

**Conservation Plan
for the
Kezar River, Kezar Lake, and Cold River Watersheds**



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Executive Summary

Near the Maine-New Hampshire border, mountainous northern forests give way to rolling, low hills and glacial outwash valleys studded with lakes, ponds, and rivers that empty into the Saco River. Located at the confluence of two ecoregions the watersheds of Kezar River, Kezar Lake, and Cold River offer a variety of elevation and geomorphic differences that provide for a broad range of natural features. These watersheds compose a region of contrasts that includes large roadless blocks of forest as well as small, settled village centers. Recreational opportunities and spectacular panoramic vistas abound in the region making it a marvelous place to call home. Rooted in deep traditions of agricultural and forest stewardship, the shifting dynamics of landownership and visitor patterns present growing challenges for resource protection. This conservation plan had its origins in the recognition that this precious landscape is poised on the edge of great changes.

Area representatives with a wide variety of experiences and perspectives were brought together to form a planning group. Together they identified that their mission was to determine the current presence, health and vitality of the ecological and cultural resources of the Kezar River, Kezar Lake, and Cold River watersheds and to implement strategies for ensuring the integrity of each through public and private collaborative action. Members of the planning group worked through the Conservation Action Planning process to produce this plan. The process involved: 1) selecting key conservation targets; 2) identifying the main threats to those targets; 3) devising strategies to address the threats; 4) outlining a plan for strategy implementation; and 5) developing measures to assess the success of implementation.

A GIS specialist collected and organized existing spatial data for the Cold River, Kezar Lake and Kezar River watersheds and incorporated these into a regional database covering the study area that can assist in the identification of areas of interest and help reveal underlying patterns across the landscape. This information was utilized throughout the planning process to map and analyze a variety of features such as rare plant, rare animal, natural community and habitat data. The data also offered insight into where future field efforts would have the greatest likelihood of documenting additional significant natural features.

A conservation target is something that is valuable enough that it is worth preserving. The planning group selected six over-arching conservation targets from a long list of potential conservation values identified for the region. Each conservation target encompasses other “nested” targets. The six over-arching conservation targets are:

- **Lakes and Ponds**
- **Streams and Rivers**
- **Agricultural Lands**
- **Geographic and Historical Features**
- **Unfragmented Forest Blocks**
- **Wetland Communities**

The planning group identified threats to each of the six conservation targets and ranked the degree of threat by analyzing factors such as scope, severity and irreversibility. The group determined which threats were most critical by examining their ranks and whether or not they

affected multiple conservation targets. The list of critical threats was stratified into three categories as follows:

Most Critical Threats (Threat Rank: Very High)

- Residential Development
- New and Existing Roads
- Invasive Species

Critical Threats (Threat Rank: High)

- Residential Practices (Non-point source pollution)
- Recreational Vehicles & Practices
- Point Source Pollution

Less Critical Threats (Threat Rank: Medium)

- Poor Forest Harvest Practices
- Noise from non-recreational motor vehicles
- Shoreline Alterations
- Lack of Interest/ Profitability in agriculture and unfavorable attitudes toward agriculture
- Posting of private lands
- Overextraction of ground/surface waters

Strategies were then formulated for each of the critical threats; these ranged from basic inventory and research to public policy efforts to educational campaigns and land protection strategies. A list of the key players that should be involved in the successful implementation for each strategy was developed. The key players included regional and national conservation organizations, local watershed associations, town officials, state & federal agencies, private landowners and the general public. A few areas were identified in each of the three watersheds that are believed to offer the greatest overall value as focal points for land protection efforts.

Finally, suggestions for measuring the success of strategic implementation in the future were proposed. Measures indicative of the successful implementation of the plan were:

- Acceptance of the plan and endorsement of the strategies by key players
- Enhanced collaboration between key players
- Independent implementation of strategies
- Establishment of baselines and monitoring of changes for measurable values and threats
- Progress in the development of benchmarks for less easily measured strategic actions

The conservation plan is a work in progress. It reflects the current knowledge and understanding of the planning group and should evolve as new information becomes available. By using this plan as a guide, the many organizations and individuals who value this region will find meaningful ways to work toward keeping it an area that will be treasured for generations to come for its outstanding ecological and cultural resources.

Background

Physical Setting

Near the Maine-New Hampshire border, the forested slopes of the White Mountains give rise to steep headwater streams that descend through modest foothills generously dotted with lakes and ponds into river valleys that feed the mighty Saco River (Map 1). This landscape encompasses the ancient eroded spine of the Appalachian Mountains as well as sandy outwash plains of more recent glacial origin. It lies at an intersection of two distinct ecoregions, the mountainous Northern Appalachian–Boreal Forest Ecoregion and the rolling, low hills and glacial outwash valleys of the Lower New England Ecoregion. Resting as it does, at the confluence of these two ecoregions, the landscape provides for a broad range of natural features from high elevation forests to large low-lying wetlands. The variety of elevation and geomorphic differences found within a relatively small area support a diverse assemblage of plant and animal species. It is a region of contrasts that includes large roadless blocks of intact forests as well as small settled village centers. The numerous lakes, ponds, and rivers provide an attractive range of recreational opportunities from boating to water skiing to fishing and birdwatching. At seemingly every turn, one encounters spectacular panoramic mountain vistas. In short, it is a marvelous place to call home.



Historical Setting

Inhabited by native peoples for thousands of years, this area experienced a pattern of European settlement common throughout rural New England. Much of the land, especially at lower elevations, was settled in the 1700's and cleared for cropland and pasture. After the Civil War, many families abandoned their farms (especially those on marginal soils) for richer soils in the Midwest. Much of the land gradually returned to forest. Stone walls that once edged former sheep pastures now reside in seemingly unlikely sections of forest. Long an important resource to the regions inhabitants, the forest has been managed both as modestly-sized family woodlots owned by the same families for generations and as extensive tracts held by larger landholders like the National Forest Service. Despite the 19th century exodus of many families, some continue to farm especially in the more fertile bottomlands of the region.

Throughout the 20th century, small numbers of families maintained or established “camps” along the many spectacular lakes, ponds, rivers and streams of this region. Distant from large cities, this area was appreciated as a place of solitude that also offered excellent recreational opportunities. Many of these camps have recently been “upgraded” as more and more people are drawn by the clean waters and clear skies that are becoming increasingly rare in populated areas to the south. Even as the region remains a popular vacation destination, the average length of stay for visitors is decreasing. Weekly rentals are on the rise as many owners of second homes are spending a smaller percentage of their time here. These changes appear to be affecting visitors’ degree of connection with the landscape and with the year-round community. This changing dynamic promises to present challenges for resource protection as it entails finding ways to educate and engage growing numbers of short-term visitors.

Origins of the Plan

This conservation plan had its origins in the recognition that this precious landscape is poised on the edge of great changes. The Greater Lovell Land Trust (GLLT), a non-profit land trust operating in the Towns of Lovell, Stoneham and Stow recognized the need to identify and plan for the future of this extraordinary region. The GLLT sought and received a grant from the US Department of Agriculture through the Natural Resources and Conservation Service in 2006 to develop a Conservation Plan for the 119,000 acres of the Kezar River, Kezar Lake, and Cold River (KKC) watersheds. In late 2006, an Ecological Consultant and a Geographic Information Systems (GIS) Specialist were hired to assist in the development of the Conservation Plan. A planning group was assembled that brought a wide variety of experiences and perspectives to the planning process (Table 1). The group included residents of the towns of Stoneham, Lovell, and Stow in Maine and representatives of the agricultural community, the U.S. Forest Service, and The Nature Conservancy (TNC).

Table 1. Members of the KKC planning group.

Tom Henderson	Coordinator
Ed Ryan	Lovell Planning Board, Chair
Jim Owens	Stoneham Appeals Board
Tom Hughes	Horseshoe Pond Homeowners Assoc
Josh Royte	TNC Conservation Planner
Pat Williams	Agriculture/Farming
Dave Tenny	Town of Stow
Kathy Starke	US Forest Service
Stefan Jackson	TNC Saco River Program Director
Ron Gestwicki	Five Kezar Ponds Association
Mark Ward	Ecological Consultant
Bill Duffy	GIS Specialist

Purpose of the Plan

The purpose of this plan is to guide conservation efforts in the Kezar River, Kezar Lake, and Cold River watersheds for the next 5-10 years by identifying the ecological and cultural resources of this region and developing strategies to maintain their integrity. This is reflected in the mission statement that was developed by the planning group:

The mission of the conservation plan for the Kezar River, Kezar Lake, and Cold River watersheds is to determine the current presence, health and vitality of the ecological and cultural resources of these watersheds and to implement strategies for ensuring the integrity of each through public and private collaborative action.



Conservation Plan

Scope

This conservation plan covers an area of approximately 119,000 acres comprising three watersheds (Map 2): Kezar River, Kezar Lake, and Cold River (KKC). The Kezar Lake and Kezar River watersheds are located entirely in Maine, while the Cold River watershed straddles the boundary of Maine and New Hampshire. The watersheds include sizeable portions of the towns of Stow, Stoneham, and Lovell, Maine and Chatham, New Hampshire. Smaller portions of Waterford, Sweden, Fryeburg, Bridgton, and Denmark, Maine are also included in the Kezar River watershed. Similarly, small portions of Fryeburg and Batchelders Grant Township, Maine and Conway and Beans Purchase, New Hampshire are included in the Cold River watershed. A significant portion of the upper elevations of the Cold River and Kezar Lake watersheds consist of public lands within the White Mountain National Forest.

The scope of this conservation plan is limited to the Kezar River, Kezar Lake, and Cold River watersheds. All three watersheds, however, empty into the upper part of the Saco River, which in turn feeds into the Gulf of Maine. The Nature Conservancy has identified the Upper Saco River as a top priority for concerted conservation action within the Lower New England Ecoregion (Map 1). This plan is intended to complement and build upon the conservation plan developed by The Nature Conservancy for the Upper Saco River Watershed¹.

Data Collection & Management

One of the most important aspects in the development of this conservation plan was the collection and analysis of spatial data covering many aspects of the project area. This information was utilized throughout the planning process. The GIS specialist collected and organized existing spatial data for the Cold River, Kezar Lake and Kezar River watersheds and incorporated these into a regional GIS database covering the study area (Appendix I). Data collection was somewhat complicated by the fact that the watersheds cross state boundaries. Because many spatial data are compiled at the state level, these layers had to be gathered for both states and in some cases were merged. Not all data layers cover the entire project area. Existing spatial information that was gathered for the project area included roads, hydrology, topography, high resolution ortho-photography, soil types, existing conservation lands, documented plant, animal, natural community and habitat data (e.g. deer wintering and wadingbird and waterfowl habitat) as well as information created by The Nature Conservancy for the Upper Saco River conservation plan (such as Ecological Land Units, ecoregional boundaries, and some landowner tax parcel information).

