.

a) Add a general provision to the zoning ordinance, subdivision and site plan regulations that requires all development proposals to consider and address the stated principles and objectives of the town's open space plan.

b) Strengthen the town's zoning regulations with regard to buffers and protective setbacks of riparian areas around rivers, streams, ponds, and wetlands. Setbacks and buffers around the major shorelines/edges of rivers, ponds and wetlands should be 150 feet. Setbacks and buffers around all other shorelines and wetlands should be 100 feet.

c) Revise the town's wetland ordinance to include language indicating that wetlands greater than five acres, wetland clusters greater than five acres, palustrine emergent marshes (PEM), and bogs are considered high priority wetlands with regard to minimizing the impacts of dredging or filling (NOTE: A reference to Map 3 of this chapter, which highlights these wetlands, should also be included in the ordinance). In addition, the potential for development in these wetlands under the Special Exception provision of the ordinance (Section 4. Special Exceptions) should be eliminated. Vernal pools should also be included as areas protected under the wetlands ordinance.

d) Adopt an aquifer protection overlay district as part of the town's zoning ordinance that would regulate impervious surfaces, potential sources of contamination, and require implementation of best management practices to protect the water quality of these resources. The boundaries of the aquifer protection district should coincide with the areas identified as aquifers on Map 3, presented previously in this chapter.

e) Establish a viewshed overlay district for Wapack Range and Kidder Mountain unfragmented block areas (Tier I and II open space designation). These viewshed regulations would define development standards within a delineated "viewable" area (e.g. above a specified topographical elevation) that would minimize visual impacts on the landscape from future development.

f) Require all subdivisions to set aside 10%-15% of the tract area (the town's current approximate total percentage of open space) of a proposed development for recreation or open space purposes that would primarily serve the local needs of residents in the subdivision. As an alternative to this land dedication, the town could establish a fund

in the Capital Improvement Plan (CIP), or a capital reserve fund, into which the developer could pay a fee that is commensurate to the dedicated land value or some other proportional amount. These funds would be used to achieve the town's open space objectives.

g) **Require implementation of wildlife sensitive design standards for all major subdivisions. These standards would require that a site inventory be conducted of a proposed development tract that identifies existing habitat characteristics and significance that is used to design the subdivision layout. Revise the town's zoning ordinance to allow flexibility in dimensional controls (e.g. a reduction in road frontage) to promote habitat preservation design.**

h) Revise the roadway design standards to allow/encourage a reduction in construction dimensions, where appropriate, to lessen impacts of habitat and open space fragmentation. More specifically, the design standards should be amended to allow narrower pavement and/or right-of-way (ROW) width for subdivision roads that have lower traffic volumes and design speeds. These types of minor access roads may service less than 200 vehicles per day where a 30 foot ROW and 20 foot pavement width would be adequate. In addition, as noted in paragraph g) above, language should also be added to the design standards that promotes roadway layout that minimizes, to the extent practical, the effects of fragmentation on open space and wildlife habitat due to the location of new roadways on previously undeveloped tracts of land, or adjacent to existing protected open space parcels. The Planning Board should also consider removing the provision in the subdivision regulations that requires all vegetation be removed from a ROW, since this can impact wildlife habitat, as well as the scenic qualities of the town's roadways (Refer to Appendix B. of the subdivision regulations entitled Design Criteria).

i) Revise the cluster development ordinance to allow for development incentives and the provision of open space that supports the town's open space objectives. Consider the provision of density bonuses when certain open space thresholds are achieved and also the requirement that a detailed site inventory be conducted prior to the submittal of any detailed development plans. Incentives could be provided for preserving agricultural areas, protecting/enhancing critical habitat areas, and providing public recreation facilities. The cluster regulations should also be revised to include a provision requiring a third party be identified that will be responsible for enforcing the protective covenants for preserving the open space in the event that the homeowners association fails to do so. The Conservation Commission should also be identified in the regulations as having authority to enforcement these restrictions if necessary, and the town should be enabled to recover any legal expenses incurred from the homeowners association as a result of such actions.

j) The town's zoning and land use regulations should be revised to reflect the Best Management Practices (BMP) recommended in the Souhegan River Management Plan for protecting water resources on a town-wide basis in New Ipswich. The town

should seek assistance from the Southwest Regional Planning Commission (SWRPC) in making the necessary changes to these regulations.

3. Land and Habitat Preservation Initiatives

The town will need to take a proactive approach if it is to preserve key tracts of land that are priority areas identified in this open space plan. It will also need to take an active role in encouraging habitat management and resource protection as part of the development process for properties that cannot be completely preserved as conservation land.

a) Contact Landowners of Key Properties

A representative, or group, from the town should begin to contact the owners of key conservation/open space parcels to open a dialogue regarding the owners long-term goals for the property and the potential for preservation or limited development alternatives.