In addition to these pre-existing data, several locally relevant data layers were developed for the project. Boat launch data (Map 3) was field gathered in the project area and entered into a spatial layer. Active farms (Map 4) were identified and digitized using ortho-photography and the knowledge of the planning group. A data layer composed of unfragmented forest blocks (Map 5) was generated by buffering all roads within the project area except for small (Class 4 or 5) roads without houses. Existing digital parcel information was relatively scarce for the project area and was supplemented by photocopying, rectifying and digitizing tax parcel information for towns in

¹ Saco River Project Integration Team. 2004. The Upper Saco River Landscape: A Five-year Plan for Conservation Action. The Nature Conservancy.

the watershed. Digitizing all tax parcel information for the towns in the project area was beyond the scope of the project. However, several important steps toward this end were accomplished. While the project was underway, the town of Lovell completed digitization of its parcel boundaries and this information was obtained. The GIS specialist focused his digitizing effort on large parcels in the towns within the project area and this information was incorporated into the digital parcel layer. Most parcel maps for the project area were scanned and georeferenced so they can be digitized in the future on an “as needed” basis.

Data Analysis

The compilation of these data sets into a manageable database is of tremendous value in furthering conservation efforts in the project area. One of the advantages of having such a regional database is that it allows the overlay of existing data layers to help identify areas of particular interest and reveal underlying patterns across the landscape.

Significant Natural Features

For example, significant natural features such as rare plant, rare animal, natural community and habitat data can be mapped within the watersheds (Map 7). These data help reveal patterns across the landscape and suggest that significant natural features within the Northern Appalachians-Boreal Forest section of the project area are most often associated with upland forests and open or rocky summits while features in the Lower New England Ecoregion are more likely to be associated with open wetlands. Although this type of analysis can be very revealing, it is somewhat constrained by the quality and comprehensiveness of the data utilized. For instance, not all parts of the project area have been surveyed. Most survey work has been done on conservation lands such as the WMNF and other areas such as waterways where there is public access. The documented locations of rare plants, animals, and natural communities are for the most part a reflection of where survey effort has been conducted. A complete list of rare plants, rare animals and rare and exemplary natural communities documented to date within the project area is provided (Appendix II). This analysis provides a baseline on which future field efforts can be directed.



Fieldwork Targets

With that in mind, the GIS specialist with guidance from the Ecological Consultant developed a map that highlights where future field efforts would have the greatest likelihood of documenting additional significant natural features (Map 8). More thorough field survey coverage of the project area would enhance the ability to make sound conservation decisions. In the Northern Appalachians-Boreal Forest section of the project area, the most promising locations for future field efforts are in upland forests with enriched soils or on open or rocky summits. Upland forests with enriched soils can be approximated by using mapped calcareous bedrock and/or the enriched coves data layers developed by TNC. Open or rocky summits can be approximated by utilizing the bare rock/cliff layer developed by TNC or the modeled steep slope layer generated by the GIS specialist. In the Lower New England Ecoregion, the most promising field work targets are

wetlands. Large wetland complexes that have an emergent or scrub/shrub component offer promise. Many of these wetlands have already been surveyed within the project area with the most notable exception being the large wetland complex along the Cold River north of the Stow Meadow Road. Medium to small wetlands associated with wadingbird and waterfowl habitat (Map 6) are also worthwhile targets for field effort. Finally, small, ephemeral wetlands known as vernal pools that provide important breeding habitat to amphibian species and a host of other fauna represent a worthwhile objective for early spring survey effort. The locations of potential vernal pools are difficult to predict, but the GIS specialist developed a model to approximate the locations of potential vernal pools by using a combination of hydrological and topographic data. Very little effort was spent conducting field surveys in 2007, but visits to a handful of these modeled vernal pools suggest that more than 50% of them may harbor significant populations of pool-breeding amphibians.

Methodology

Members of the planning group began meeting in February of 2007 and worked through the Conservation Action Planning process (also known as the 5-S process) developed by The Nature Conservancy to produce this plan². This framework has been used by organizations around the world to focus their conservation efforts. It helps planners think through what needs to be done to protect what they value most. The process involves: 1) selecting key conservation targets; 2) identifying the main threats to those targets; 3) devising strategies to address the threats; 4) outlining a plan for strategy implementation; and 5) developing measures to assess the success of implementation.

A conservation target is something that is valuable enough that it is worth preserving. It could be a natural feature such as a rare species, a recreational activity, or anything else that is considered valuable. The planning group began by developing a long list of values for the region. The list of potential conservation targets was diverse and ranged from recreational fishing to working farms and globally rare plant species. However, because the complexity of the planning process grows with each step, it was important to begin with a relatively small number of conservation targets. This was done by grouping values in such a way that one target would serve as an over-arching target for others. In this way, the long list of conservation values was narrowed down to six conservation targets that encompass other “nested” targets. The six over-arching conservation targets are:

- **Lakes and Ponds**
- **Streams and Rivers**
- **Agricultural Lands**
- **Geographic and Historical Features**
- **Unfragmented Forest Blocks**
- **Wetland Communities**

When the conservation targets had been identified, the planning group sought to identify threats to the targets. This was done by breaking down possible threats into direct stresses and indirect sources of stress. The following steps were completed for each of the conservation targets:

1. Develop a list of stresses
2. Identify sources of stress
3. Rank each stress based on its scope and severity
4. Rank each source of stress based on its contribution and irreversibility

² <http://conserveonline.org/workspaces/cbdgateway/cap>

Once these tasks were completed, it was possible to examine the relative threats to each of the conservation targets and then to assess which threats affected multiple conservation targets. By doing so, the group was able to determine the most critical threats affecting the project area. Strategies were then formulated for each of the most critical threats. A list of potential stakeholders that might be involved in implementation was developed for each strategy. Finally, suggestions for measuring the success of strategic implementation in the future were proposed.



Conservation Targets, Goals, and Threats

Conservation Target I: Lakes and Ponds

There are more than 25 named lakes and ponds that dot the project area (Map 3). They range in size from very large lakes (e.g. Kezar Lake at >2600 acres in size) to small ponds (like Hunt Pond at 16 acres) with many medium-sized ponds as well (Appendix III). Some receive a high degree of recreational use, while others are relatively unused. The sheer variety of lakes and ponds within the project area, in terms of sizes and depths, guarantees a diverse array of aquatic communities that offer habitat for plants, insects, frogs, turtles, fish, and waterfowl. Anyone who has ever heard the hauntingly beautiful cry of the loon on one of these waterbodies can begin to



appreciate the degree of complexity that these aquatic systems support. Some ponds in the project area that are located within sandy glacial outwash support the rare outwash plain pondshore community. Water levels in these ponds undergo significant natural fluctuations giving rise to a unique pondshore system that often hosts rare plant species. Many ponds and lakes in the region are also favorite locations for a wide variety of recreational activities such as swimming, boating, fishing, and bird watching. These activities depend on excellent water quality, which in turn relies on appropriate human uses of the water and the surrounding lands.

The overall water quality of lakes and ponds in the project area is good. None of the lakes or ponds were designated as impaired by use or pollutants in a recent comprehensive draft report by the Maine Department of Environmental Protection³. As a conservation target, Lakes and Ponds include the following values that are intimately tied with these systems.

Nested Targets: Lakes and Ponds

Water quality; Aquatic plant communities; Fish and fish spawning habitat;
Recreational opportunities: including fishing (summer and winter), swimming, boating, birdwatching;
Public Access including boat launches, parking, picnic areas;
Wadingbird and waterfowl habitat (e.g. Loon nesting sites, bald eagle nesting sites, black ducks);
Rare plants and/or rare natural communities (e.g. Outwash plain pondshore communities and associated rare species such as narrow-leaved goldenrod, fall fimbry)

Goals: Lakes and Ponds

1. Obtain baseline data on water quality in all lakes and ponds.
2. Monitor and provide public reporting on water quality annually for all lakes and ponds.
3. Maintain healthy aquatic and riparian ecosystems of native plants and animals in all lakes and ponds.
4. Maintain or improve current water quality in all lakes and ponds.
5. Restore water quality to acceptable levels where degradation has occurred.

³ Maine Department of Environmental Protection. 2008 Integrated Water Quality Monitoring and Assessment Report. Draft. March 10, 2008. <www.maine.gov/dep>

Threats: Lakes and Ponds

Among all potential threats to lakes and ponds that were considered (Appendix IV), the threats that were identified to pose the greatest risk were the following:

- Residential development/Shoreline development
- New/existing roads
- Lawn and Landscape maintenance activities
- Homeowner products and practices
- ATV use
- Introduction of non-native species (plants and fish)
- Boat wakes

Conservation Target II: Streams and Rivers

Each of the three watersheds in the project area has a network of streams and tributaries that feed into the main water feature (Map 3). All three watersheds eventually empty into the Saco River. The more than 150 miles of streams and rivers within the project area are in many ways the lifeblood of these watersheds. They carry nutrient rich and oxygenated rainwater and ground water from the mountains to the valleys where they feed ponds and lakes. They also deposit nutrient rich sediments from the higher elevations to lower elevations such as the floodplains along the Cold River where they recharge rich alluvial soils during seasonal flooding events. Throughout the watersheds, downed trees that have fallen into the streambed from adjacent forest or wooded buffers catch organic debris and create holding pools that add habitat diversity and help diminish flow rates during heavy rain events. In general, streams and rivers within the project area have excellent water quality and support functioning aquatic invertebrate communities and fish species and spawning habitat (e.g. wild brook trout and landlocked Atlantic salmon). None were designated as impaired by pollutants or bacteria in a recent draft report by the Maine Department of Environmental Protection⁴ They are valued for the recreational fishing opportunities that they offer. Streams and rivers constitute an important part of the home range for a number variety of wildlife species such as river otters, mink, and wood turtles and serve as important centers of seasonal activity for a wide variety of migratory bird species.



Nested Targets: Streams and Rivers

Water quality; wild brook trout, landlocked Atlantic salmon and spawning habitat; Recreational fishing; Floodplain forest communities; Aquatic invertebrate communities (including possible rare species such as the rapids clubtail dragonfly); Wildlife that use riparian corridors (e.g. mink, otter, Louisiana waterthrush, bald eagles)

⁴ Maine Department of Environmental Protection. 2008 Integrated Water Quality Monitoring and Assessment Report. Draft. March 10, 2008. <www.maine.gov/dep>

Goals: Streams and Rivers

1. Obtain baseline data on water quality and flow rates for streams and rivers.
2. Maintain or improve current water quality in all streams and rivers.
3. Restore water quality to acceptable levels where degradation has occurred.
4. Assess the quality of fish habitat in streams and rivers and identify examples of high quality habitat as well as areas in need of restoration.
5. Maintain healthy aquatic ecosystems of native plants and animals in all streams and rivers.

Threats: Streams and Rivers

Among the threats to streams and rivers that were considered (Appendix IV), the threats believed to pose the greatest risk were the following:

- Residential development/Shoreline Development
- New/existing roads
- ATV use
- Destruction of buffers
- Lawn and Landscape maintenance activities
- Homeowner products and practices
- Faulty septic systems
- Agricultural runoff
- Poor forestry practices
- Posting of private lands
- Roads culverts that serve as barriers to fish passage*
- Lack of coarse woody debris in streams and on shorelines*

*Denotes a threat that was not identified during planning committee work, but was suggested during review by professional biologists. Threats identified in this manner were not run through the same ranking process as other threats identified in the plan.



Conservation Target III: Agricultural Lands

Agriculture has a long tradition in the project area. Much of the land was cleared for cropland and pasture in the 1700s. Despite the decrease in agricultural activities brought about in the 1800s, the region as a whole maintains a strong connection to its agricultural heritage as evidenced by the nearby Fryeburg Fair. Active farms persist especially in the rich bottomlands along the Cold River (Map 4). Many fields are still hayed on a regular basis and they often offer spectacular vistas of the nearby mountains. Apple orchards, though less abundant than they once were, still produce bountiful fall harvests. Though the area currently produces little of its own food, there is the potential to reinvigorate the production of local food as part of the growing regional food movement. A regional soils map identifies the soil series located within the watersheds (Map 11). Open spaces provided by agricultural lands benefit hunters of game species like grouse, deer, and



turkey that utilize cleared lands and forest edges. Late mowed hayfields and early successional edges are less common than they once were and may provide habitat for non-game species such as ground nesting bird species and snakes like the black racer whose numbers are regionally in decline. Even for those who are neither hunters nor farmers, agricultural lands offer views of the raw landscape that forested lands are unable to do and provide a bucolic setting that appeals to the sense of beauty.

Nested Targets: Agricultural lands

Active farms; Prime soils; Open space; Viewsheds; Hunting (e.g. turkey, grouse, deer); Rare species (e.g. black racer, bobolink); Orchards

Goals: Agricultural lands

1. Maintain availability of current acreages of prime agricultural lands.
2. Maintain or increase acreage of land in agricultural use.
3. Encourage development of new farm operations and new farm businesses that are sustainable economically and ecologically.

Threats: Agricultural lands

Among all threats to agricultural lands that were considered (Appendix IV), the threats that were determined to pose the greatest risk were the following:

- Residential development
- Unfavorable attitudes towards agriculture
- Lack of interest and/or profitability



Conservation Target IV: Unfragmented Forest Blocks

Forests comprise a greater percentage of land cover in the project area than any other feature. Thousands of acres of contiguous forest are not an uncommon occurrence within the project area (Map 5), which makes this region truly unusual when compared with areas farther south. These



forests range from subalpine spruce-fir forests at the highest elevations in the White Mountains to dry oak-pine forests on glacial outwash in the lowlands with more southerly affinities. The large forest block that encompasses much of the upper Kezar River watershed is one of the largest unfragmented habitat blocks in the Lower New England Ecoregion. The most common forest type throughout the project area consists of variations on the classic northern hardwood forests of yellow birch, beech, and sugar maple. These forests are home to several rare plant species including two globally rare species of

orchids, nodding pogonia and small-whorled pogonia. There are several locations at moderate elevations throughout the project area where small stands of seemingly blight-resistant strains of American chestnut can be found—these trees may be an important resource in assisting efforts to restore this once abundant tree to a more prominent role in the forests of New England and beyond.

Throughout the region there are pockets of calcium-laden bedrock that give rise to uncommon plant associations known as enriched hardwood forests. Enriched forests often have basswood trees and unusually rich arrays of herbaceous plants including several rare species such as ginseng and Goldie's fern. Additionally, the project area includes a number of low rocky summits or summit balds that are often accompanied by south-facing rock outcrops or talus slopes. These locations may provide habitat for rare plant species such as fern-leaved false foxglove or Douglas' knotweed. These ledges also harbor the state's only location for the newly discovered Robin's milk-vetch. They also offer some of the best possible habitat for rediscovering an extant population of the timber rattlesnake (no longer known to occur in Maine).

Large forest blocks offer excellent habitat for wide-ranging mammal species like bear, bobcat and fisher and for migratory songbird species that are area-sensitive or prefer forest interiors. As forest land is converted for development or other purposes, the size of forest blocks decreases and the amount of edge habitat increases making it more difficult for these species to persist. Large forest blocks with connectivity to adjacent forest blocks provide the best means for insuring the long-term viability of these wildlife species. All of the forests of this region have apparently been logged at one time or another during last three centuries as working forests have been part of the stewardship tradition of this region for centuries. The practice of sustainable forestry within these large forest blocks offers the promise that they will continue to support a wide range of wildlife species along with excellent recreational and hunting opportunities.



Nested Targets: Unfragmented Forest Blocks

Northern hardwood matrix forest; Working forest/sustainable forestry; American chestnut stands; Rare/exemplary natural community types (e.g., Enriched hardwood forests, subalpine forests and summits; low elevation summit balds and rocky slopes); Rare plant species (e.g. nodding pogonia, ginseng, small-whorled pogonia); Wide-ranging mammal species (e.g. bear, bobcat, moose, fisher); Deer wintering areas; Area-sensitive migratory songbirds (e.g., black-throated blue warbler, wood thrush, Canada warbler); Recreational opportunities (e.g. hiking, X-country skiing, birding) and access (trail system); Hunting;

Goals: Unfragmented forest blocks

1. Identify and preserve large forested blocks and corridors linking them to retain viable native wildlife populations.
2. Encourage forest management to reflect a natural range of age classes and forest types throughout the project area.
3. Increase knowledge of rare/exemplary natural community types and rare plant occurrences and assess their viability.

Threats: Unfragmented Forest Blocks

Among all potential threats to unfragmented forest blocks that were considered (Appendix IV), the threats that were identified to pose the greatest risk were the following:

- Residential development
- New road construction
- Lack of understanding of the value of unfragmented forest blocks
- Temporary land use changes (such as clear cuts)
- Lack of landscape scale planning*

*Denotes a threat that was not identified during planning committee work, but was suggested during review by professional biologists. Threats identified in this manner were not run through the same ranking process as other threats identified in the plan



Conservation Target V: Wetland Communities

An array of wetland communities, comprising more than 7,300 acres, are scattered across the project area ranging from large wetland complexes of more than 1,000 acres to tiny vernal pools and forest seeps (Map 6). Wetlands are important features of the landscape that provide numerous benefits to people, fish, and wildlife. Some of the functions that wetlands provide include improving and maintaining high water quality, providing fish and wildlife habitat, storing floodwaters during heavy rain or snowmelt events, and maintaining surface water flow during dry periods. Beaver activity is common throughout the watersheds and many of the wetlands go through cycles of higher or lower water levels depending on the presence or absence of activity by this keystone species.

Several large wetland complexes are located in the project area. They tend to be adjacent to ponds, lakes, or rivers and offer some of the best wadingbird and waterfowl habitat found in the project area. These large wetland complexes probably serve as the greatest filters of water in the project area and help to maintain the generally clean waters found here. Large complexes typically manifest themselves as emergent marsh or fen communities interspersed with scrub/shrub or forested wetland communities. Several of the marsh/fen communities in these large complexes support populations of Long's bulrush—a globally rare plant species.



In addition to the large wetland communities, there are a number of smaller wetlands peppered across the landscape. Many of these are also associated with mapped wadingbird and waterfowl habitat. On the smallest end of the size scale, the project area includes tiny ephemeral or semi-permanent wetlands known as vernal pools. These small wetlands, because of their tendency to go dry in some or all years, provide critical breeding habitat to a number of amphibian species and serve as tiny hotspots of biological productivity across the broader landscape.



Nested Targets: Wetland Communities

Rare/Exemplary natural communities (such as marsh/fen communities); Forest seeps;
Rare plant species (e.g., Long's bulrush); Rare animal species (least bittern); Water quality;
Vernal pools & associated wildlife (e.g. wood frogs, mole salamanders, fairy shrimp);
Wadingbird/waterfowl habitat

Goals: Wetland Communities

1. Inventory large wetland complexes for occurrences of rare plants, rare animals and rare/exemplary natural communities.
2. Identify, assess and rank all wetland communities on the basis of their size, condition and landscape context.
3. Identify small wetlands such as vernal pools and document their ecological functions.
4. Ensure no net loss of important wetland complexes.

Threats: Wetland Communities

Among all potential threats to wetland communities that were considered (Appendix IV), the threats that were identified to pose the greatest risk were the following:

- Wetland filling for development (especially small wetlands)
- Residential shoreline development
- Runoff from new/existing roads
- Runoff from lawns and landscape maintenance activities
- Leaching from existing dumps
- Invasive plant species
- Commercial groundwater extraction



Conservation Target VI: Geographic and Historic Features

In the process of developing a list of conservation values, the planning group came up with a few special features of this region that extend beyond the biological resources of the project area. They manifest themselves more clearly as quality of life issues that make the region an outstanding place to live and work. Some of the features that were valued include air quality and clear night skies that make working and recreating in this area so enjoyable. The population density of the region is currently relatively low, which means that there is a tranquil sense of quiet that is valued. The availability of abundant, high quality drinking water from groundwater sources is another virtue of the project area. At nearly every turn, this region offers tremendously beautiful viewsheds. Whether it is gazing at a spectacular backdrop of mountains from across a pond or field or taking in a vast forested landscape punctuated by ponds, fields, and an occasional village from one of the region's summits, the area supports many notable vistas. These viewsheds often encompass summits and/or ridgelines and are one of the most striking features of this region—they help distinguish it from other areas nearby. Finally, occasional archaeological sites found in the region offer insights to its ancient history and are of irreplaceable value. Though not well-documented, these sites deserve attention as precious keys to the cultural and historical heritage of the region.



Nested Targets: Geographic and Historic Features

Air quality; Quiet (in keeping with community size); Groundwater abundance and quality; Aesthetic viewsheds/ridgelines; Archeological sites

Goals: Geographic and Historic Features

1. Identify valued public viewsheds and preserve them.
2. Inventory archaeological sites and protect them.
3. Protect ridgelines and summits from development.

Threats: Geographic and Historic Features

Among the many threats to geographic and historic features that were considered (Appendix IV), those identified to pose the greatest risk were the following:

- Residential development (especially on ridgelines)
- Use of personal watercraft
- ATV use
- Low-flying aircraft
- Increased motor traffic
- Commercial groundwater extraction

Overall Greatest Threats (Critical Threats)

In some cases, threats affect more than one conservation target. In other cases they only affect one target, but present an acute danger to that target. The planning group carefully examined which threats affected multiple conservation targets and the degree of threat posed to each target. By doing so, the group was able to assess the most critical threats affecting the project area (Table 2). The list of critical threats has been stratified into three ranked categories: VERY HIGH, HIGH, and MEDIUM. In the best judgment of the planning group, these ranks reflect the relative degree of these critical threats. Higher ranked threats are believed to pose greater risk and should therefore take highest priority in being addressed.