- Contact landowners whose property contains headwaters of various river systems in town (work with towns that use as water supply and/or appropriate public/quasi-public agencies and organizations)
- Contact landowners of large tracts (30+ acres) of undeveloped land in the Tier I open space areas
- Contact landowners of managed wood lots and certified tree farms (work with NEFF and SPNHF)
- Contact landowners of agricultural properties in Tier I and II open space areas with properties that comprise a portion of larger significant wildlife habitat

b) Designate Wapack/Kidder Mountain Range Corridor as High Priority

- Support the Quabbin to Cardigan Conservation Collaborative (Q2C) efforts of large scale habitat preservation along Wapack Range corridor. Work with SPNHF to make the New Ipswich portion of the Q2C corridor focus area a priority for forthcoming detailed bio-inventory at the parcel level. Ask SPNHF to make presentations regarding significance of the Q2C corridor at forum(s) in New Ipswich.
- Hold summit meeting of groups interested in protecting Wapack Range to identify appropriate joint action plan for this corridor (e.g. SPNHF, NEFF, NWT, Friends of Wapack, NHF&G). Consider coordinating efforts through regional planning commission.
- Ask Town Meeting to pass a resolution that the Wapack Range is a critical feature in the town's visual landscape and a high priority for conservation
- Consider requiring a 250 foot buffer around the Wapack Trail within the town's zoning ordinance to protect this local and regionally important recreation corridor
- Establish permanent public access points to the Wapack Trail at its northern and southern extents within the town that offers adequate parking facilities
- Appropriate town funds to support acquisition of Hampshire Country School property conservation easement being sought by NWT

- Establish viewshed protection overlay district for this corridor (see Section 2e) above for details)
- Limit future fragmentation of this corridor by discouraging upgrade of Binney Hill Road from its current Class VI status

4. Alternative Methods for Acquiring Open Space

As noted at the beginning of the implementation section, the town must develop a long-term strategy for preserving open space in New Ipswich that employs a variety of approaches and methods if it hopes to succeed in achieving the goals of this plan. The previous portions of this sections have outlined three of the approaches, which focus primarily on education, regulation, and cooperation. However, in order for the town to protect major tracts of unfragmented open space, as well as other key parcels, it will be necessary to use other techniques that include financial support from various funding sources, including local property taxes.

It would not be fiscally practical for the town to appropriate the total amount of funds required to purchase all of the priority open space areas identified in this chapter. Therefore, the town will need to use some of its municipal appropriations as leverage to secure other funding, such as grants, or to purchase less than fee simple ownership of open space parcels. In such instances, the town could purchase the development rights of a property, typically accomplished by means of a conservation easement, that would preclude further development of the property. This approach also leaves the property on the local tax roles, although at a much reduced value. Wherever possible, the town should also attempt to obtain the development rights, or a portion of the value of these rights, through donations from property owners.

a) The town should consider making open space preservation a more prevalent component of its annual budgeting process through the following actions.
   - Establish a capital reserve fund and/or other appropriate revenue fund for open space to insure a dedicated budget mechanism is available for receiving and dispersing funds. Such funding would include all fees received as an alternative to open space dedication from the subdivision approval process, as recommended in paragraph 2.f) above.
   - The town should consider making a minimum allocation of $200,000 to the capital reserve fund in order to be able to respond in a more timely manner to real estate market conditions to protect parcels of critical importance or provide matching funds for various grant programs and fundraising campaigns. These funds can also be used as a stopgap measure to temporarily secure key open space properties that are subject to the threat of eminent development.
   - The town should require that all penalty fees collected for withdrawing land from Current Use be allocated for open space preservation. Presently, only a portion of these fees are used for such purposes.
   - The town should use its bonding capability to purchase key open space areas when other funding sources are not available or are insufficient to cover the entire cost of the property.

b) It is recommended that the purchase of development rights, as opposed to fee simple ownership, be the primary approach used by the town for acquiring and protecting open space in order to reduce the amount of municipal funding required. Fee simple acquisition should be used to purchase properties where public access is a primary objective or when the other approaches are not practical.

c) To the greatest extent possible, grants and other public funding sources should be used to preserve open space and protect critical natural resources in New Ipswich. The town should actively pursue funding from the state's Land Conservation and Heritage Investment Program (LCHIP) and other comparable programs that support the goals of this plan. The town should attempt to leverage matching funds for such grants through the private donations of funds and/or property.

d) The town should also work with private land trusts and other land preservation groups (i.e. SPNHF, NEFF, NWT) to secure matching funds for joint open space preservation initiatives in New Ipswich, as noted in Section 3 above.

References and Contacts

1. Natural Resource Inventory (text and maps) completed in 2004 by Daylor Consulting
2. New Ipswich Master Plan – 1995 and 2004
3. Master Plan Survey Results
4. New Ipswich Zoning and Wetlands Ordinance
5. New Ipswich Subdivision and Site Plan Review Regulations
6. The town's GIS digital parcel map and assessment database
7. 2003 aerial photography and additional data layers from GRANIT (New Hampshire's GIS database)
8. New Hampshire Fish & Game's Wildlife Action Plan (WAP) and associated GIS Coarse Filter Analysis of Potentially Significant Wildlife Habitat
9. Representatives of the following organizations were contacted for information and activities in the New Ipswich area
    - Monadnock Conservancy Land Trust
    - Northeast Wilderness Trust
    - Society for the Protection of New Hampshire Forests
    - Friends of the Wapack
    - Harris Center for Conservation Education
    - New England Forestry Foundation
    - Nashua Regional Planning Commission
    - Southwest Regional Planning Commission
    - Rindge Snowmobile Club
    - New Hampshire Fish & Game Dept.