Table 2. Overall Greatest Threats in the Kezar Lake, Kezar River and Cold River Watersheds.

Threat	Threat Rank	Conservation Targets Affected
Residential Development	Very High	Lakes & Ponds Streams & Rivers Agricultural Lands Unfragmented Forest Blocks Wetland Communities Geographic & Historic Features
New and Existing Roads	Very High	Lakes & Ponds Streams & Rivers Unfragmented Forest Blocks Wetland Communities
Invasive Species	Very High	Lakes & Ponds Unfragmented Forest Blocks Wetland Communities
Residential Practices (Non-point source pollution)	High	Lakes & Ponds Streams & Rivers Wetland Communities
Recreational Vehicles & Practices	High	Lakes & Ponds Streams & Rivers Geographic & Historic Features
Point Source Pollution	High	Lakes & Ponds Streams & Rivers Wetland Communities
Poor Forest Harvest Practices	Medium	Streams & Rivers Unfragmented Forest Blocks
Noise from non-recreational motor vehicles	Medium	Geographic & Historic Features
Shoreline Alterations	Medium	Lakes & Ponds Streams & Rivers
Lack of Interest/ Profitability in agriculture and unfavorable attitudes toward agriculture	Medium	Agricultural Lands
Posting of private lands	Medium	Streams & Rivers
Over extraction of ground/surface waters	Medium	Lakes & Ponds

Strategies

In order to address the most critical threats, the planning group brainstormed strategies that would alleviate sources of stress. Strategies fell into a range of categories from basic inventory and research to public policy efforts to educational campaigns and land protection strategies. The strategies deemed most worthy of implementation are listed below for each of the critical threats. Following each strategy is a list of the key players (in italics) who might take part in the implementation of that strategy. For the sake of simplicity, these have been limited to the following categories: watershed associations, conservation organizations, town officials, state agencies, federal agencies, private landowners, and the general public. A list of the strategies relevant to each of the specific entities is also provided (Appendix V).

Most Critical Threats (Threat Rank: Very High)

Threat: Residential Development

(Threat Rank: Very High)

Strategies

Inventory & Research Needs

- Identify public viewsheds in the three watersheds and develop a plan to prioritize these features for preservation

(Watershed Associations, Conservation Organizations, Town Officials)

Engage & Educate Policy Makers

- Conduct build-out scenarios for towns in watersheds based on existing zoning
(Conservation Organizations, Town Officials)
- Identify and collaborate with town/regional organizations with similar goals
(Conservation Organizations, Town Officials)
- Reduce fragmentation caused by new subdivisions by developing incentives for the use of alternatives such as cluster housing
(Conservation Organizations, Town Officials)
- Work with town officials to try and focus new residential development in areas where infrastructure is already located
(Conservation Organizations, Town Officials)

Education

- Heighten landowner awareness of their particular contribution to the conservation values
(Conservation Organizations, Private Landowners)
- Promote landowner awareness of tax incentives for land conservation & current use policies
(Conservation Organizations, Private Landowners)
- Help landowners access stewardship and professional resources
(Conservation Organizations, Town Officials, Federal Agencies, Private Landowners)
- Build community support for the preservation of identified conservation values
(Conservation Organizations, Town Officials, General Public)
- Collaborate with community partners to offer youth environmental education programs that emphasize critical thinking and decision making skills with regard to conservation issues (i.e. emphasize “how to think” not “what to think” about conservation issues)
(Conservation Organizations, General Public)

Obtain Legal Protection

- Acquire lands through public/private partnerships for permanent protection
(Conservation Organizations, Town Officials, Federal Agencies, Private Landowners)
- Partner with landowners for permanent protection through conservation easements
(Conservation Organizations, Federal Agencies, Private Landowners)
- Utilize long term cooperative management agreements and similar tools to preserve conservation values where permanent protection options are not available
(Conservation Organizations, Federal Agencies, Private Landowners)

Threat: New and Existing Roads

(Threat Rank: Very High)

Strategies

Education

- Launch an educational campaign (directed at homeowners, private road agents, foresters and loggers, & municipal officials) about the value of well-built dirt roads, driveways and forest access roads (*Watershed Associations, Town Officials, Private Landowners*)
- Gather educational resources on roads as a primary contributor to sprawl and utilize these to educate public officials about their impact (*Watershed Associations, Conservation Organizations, Town Officials*)
- Collaborate with community partners to offer youth education programs that build awareness of the value of soil conservation and erosion prevention (*Watershed Associations, Conservation Organizations, Federal Agencies, General Public*)

Public Policy

- Examine comprehensive plans for language on road building practices (*Town Officials*)
- Work with towns to come up with a plan for limiting unnecessary road projects (*Town Officials*)
- Work with officials to upgrade or build all existing public and private roads to meet water quality protection standards (*Watershed Associations, Town Officials, State Agencies*)
- Encourage private road associations to seek professional assistance in planning for new roads and road upgrades (*Watershed Associations, Town Officials*)
- Reduce fragmentation of new subdivision roads by developing incentives for the use of alternatives such as cluster housing (*Conservation Organizations, Town Officials*)

Threat: Invasive Species

(Threat Rank: Very High)

Strategies

Inventory & Research Needs

- Inventory and monitor invasive species in the watersheds for the following classes: aquatic plants, introduced fish species, & forest pests (*Watershed Associations, Conservation Organizations, Town Officials, State Agencies*)

Restoration

- Use mechanical, chemical, or biological controls as appropriate to address existing invasive threats (*Town Officials, State Agencies*)

Prevention

- Work with state agencies, local authorities and local organizations to prevent introduction of invasive plants and non-native fish species into ponds and lakes (*Town Officials, State Agencies*)
- Work with state agencies to evaluate stocking programs in watersheds and prevent the stocking of previously unstocked streams and rivers (*Town Officials, State Agencies*)
- Work with area landscapers, nurseries, etc. to prevent introduction of invasive plants (*Conservation Organizations, Town Officials, State Agencies*)

Education

- Educate targeted audiences (landowners, land managers, towns and students) about problems posed by invasive species (*Watershed Associations, Conservation Organizations, Town Officials, Private Landowners, General Public*)
- Provide educational programs to the community (in collaboration with local nurseries and landscapers) on the benefits of using native plants in landscaping (*Conservation Organizations, Town Officials, Private Landowners, General Public*)
- Develop warning systems (utilizing local media sources and other means) to effectively notify communities of emerging or imminent threats from invasive species (*Watershed Associations, Conservation Organizations, Town Officials, State Agencies, General Public*)

Critical Threats (Threat Rank: High)

Threat: Residential Practices—Non-point source pollution

(Threat Rank: High)

Strategies

Education

- Reduce or eliminate homeowner use of detrimental chemicals through education on alternative products and methods
(*Watershed Associations, Town Officials, Private Landowners, General Public*)
- Work with local purveyors to ensure alternative products are available
(*Watershed Associations, General Public*)
- Provide information to new homeowners on how to minimize impacts (e.g. a welcome wagon that includes information on chemical use, buffers, etc)
(*Watershed Associations, Private Landowners, General Public*)
- Support youth educational programs (science fairs, semester projects, etc.) that raise awareness of the benefits of using ecologically benign products (*Watershed Associations, General Public*)

Public Policy

- Identify faulty septic systems adjacent to lakes, ponds and rivers and work with town officials to eliminate them (*Watershed Associations, Town Officials, Private Landowners*)
- Increase recycling effort at area transfer stations by broadening the types of products accepted and increasing the number of days that hazardous waste is accepted (*Town Officials, General Public*)

Obtain/Enforce Legal Protection

- Work to ensure full and effective enforcement of Shoreland Zoning regulations
(*State Agencies, Private Landowners*)
- Work to promote conservation easements/ landowner management agreements for riparian zone buffers for area lakes and ponds
(*Conservation Organizations, Town Officials, Private Landowners*)



Threat: Recreational Vehicles & Practices

(ATV's, personal watercraft, boating/boat wakes)

(Threat Rank: High)

Strategies

Enforcement of Existing Regulations

- Enforce no wake zones and other boating/personal watercraft regulations to prevent shoreline erosion, wildlife disturbance, and other detrimental practices on lakes and ponds
(*Town Officials, State Agencies, General Public*)

Education

- Work with local recreational vehicle groups to foster awareness among users of the potentially harmful environmental impacts (e.g. erosion) from improper use of recreational vehicles on non-designated trails and other unauthorized areas
(*Conservation Organizations, Town Officials, State Agencies, General Public*)

Threat: Point Source Pollution

(Threat Rank: High)

Strategies

Inventory & Research Needs

- Identify sources of nutrient loading from agricultural operations and work with landowners to minimize their impact through access to technical assistance and incentives to implement mitigation and prevention projects (*Town Officials, Private Landowners*)
- Identify instances of pollution from landfills and other local dump sites and work with towns and landowners to mitigate problems (*Town Officials, Private Landowners*)
- Identify locations of underground fuel tanks both past and present and the products that they contain(ed) (*Town Officials, State Agencies*)

Engage & Educate Policy Makers

- Build the capacity for towns to evaluate potential point source pollution risks of new and existing businesses and develop recommendations and/or requirements for consideration of non polluting alternatives as a condition for new business approval (*Watershed Associations, Conservation Organizations, Town Officials, General Public*)



Less Critical Threats (Threat Rank: Medium)

Threat: Poor Forest Harvest Practices

(Threat Rank: Medium)

Strategies

Engage & Educate Regional Foresters

- Ensure that all timber harvesting within the watersheds be conducted according to Best Management Practices to prevent erosion, preserve vegetative buffers and protect water quality (*Watershed Associations, Conservation Organizations, State Agencies, Private Landowners*)
- Work with foresters/loggers to guarantee that logging roads and skid trails are well-built and provide adequate drainage while minimizing erosion (*Watershed Associations, Conservation Organizations, State Agencies, Private Landowners*)

New Initiatives

- Facilitate the development of a local landowner based forestry cooperative, with high stewardship standards, that provides locally grown wood to local consumers (*Conservation Organizations, Federal Agencies, Private Landowners, General Public*)

Education

- Provide youth and general public educational programs that foster an understanding and appreciation of the benefits provided by environmentally sound forest management (*General Public*)

Threat: Noise from non-recreational motor vehicles

(Threat Rank: Medium)

Strategies

Public Policy

- Work with state and national entities to try and minimize the impact of low-flying aircraft (*Town Officials, State Agencies, Federal Agencies, General Public*)
- Work with town officials to address the potential impacts of noise from increased motor traffic through regulation and enforcement (e.g. reducing speed limits, enforcing existing speed limits, and/or restricting the use of engine brakes in village areas) (*Town Officials, State Agencies, General Public*)

Threat: Shoreline Alterations

(Threat Rank: Medium)

Strategies

Inventory & Research Needs

- Utilize volunteer crews on large lakes and ponds to identify shoreline alterations (*Watershed Associations, Town Officials, General Public*)

Education

- Educate landowners of shoreline property about the importance of vegetative buffers and the restrictions on their destruction/alteration (*Watershed Associations, Town Officials*)

Public Policy

- Identify existing restrictions on the construction of man-made beaches and work with individual towns to ensure their enforcement (*Watershed Associations, Town Officials, Private Landowners, General Public*)

Enforcement of Existing Regulations

- Work with enforcement officers to ensure that meaningful penalties are imposed for flagrant violations of existing regulations (*Watershed Associations, Conservation Organizations, Town Officials*)



Threat: Lack of Interest/ Profitability in agriculture and unfavorable attitudes

(Threat Rank: Medium)

Strategies

Public Policy

- Develop community support for farming through farm friendly ordinances (*Conservation Organizations, Town Officials, General Public*)

New Initiatives

- Develop markets for local food production by initiating an area farmer's market (*Conservation Organizations, General Public*)

Education

- Promote consumer support of locally produced food through education of benefits of eating locally produced food (*Conservation Organizations, Federal Agencies, General Public*)
- Collaborate with community partners to offer agricultural education programs for youth and the general public that foster an understanding and appreciation of the benefits of local agriculture (*Conservation Organizations, Federal Agencies, General Public*)

Threat: Lack of understanding of forest block value

(Threat Rank: Medium)

Strategies

Public Policy

- Incorporate language into the Comprehensive Plans of all towns that recognizes the value of the persistence of large forest blocks and connective corridors
(*Conservation Organizations, Town Officials*)

Land Protection

- Prioritize the preservation of large forest blocks and connective corridors in local permanent land protection efforts (*Conservation Organizations*)

Education

- Educate landowners, land managers and the public on the value of large forest blocks
(*Conservation Organizations, Private Landowners, General Public*)

Threat: Posting of private lands

(Threat Rank: Medium)

Strategies

Inventory & Research Needs

- Assess the number and availability of public access points to water
(*Watershed Associations, Town Officials*)

Obtain Legal Protection

- Purchase or seek donation of easements that ensure future public access to lakes, ponds, rivers, trails, and lands for multiple uses (such as hunting)
(*Conservation Organizations, Town Officials, State Agencies, Federal Agencies*)

Threat: Overextraction of ground/surface waters

(Threat Rank: Medium)

Strategies

Inventory Needs & Public Policy

- Identify surface waters threatened by overextraction and work with towns to adopt regulations and address abuses (*Watershed Associations, Town Officials, State Agencies*)

Public Policy

- Work regionally to adopt and enforce commercial groundwater extraction ordinances that protect the quality of surface waters and the functional integrity of associated wetlands and aquifers (*Watershed Associations, Conservation Organizations, Town Officials, State Agencies, General Public*)



Land Protection Strategies

The legal protection of land through ownership, easement or cooperative management agreement represents one type of strategy by which conservation efforts may proceed. It should be clear from the strategies above that land protection alone will not be sufficient to achieve all of the conservation goals of this plan. In fact, in many cases, land protection may not be the most useful strategy to achieve the desired goals. Land protection through ownership or easement can also be limited by financial resources. For this reason, it is important that land protection efforts in the project area be directed in a manner that maximizes their efficacy as part of the overall conservation plan. This section offers some suggestions for how to accomplish that.

An examination of existing conservation lands in the study area reveals some interesting patterns (Map 9). For instance, a great deal of contiguous land at the higher elevations within the Cold River watershed is already in conservation (White Mountain National Forest), while the river valley and lands associated with the various ponds are not. By contrast, relatively little land in the Kezar River watershed is conserved and existing conservation lands within that watershed are somewhat scattered. The status of conservation land in the Kezar Lake watershed lies somewhere in between these two extremes with a great deal of high elevation conservation land in Stoneham (White Mountain National Forest) and a number of moderately sized though somewhat scattered parcels at lower elevations.

Land Protection Focus Areas

An effort has been made to prioritize a few areas in each of the three watersheds that are most amenable to the use of land protection as a strategy (Map 10). For example, an area with a large number of significant natural features that is also adjacent to existing conservation land is a good location for land protection efforts. The identified areas are believed to offer the greatest overall value as focal points for land protection efforts in the watersheds, because of the conservation values that they embody and their location and/or landscape context (Appendix VI). The suggested focus areas in each watershed are:

Cold River Watershed

- **Shell Pond Lands**
- **Upper Cold River Corridor**
- **Lower Portion Cold River—Charles Pond**
- **Lower and Upper Kimball Ponds**
- **White Mountain National Forest Boundary Lands in New Hampshire**

Kezar Lake Watershed

- **Cold Brook Drainage--Stoneham**
- **Bradley Pond Headwaters**
- **Kezar Lake Outlet Fen**
- **Horseshoe Pond Highlands**
- **Sucker Brook Headwaters**

Kezar River Watershed

- **Kezar Pond Lands**
- **Five Kezar Pond Lands**
- **Kezar Highlands**
- **Kezar River Lands**

Land protection strategies are most effective when they are well-coordinated and focused. A coordinated land protection strategy on one or two of these focus areas would probably be more effective than a piecemeal approach in all of them. Land protection however can oftentimes depend upon taking advantage of opportunities as they arise and each opportunity should be evaluated on its own merits. When evaluating specific parcels for land protection, consideration should be given to size, condition, and landscape context. Parcel size is important because in general large parcels have higher conservation value than small parcels. Condition has to do with how well a parcel addresses the conservation values outlined in this plan (e.g. Does it protect significant natural features?, Does it protect active farm lands?, Does it include a ridgeline that is part of a valuable viewshed?, etc.). Landscape context has to do with factors such as a parcel's proximity to existing conservation lands or to specific conservation targets (e.g. a lake, pond or river).

Measures of Success (Benchmarks)

The identification of strategies provides a conservation roadmap, but the real work comes ultimately when some or all of these strategies are put into action. In order to measure how effectively this has been accomplished, the planning group put together some benchmarks intended to measure progress on the road to successful implementation of the strategies in this plan.

1. Acceptance of the plan and endorsement of the strategies by key players

Effective implementation will depend upon acceptance of the fundamentals of this plan (e.g. Targets, Goals, & Threats) and an endorsement of strategies by the community at large and key organizations and leaders. One way to measure acceptance is through an evaluation of the quality and quantity of feedback to the Plans concepts. The GLLT will monitor acceptance, identify opportunities and challenges for further understanding and acceptance, and work to build community consensus for Plan implementation.

2. Evidence of enhanced collaboration between key players

The successful implementation of many strategies will either depend upon or be significantly enhanced by collaborations between key players. Plan implementation should result in the development of new or improved partnerships. Both will be observable and quantifiable. A lack of new or enhanced collaborations may indicate a reduced likelihood of successful implementation and a need for increased efforts to build effective partnerships.

3. Evidence of independent implementation of strategies

Many strategies can be implemented effectively by individuals and entities independent of defined partnerships. The number of new initiatives undertaken by land conservation organizations, lake associations and public schools will be observable and quantifiable. Strategic actions taken by area towns can be measured through ordinance adoption, policy and procedural changes, and incorporation of the plan concepts into Comprehensive Plans and other public planning efforts. Actions undertaken by individuals will be less quantifiable, but may be measured through participation levels in educational programs, changes in use and consumption patterns, support of new initiatives and from direct feedback (i.e. testimonials, letters, surveys, etc).

4. Establish baselines and monitor changes for measurable values and threats

Strategies that address measurable conservation values such as water quality or quantifiable threats such as the presence/abundance of invasive species can be assessed by establishing baseline conditions. Subsequently, periodic monitoring will help identify changes that require strategic action to preserve or improve integrity.

5. Make progress developing benchmarks for less easily measured strategic actions

For strategies that are not as easily measured directly, it is important to continue to work to develop indirect measures and incorporate these into the planning process.

Desired Future Conditions

It is hoped that the implementation of at least some parts of this conservation plan will lead to progress in the conservation of the shared values for the three watersheds within the next 5-10 years. Strategic implementation will depend on many factors that are somewhat unpredictable. However, the planning group wanted to provide some guidance in this direction by identifying a vision of desired future conditions that might result from the adoption and implementation of a percentage of the strategies. In many cases these future conditions identify products, tools, resources, public policies and collaborations that result from strategic implementation and make possible further efforts.

Inventory and Research

- Baseline water quality data on all lakes and ponds will be compiled annually and analysis performed to track changes.
- Valued public viewsheds, in the three watersheds will be identified and efforts to preserve them will be under consideration.
- An inventory of invasive aquatic plants and introduced fish species in the three watersheds will be completed and mitigation actions taken.
- Sources of nutrient loading from agricultural practices or other large scale land uses will be identified and ameliorated
- Sources of point source pollution from landfills and other sites will have been identified and research underway for appropriate mitigation.
- A baseline inventory of the shoreline conditions on the area's lakes and ponds will be compiled and a process established to identify shoreline alterations, the causes and potential remediation.
- An inventory and needs assessment of all public access points to water bodies will be completed including type, condition, needs for infrastructure improvements and whether additional access points are desirable.
- A baseline inventory of public recreational trails, type and trailhead (access points) will be compiled and updated annually to track changes.
- Water bodies subject to overextraction of surface waters will be identified and local policies/ordinances in place to prevent overextraction will be evaluated.

Public Policy

- Build-out scenarios will be completed in at least two of the four major towns encompassed by the project area (Stow, Lovell, Stoneham, Chatham)
- At least one workshop or seminar will be held on alternatives to subdivisions (such as cluster zoning) and other recommendations by Grow Smart Maine and similar entities.
- All Towns and Private Road Associations will have maintenance and new construction standards that meet specifications for maximum water quality protection standards and long range plans for meeting the standards within 10 years.
- Language will be incorporated into at least two town comprehensive plans that recognize the value of large forest blocks and connective wildlife corridors
- Communities will increase the role and responsibility of their Town Conservation Commissions to effectively lead their communities in public land protection efforts for conservation.

New Initiatives

- At least one planning meeting will be held to coordinate the development of a regional forestry cooperative.
- At least one planning meeting will be held to explore the idea of an area farmer's market and other initiatives to build support for locally grown food.
- Public education and incentives in place to encourage the repair all faulty septic systems adjacent to lakes, ponds and rivers.

Land Protection

- At least 25% of the land will be protected in at least one of the land protection focus areas in each of the watersheds
- Town Conservation Commissions will seek acquisitions of conservation lands through various tools such as municipal bonding, town conservation accounts (Tree Growth penalty appropriations) and partnerships with conservation organizations.
- An increased focus on farmland preservation will be initiated through collaborative efforts that could include Maine Farmlink, Threshold to Maine and other programs and tools available through the Maine Farmland Trust, USDA and other potential partners.

Conclusion

This plan, which is intended to guide conservation efforts in the Kezar River, Kezar Lake, and Cold River watersheds for the next 5-10 years, is both ambitious and realistic. As with all planning documents, this conservation plan is a work in progress. It is intended to reflect the current knowledge and understanding of the planning group with regard to the systems of conservation interest and the factors that threaten them. It is expected that this plan will evolve as new ecological information becomes available and/or as new threats arise. By using this plan as a guide, the many organizations and individuals who value this region will find meaningful ways to work toward keeping it an area that will be treasured for generations to come for its outstanding ecological and cultural resources.



Appendices

Appendix I. Spatial Data in KKC Project Database

(data layers shaded in gray do not appear on any of the Conservation Plan maps)

Data Layer	Description	Notes	Maps on which Data Layer Appears									
			1	2	3	4	5	6	7	8	9	10
Base map Layers												
Roads	1:24,000 scale roads		X	X	X	X	X	X	X	X	X	X
Hydro	1:24,000 scale hydrography		X	X	X	X	X	X	X	X	X	X
Contours	1:24,000 scale contours (20 foot interval)											
METWP24	1:24,000 scale political boundaries		X	X	X	X	X	X	X	X	X	X
DRDVD	Drainage divides											
NWI	USFWS National Wetlands Inventory data											
Landcover	2003 landcover derived from Landsat Thematic Mapper satellite imagery	30 m resolution										
Ortho	May, 2003 2 foot resolution orthophotos	Doesn't cover NH										
SRTM	10 meter elevation model from the Shuttle Radar Topography Mission		X	X	X	X	X	X	X	X	X	X
MDIFW												
BCD	IFW Rare Animal locations (buffered points)											
BCD_pt	IFW Rare Animal locations (points)	Natural Communities.mdb							X			
DWA	Deer Wintering Areas								X			
EHEagle	Bald Eagle Nest Sites											
IWWH	Inland Wading Bird / Waterfowl Habitat				X			X	X			X
MNAP												
MNAP	Rare/Exemplary Community polygons, ME	Natural Communities.mdb							X			
MNAP_pt	Rare plant - Point locations of rare plants in Maine	Natural Communities.mdb							X			
elu_groups_05 grid	TNC Ecological Land Units re-grouped by MNAP, 2005	Ecological Land Units, 2005								X		
SPO												
Wetchar	Wetland Characterization Data											
USFWS												
GOMPols	Subset of USFWS Habitat Data											

Appendix I. Spatial Data in KKC Project Database (data layers shaded in gray do not appear on any of the Conservation Plan maps)

Data Layer	Description	Notes	Maps on which Data Layer Appears											
			1	2	3	4	5	6	7	8	9	10		
TNC Layers														
Floodplain_polygon	Floodplains digitized by TNC from FEMA floodplain maps													
Lne_elu30m	Ecological land units for Lower New England region	Lower New England Ecoregion										X		
Naps_elu30m	Ecological land units for Northern Apps region	Northern Appalachians-Boreal Forest Ecoregion										X		
ME_MgdAreas	Protected lands in Maine	Maine Management Areas										X	X	X
NH_MgdAreas	Protected lands in New Hampshire	New Hampshire Management Areas										X	X	X
SRCC_Zones	Saco River Corridor Commission Zones													
TNC_Subsites	Subsites where TNC is concentrating protection work													
TNC_Targets and Buffers	TNC conservation targets for Upper Saco River Watershed													
NH Natural Heritage Bureau														
NHBD_pt	Element Occurrences within the NH portion of the Cold River Watershed	Natural Communities.mdb										X		
Center for Community GIS														
GLLT_properties_fee_and ease	GLLT properties mapped for the Upland Headwaters Alliance													
State GIS														
NH_Soils.shp	Areas of Prime Farmland, NH	Soil polygons coded as areas of prime farmland				X								
Oxford_ssa_s.shp	Areas of Prime Farmland, Oxford County ME	Soil polygons coded as areas of prime farmland				X								

Appendix I. Spatial Data in KKC Project Database (data layers shaded in gray do not appear on any of the Conservation Plan maps)

Data Layer	Description	Notes	Maps on which Data Layer Appears											
			1	2	3	4	5	6	7	8	9	10		
Created / Updated Data														
ServiceArea.shp	KKC Plan Area - Kezar Lake, Kezar River and Cold River watersheds	Extracted from Maine Drainage Divide GIS layer (DRDVD)	X	X	X	X	X	X	X	X	X	X	X	X
UpperSacoWatershed_d.shp	Upper Saco Region Study Area watershed	Extracted from Maine Drainage Divide GIS layer (DRDVD)	X											
TNC_Ecoregions.shp	Ecoregion Boundary - approximate boundary between ecoregions	Screen digitized from TNC Lne_elu30m and Naps_elu30m grids	X							X				
Lovell Parcels	2007 Lovell parcel layer													
boatlaunch.shp	Boat Launches	Boat launch locations gathered by GLLT intern and other sources			X									
HYD_p - Hydro.mdb	Lake / Pond Usage	Lakes and ponds in GLLT service area coded by usage			X									
Farms.shp	Active Farms within GLLT service area mapped using 2003 color orthophotos	Active farms within GLLT service area with help from Pat Williams				X								
GLLT_Parcels.shp	GLLT Holdings	GLLT holding polygons corrected and updated										X	X	
Unfragmented.shp	Unfragmented Forested Blocks	Forested (and some unforested) areas undivided by developed roads					X							
NWI_Size - Hydro.mdb	Wetland Communities - coded by size	NWI dissolved by class						X						
calc_bedrock grid	Calcareous bedrock - areas of potentially calcareous bedrock	Extracted from ME and NH bedrock geology layers									X			
hydric_slope grid	Modeled vernal pools	Predicted locations of vernal pools based on slope and hydric soils									X			
Focus Areas	Focus Areas for land protection efforts												X	

Appendix II. Rare or exemplary natural features documented within the KKC watersheds

Examples of Rare and Exemplary Natural Communities found within the KKC Watersheds

() indicates the state(s) in which it has been documented

Wooded Upland Communities

- Subalpine fir forest (ME)
- Low elevation spruce fir forest (ME)
- Northern hardwood forest (ME & NH)
- Hemlock-spruce-northern hardwood forest (NH)
- Oak-northern hardwoods forest (ME)
- Enriched northern hardwoods forest (ME & NH)
- Oak-ash woodland (ME)
- Oak pine woodland (ME)

Open Summit Communities

- Subalpine rocky summit heath (ME & NH)

Open Wetland Communities

- Unpatterned fen ecosystem/Medium level fen system (ME & NH)
- Tall sedge fen (ME)
- Leatherleaf bog (ME)
- Sedge meadows (ME)
- Sand plain basin marsh system (NH)
- Outwash plain pondshore (ME)
- Riverwash sand barren (ME)

Forested Wetland Communities

- Red spruce swamp (NH)
- Silver maple floodplain forest (ME)

Examples of Rare Plant Species found within the KKC Watersheds (* denotes global rarity)

Rare Plants of Hardwood Forests

- *Nodding pogonia (*Triphora trianthophora*)
- *American ginseng (*Panax quinquefolius*)
- *Small whorled pogonia (*Isotria medeoloides*)

Rare Plants of Rocky Openings

- Douglas's knotweed (*Polygonum douglasii*)
- Blunt-lobed woodsia (*Woodsia obtusa*)
- Fern-leaved false foxglove (*Aureolaria pedicularia*)
- Early wild-rye (*Elymus macgregorii*)
- Climbing fumitory (*Adlumia fungosa*)
- Robbin's milkvetch (*Astragalus robbinsii*)
- Fogg's goosefoot (*Chenopodium foggii*)
- Bottlebrush grass (*Elymus hystrix*)
- Silverling (*Paronychia argyrocoma*)

Rare Plants of Outwash Plain Pondshores

- Narrow-leaved goldenrod (*Euthamia tenuifolia*)
- Long-tuberclad spike-rush (*Eleocharis tuberculosa*)
- Fall fimbry (*Fimbristylis autumnalis*)

Rare Plants of Fens

- *Long's bulrush (*Scirpus longii*)

Examples of Rare Animal Species found within the KKC Watersheds

- Pine Marten (*Martes martes*)—Tracked as rare in NH only
- Northern Bog Lemming (*Synaptomys borealis*)
- Common Loon (*Gavia immer*)—Tracked as rare in NH only
- Bald Eagle (*Haliaeetus leucocephalus*)
- Eastern Box Turtle (*Terrapene carolina*)
- Least Bittern (*Ixobrychus exilis*)

Appendix III. Lakes and Ponds within the KKC Watersheds

Name	Watershed	Acreage	Size Class	Boat Launch type	Motoring restrictions
Kezar Lake	Kezar Lake	2664.71	>1000 acres	Trailer	None
Kezar Pond	Kezar River	1851.06	>1000 acres	Trailer	None
Basin Brook Reservoir (NH)	Cold River	39.52	20-1000 acres	Trailer	None
Bradley Pond	Kezar Lake	34.69	20-1000 acres	Trailer	No motor boats
Charles Pond	Cold River	124.46	20-1000 acres		None
Cushman Pond	Kezar Lake	37.25	20-1000 acres	Trailer	No motor boats
Dan Charles Pond	Kezar River	28.37	20-1000 acres		None
Farrington Pond	Kezar Lake	56.71	20-1000 acres	Carry-in	6 hp limit
Five Kezar Ponds	Kezar River	184.85	20-1000 acres	Carry-in (Mud Pond)	10 hp limit
Heald Pond	Kezar Lake	105.51	20-1000 acres	Trailer	6 hp limit
Horseshoe Pond (Stoneham-Lovell)	Kezar Lake	135.78	20-1000 acres	Trailer	6 hp limit
Jewett Pond (separate part of Five Kezar Ponds)	Kezar River	42.74	20-1000 acres		None
Keys Pond	Kezar River	191.35	20-1000 acres	Trailer	None
Lower Kimball Pond	Cold River	438.33	20-1000 acres	Trailer	None
Mill Pond	Kezar River	53.06	20-1000 acres	Carry-in	None
Shell Pond	Cold River	54.43	20-1000 acres		None
Trout Pond	Kezar Lake	54.32	20-1000 acres		None
Upper Kimball Pond (NH)	Cold River	168.64	20-1000 acres	Trailer	None
Horseshoe Pond (Kezar)	Kezar River	13.95	<20 acres		None
Horseshoe Pond (Old Saco)	Cold River	16.24	<20 acres		None
Hunt Pond	Cold River	16.26	<20 acres		None
Lily Pond	Kezar River	3.66	<20 acres		None
Little Pond (Fryeburg)	Kezar River	10.29	<20 acres		None
Little Pond (Stoneham)	Kezar Lake	4.87	<20 acres		None
Moose Pond (Lovell)	Kezar Lake	2.82	<20 acres		None
Mud Pond (Stoneham)	Kezar Lake	0.54	<20 acres		None
Noah Eastman Pond	Kezar Lake	6.73	<20 acres		None
Province Pond (NH)	Cold River	10.40	<20 acres		None

Appendix IV. Threats to Conservation Targets

Conservation Target: Lakes and Ponds

Stresses Assessment Table (All)

Lakes and Ponds	Nutrient Loading (N and P runoff)	Sedimentation (Sand and silt runoff)	Shoreline erosion from boats	Loss of native plant and animal species	Hydrological changes (Water level fluctuations)	Boat/ Swimmer Accidents	Boating Accidents	Loss of public access	Unsafe swimming conditions	Damage to Boat Ramps
Scope	Medium	Low	Medium	Medium	Low	Low	Low	Low	Low	Low
Severity	Medium	Low	Medium	Medium	Medium	Medium	Medium	Low	Low	Low
Overall Stress Rank	Medium	Low	Medium	Medium	Low	Low	Low	Low	Low	Low

Source of Stress Assessment Table (Biological stresses only)

Lakes and Ponds	Stress:		Loss of Native Plant and Animal Species (Altered Species Composition)		Shoreline Erosion from Boats		Hydrological changes (Waterlevel fluctuations)		Sedimentation (Sand and Silt runoff)		Source Rank - across stresses
	Stress Rank:		Medium		Medium		Low		Low		
Sources of Stress	Contribution	Irreversibility	Contribution	Irreversibility	Contribution	Irreversibility	Contribution	Irreversibility	Contribution	Irreversibility	
Overdevelopment/Shoreline Development	High	High							X	X	High
Landscape maintenance activities	High	Med									Medium
Faulty septic systems	Low	Med									Medium
Outhouses	Low	Low									Low
Homeowner products and practices (laundry, car wash, etc)	Med	Med									Medium
ATV use	Med	Med							X	X	Medium
Destruction of buffers	Low	Low							X	X	Low
Poor timber practices	Low	Low									Low
Agricultural runoff	Low	Low									Low
New/existing roads	High	High							X	X	High
Introduction of non-native species			High	High							High
Climate change			Low	High							Low
Acid rain			Low	High							Low
Overfishing			Low	Low							Low
Poor management or maintenance of dams							X	X			Low
Boat wakes					High	Med			X	X	Medium
Man-made beaches									X	X	Low
Overextraction of water							X	X			Medium
Petroleum pollution (boats)			Med	Low							Medium

Although all stresses for lakes and ponds were ranked, not all sources of stress were ranked. Because non-biological stresses were ranked as low-level, only biological stresses were broken out on the sources of stress table and only sources for medium or high ranked stresses were included.

Appendix IV. Threats to Conservation Targets

Conservation Target: Streams and Rivers

Stresses Assessment Table

Streams and Rivers	Nutrient Loading (N and P runoff)	Sedimentation (Sand and silt runoff)	Loss of public access	Loss of native plant and animal species	Hydrological changes (Water level fluctuations)
Scope	Medium	Medium	Medium	Low	Low
Severity	Medium	High	Medium	Medium	High
Overall Stress Rank	Medium	Medium/High	Medium	Low	Low

Source of Stress Assessment Table

Streams and Rivers	Stress:		Nutrient Loading (N and P runoff)		Loss of Public Access		Hydrological changes (Waterlevel fluctuations)		Loss of Native Plant and Animal Species (Altered Species Composition)		Source Rank - across stresses
	Stress Rank:		Medium/High		Medium		Low		Low		
Sources of Stress	Contribution	Irreversibility	Contribution	Irreversibility	Contribution	Irreversibility	Contribution	Irreversibility	Contribution	Irreversibility	
Residential/Shoreline Development	Med	High	High	High	Med	Med					High
Landscape maintenance activities			High	Med							Medium
Faulty septic systems			High	High							High
Outhouses			Low	Low							Low
Homeowner products and practices (laundry, car wash, etc)			Med	Low							Medium
ATV use	Med	Med									Medium
Destruction of buffers			High	Med							Medium
Poor timber practices	Med	Med									Medium
Agricultural Runoff			High	High							High
New/existing roads	Med	Med									Medium
Posting of private lands					Med	Med					Medium
Introduction of non-native species									X	X	
Climate change									X	X	
Acid rain									X	X	
Overfishing									X	X	
Poor management or maintenance of dams							X	X			
Dam construction/removal							X	X			
Boat wakes	Low	Low							X	X	
Man-made beaches	Low	High									
Overextraction of water							X	X			
Petroleum pollution (boats)									X	X	

Although all stresses were ranked, not all sources of stress were ranked. Only sources for medium or high ranked stresses were ranked.

Appendix IV. Threats to Conservation Targets

Conservation Target: Agricultural Lands

Stresses Assessment Table

Agricultural Lands	Direct Loss of Existing Prime Ag Lands	Loss of Productivity	Soil Erosion	Competing Alternative Land Uses	Loss of Wildlife Habitat
Scope	Medium	Low	Low	Medium	Low
Severity	Medium	Low	Low	Medium	Low
Overall Stress Rank	Medium	Low	Low	Medium	Low

Source of Stress Assessment Table

Agricultural Lands	Stress:		Competing Alternative Land Uses		Loss of Productivity		Soil Erosion		Loss of Wildlife Habitat		Source Rank - across stresses
	Stress Rank:		Medium		Low		Low		Low		
Sources of Stress	Contri- bution	Irrever- sibility	Contri- bution	Irrever- sibility	Contri- bution	Irrever- sibility	Contri- bution	Irrever- sibility	Contri- bution	Irrever- sibility	
Residential Development (Subdivisions)	Med	High									High
Residential Development (Non-subdivision)	High	High									High
Poor agricultural practices	Low	Low					X	X			Low
Lack of Interest/Profitability in agriculture	Med	High	Med	High							Medium
Unfavorable attitudes toward agriculture			Med	Med							Medium
Overuse of chemicals					Low	High					Low
Chemical resistant weeds					Low	High					Low
Climate change					Low	High					Low
Monocultural crop production					Low	Low			X	X	Low
Unfavorable mowing cycle									X	X	

Although all stresses were ranked, not all sources of stress were ranked. Only sources for medium or high ranked stresses were ranked.

Appendix IV. Threats to Conservation Targets

Conservation Target: Unfragmented Forest Blocks

Stresses Assessment Table

Unfragmented Forest Blocks	Habitat Fragmentation/ increased edge effect	Direct Habitat Loss	Habitat Alteration	Decreased habitat diversity
Scope	High	Medium	High	Medium
Severity	High	High	Medium	Medium
Overall Stress Rank	High	Medium	Medium	Medium

Source of Stress Assessment Table

Unfragmented Forest Blocks Stress Rank:	Habitat Fragmentation (Increased edge effect)		Direct Habitat Loss (Habitat destruction)		Habitat Alteration (Altered Species Composition)		Decreased Habitat Diversity (Altered Community Structure)		Source Rank - across stresses
	High		Medium		Medium		Medium		
Sources of Stress	Contri- bution	Irrever- sability	Contri- bution	Irrever- sability	Contri- bution	Irrever- sability	Contri- bution	Irrever- sability	
New Road Development (residential or forestry)	Med	High	Med	High					Medium
Residential or commercial development	High	High	High	High					High
Temporary land use change (e.g. clearcut)	Low	Low			Med	Low	Med	Low	Medium
Invasive pests					Med	High	Med	High	Medium
Forest harvesting for biomass/energy purposes					Med	Med	High	High	Medium
Lack of understanding of value of forest habitat blocks (indirect source of stress)	High	High	High	High					High
Incompatible Recreational Use (e.g. by hikers and ATVs on low summits)					Low	Med	Low	Med	Low

Appendix IV. Threats to Conservation Targets

Conservation Target: Wetland Communities

Stresses Assessment Table

Wetland Communities	Direct Loss of Wetland/Habitat	Degradation of Wetland	Hydrological Changes	Pollution of wetland
Scope	High	Medium	Low	Medium
Severity	Medium	High	High	Medium
Overall Stress Rank	Medium/High	Medium	Low	Medium

Source of Stress Assessment Table

Wetland Communities	Stress:		Degradation of wetland (Habitat degradation)		Pollution of Wetland (Alteration of water quality)		Hydrological changes		Source Rank - across stresses
	Stress Rank:		Medium		Medium		Low		
Sources of Stress	Contri- bution	Irrever- sibility	Contri- bution	Irrever- sibility	Contri- bution	Irrever- sibility	Contri- bution	Irrever- sibility	
Wetland filling for development (Failure to enforce existing wetland regulations)	Med	High							High
Shoreline development			High	High	High	High			High
Runoff from lawns (Lawn/landscape maintenance)			Med	Med	Med	Med			Medium
Runoff from new/existing roads			High	High	High	High			High
Point source pollution (e.g. leaching from existing dumps)			Med	High	Med	High			Medium
Invasive plant species			High	High					High
Poor forestry practices (e.g. destruction of buffers)			Low	Med					Low
Commercial groundwater extraction							Med	Low	Low

Appendix IV. Threats to Conservation Targets

Conservation Target: Geographic and Historic Features

Stresses Assessment Table

Geographic and Historic Features	Alteration of Viewsheds	Alteration of Archaeological Sites	Noise Pollution
Scope	Medium	Low	Low
Severity	Medium	Medium	High
Overall Stress Rank	Medium	Low	Medium

Source of Stress Assessment Table

Geographic and Historic Features	Stress:		Noise Pollution		Alteration of Archaeological Sites		Source Rank - across stresses
	Alteration of Viewsheds		Alteration of Archaeological Sites		Alteration of Archaeological Sites		
	Stress Rank:		Stress Rank:		Stress Rank:		
Sources of Stress	Contri- bution	Irrever- sibility	Contri- bution	Irrever- sibility	Contri- bution	Irrever- sibility	
Residential development of ridgelines	Med	High					High
Residential Development within view corridors	Low	High					Medium
Incompatible Forestry Practices	Low	Low					Low
Commercialization of Archaeological Sites					Low	High	Low
Vandalism					Low	High	Low
Personal watercraft			High	Low			Medium
ATV use			Med	Med			Medium
Low-flying aircraft			High	High			High
Increased Motor traffic			High	High			High
Use of jake brakes			Low	Low			Low

Appendix V. Key Players in Strategy Implementation

Watershed Associations (Kezar Lake and Five Kezar Ponds)

Inventory & Research Needs

- Work with conservation organizations and town officials to identify public viewsheds in the three watersheds and develop a plan to prioritize these features for preservation
- Work with conservation organizations, town officials, and state agencies to inventory and monitor invasive species in the watersheds for the following classes: aquatic plants, introduced fish species, & forest pests
- Work with towns to recruit and train members of the public to serve as volunteer crews on large lakes and ponds to identify shoreline alterations
- Work with towns to assess the number and availability of public access points to water
- Work with towns to identify surface waters threatened by overextraction and adopt regulations and address abuses

Public Policy

- Work with town officials to upgrade or build all existing public and private roads to meet water quality protection standards
- Work with conservation organizations and members of the public to build the local capacity for towns to evaluate potential point source pollution risks of new and existing businesses and develop recommendations and/or requirements for consideration of non polluting alternatives as a condition for new business approval
- Work with appropriate partners to ensure that all timber harvesting within the watersheds be conducted according to Best Management Practices to prevent erosion, preserve vegetative buffers and protect water quality
- Identify existing restrictions on the construction of man-made beaches in each town and work with individual towns to ensure their enforcement
- Work with enforcement officers to protect shorelines by ensuring that meaningful penalties are imposed for flagrant violations of existing regulations (such as shoreland zoning)
- Identify faulty septic systems adjacent to lakes, ponds and rivers and work with town officials and private landowners to eliminate them
- Work regionally with towns, state agencies, and conservation organizations to adopt and enforce commercial groundwater extraction ordinances that protect the quality of surface waters and the functional integrity of associated wetlands and aquifers

Education

- Gather educational resources on roads as a primary contributor to sprawl and utilize these to educate public officials about their impact
- Encourage private road associations to seek professional assistance in planning for new roads and road upgrades
- Launch an educational campaign (directed at homeowners, private road agents, foresters and loggers, & municipal officials) about the value of well-built dirt roads, driveways and forest access roads
- Collaborate with community partners to offer youth education programs that build awareness of the value of soil conservation and erosion prevention.
- Educate targeted audiences (landowners, land managers, towns and students) about problems posed by invasive species
- Work with state agencies and town officials to develop warning systems (utilizing local media sources and other means) to effectively notify communities of emerging or imminent threats from invasive species
- Reduce or eliminate homeowner use of detrimental chemicals through education on alternative products and methods.
- Work with local purveyors to ensure that alternative homeowner products are available to help minimize the impact on waterbodies from non-point source pollution from residential practices.
- Provide information to new homeowners on how to minimize impacts (e.g. a welcome wagon that includes information on chemical use, buffers, etc)
- Support youth educational programs (science fairs, semester projects, etc.) that raise awareness of the benefits of using ecologically benign products
- Work with foresters/loggers to guarantee that logging roads and skid trails are well-built and provide adequate drainage while minimizing erosion.
- Educate landowners of shoreline property about the importance of vegetative buffers and the restrictions on their destruction/alteration

Appendix V. Key Players in Strategy Implementation

Conservation Organizations (Greater Lovell Land Trust, Maine Farmland Trust, Upper Saco Valley and Western Foothills Land Trust, and The Nature Conservancy)

Inventory & Research Needs

- Work with watershed associations and town officials to identify public viewsheds in the three watersheds and develop a plan to prioritize these features for preservation
- Work with town officials, state agencies and watershed associations to inventory and monitor invasive species in the watersheds for the following classes: aquatic plants, introduced fish species, & forest pests

Public Policy

- Work with watershed associations and members of the public to build the capacity for towns to evaluate potential point source pollution risks of new and existing businesses and develop recommendations and/or requirements for consideration of non polluting alternatives as a condition for new business approval
- Work with appropriate partners to ensure that all timber harvesting within the watersheds be conducted according to Best Management Practices to prevent erosion, preserve vegetative buffers and protect water quality.
- Work with enforcement officers to protect shorelines by ensuring that meaningful penalties are imposed for flagrant violations of existing regulations (such as shoreland zoning)
- Work regionally with towns, state agencies, and conservation organizations to adopt and enforce commercial groundwater extraction ordinances that protect the quality of surface waters and the functional integrity of associated wetlands and aquifers.
- Work with town officials to conduct build-out scenarios for towns in watersheds based on existing zoning
- Identify and collaborate with town/regional organizations with similar goals to address impacts of residential development
- Reduce fragmentation caused by new subdivisions by developing incentives for the use of alternatives such as cluster housing
- Work with town officials to try and focus new residential development in areas where infrastructure is already located
- Reduce fragmentation of new subdivision roads by working with towns to develop incentives for the use of alternatives such as cluster housing
- Work with area landscapers, nurseries, etc. to prevent introduction of invasive plants
- Develop community support for farming by working with town officials to adopt farm friendly ordinances
- Work with town officials to incorporate language into the Comprehensive Plans of all towns that recognizes the value of the persistence of large forest blocks and connective corridors.

Education

- Gather educational resources on roads as a primary contributor to sprawl and utilize these to educate public officials about their impact.
- Collaborate with community partners to offer youth education programs that build awareness of the value of soil conservation and erosion prevention.
- Educate targeted audiences (landowners, land managers, towns and students) about problems posed by invasive species
- Work with state agencies and town officials to develop warning systems (utilizing local media sources and other means) to effectively notify communities of emerging or imminent threats from invasive species
- Work with foresters/loggers to guarantee that logging roads and skid trails are well-built and provide adequate drainage while minimizing erosion.
- Work with private landowners to heighten awareness of their particular contribution to the conservation values
- Promote landowner awareness of tax incentives for land conservation & current use policies
- Work with private landowners to help them access stewardship and professional resources
- Work with town officials and the general public to build community support for the preservation of identified conservation values
- Collaborate with community partners to offer youth environmental education programs that emphasize critical thinking and decision making skills with regard to conservation issues (i.e. emphasize “how to think” not “what to think” about conservation issues).
- Provide educational programs to the community (in collaboration with local nurseries and landscapers) on the benefits of using native plants in landscaping
- Work with local recreational vehicle groups to foster awareness among users of the potentially harmful environmental impacts (e.g. erosion) from improper use of recreational vehicles on non-designated trails and other unauthorized areas

Appendix V. Key Players in Strategy Implementation

Conservation Organizations (continued)

- Utilize the resources of federal agencies (like USDA) to promote consumer support of locally produced food through education of benefits of eating locally produced food
- Collaborate with community partners (such as Cooperative Extension) to offer agricultural education programs for youth and the general public that foster an understanding and appreciation of the benefits of local agriculture
- Educate landowners, land managers and the public on the value of large forest blocks.

Obtain Legal Protection

- Acquire lands outright or seek donation of easements with high conservation values through public/private partnerships for permanent protection
- Utilize long term management agreements and similar tools to preserve conservation values where permanent protection options are not available
- Prioritize the preservation of large forest blocks and connective corridors in local permanent land protection efforts

New Initiatives

- Develop markets for local food production by working with local farmers to initiate an area farmer's market
- Utilize state and federal resources to facilitate the development of a local landowner based forestry cooperative, with high stewardship standards, that provides locally grown wood to local consumers.

Town Officials (Lovell, Stoneham and Stow primary with Fryeburg, Chatham, Bridgton, Sweden and Waterford as associates)

Public Policy

- Conduct build-out scenarios for towns in watersheds based on existing zoning
- Identify and collaborate with regional organizations to address undesirable impacts of residential development
- Reduce fragmentation caused by new subdivisions by developing incentives for the use of alternatives such as cluster housing
- Focus new residential development in areas where infrastructure is already located
- Examine comprehensive plans for language on road building practices to determine whether it needs strengthening
- Develop a plan for limiting unnecessary road projects
- Work with watershed associations and other regional partners to upgrade or build all existing public and private roads to meet water quality protection standards
- Encourage private road associations to seek professional assistance in planning for new roads and road upgrades
- Work with appropriate federal, state, and regional partners to utilize mechanical, chemical, or biological controls as appropriate to address existing invasive threats
- Work with state agencies and local organizations to prevent introduction of invasive plants and non-native fish species into ponds and lakes
- Work with state agencies to evaluate stocking programs in watersheds and prevent the stocking of previously unstocked streams and rivers
- Work with area landscapers, nurseries, etc. to prevent introduction of invasive plants
- Identify faulty septic systems adjacent to lakes, ponds and rivers and work with private landowners to eliminate them
- Increase recycling effort at area transfer stations by broadening the types of products accepted and increasing the number of days that hazardous waste is accepted
- Build capacity to evaluate potential point source pollution risks of new and existing businesses and develop recommendations and/or requirements for consideration of non polluting alternatives as a condition for new business approval
- Work with state and national entities to try and minimize the impact of low-flying aircraft
- Work with state agencies to address the potential impacts of noise from increased motor traffic through regulation and enforcement (e.g. reducing speed limits, enforcing existing speed limits, and/or restricting the use of engine brakes in village areas)
- Identify existing restrictions on the construction of man-made beaches and work with regional partners to ensure their enforcement
- Develop community support for farming through farm friendly ordinances

Appendix V. Key Players in Strategy Implementation

Town Officials (continued)

- Incorporate language into the Comprehensive Plan that recognizes the value of the persistence of large forest blocks and connective corridors
- Work with watershed associations, conservation organizations and state agencies to identify surface waters threatened by overextraction and adopt regulations to address abuses
- Work regionally to adopt and enforce commercial groundwater extraction ordinances that protect the quality of surface waters and the functional integrity of associated wetlands and aquifers

Inventory & Research Needs

- Work with conservation organizations and watershed associations to identify public viewsheds in the three watersheds and develop a plan to prioritize these features for preservation
- Work with conservation organizations, watershed associations and state agencies to inventory and monitor invasive species in the watersheds for the following classes: aquatic plants, introduced fish species, & forest pests
- Identify sources of nutrient loading from agricultural operations and work with landowners to minimize their impact through access to technical assistance and incentives to implement mitigation and prevention projects
- Identify instances of pollution from landfills and other local dump sites and work with landowners to mitigate problems
- Work with state agencies to identify locations of underground fuel tanks both past and present and the products that they contain(ed)
- Work with watershed associations to recruit and train members of the public to serve as volunteer crews on large lakes and ponds to identify shoreline alterations
- Work with watershed associations to assess the number and availability of public access points to water
- Work with watershed associations to identify surface waters threatened by overextraction and adopt regulations to address abuses

Education

- Be prepared to direct private landowners to help them access stewardship and professional resources
- Build community support among the general public for the preservation of identified conservation values
- Work with watershed associations to launch an educational campaign (directed at homeowners, private road agents, foresters and loggers, & municipal officials) about the value of well-built dirt roads, driveways and forest access roads
- Gather education resources on roads as a primary contributor to sprawl and utilize these to inform policy decisions on their impact
- Educate targeted audiences (landowners, land managers, towns and students) about problems posed by invasive species
- Provide educational programs to the community (in collaboration with local nurseries and landscapers) on the benefits of using native plants in landscaping
- Work with state agencies and conservation organizations to develop warning systems (utilizing local media sources and other means) to effectively notify communities of emerging or imminent threats from invasive species
- Reduce or eliminate homeowner use of detrimental chemicals through education on alternative products and methods.
- Work with local recreational vehicle groups to foster awareness among users of the potentially harmful environmental impacts (e.g. erosion) from improper use of recreational vehicles on non-designated trails and other unauthorized areas
- Educate landowners of shoreline property about the importance of vegetative buffers and the restrictions on their destruction/alteration

Obtain/Enforce Legal Protection

- Work with conservation organizations to support outright purchase, conservation easements, or landowner management agreements on lands that ensure future public access to lakes, ponds, rivers, trails, and lands for multiple uses (such as hunting)
- Work to ensure full and effective enforcement of Shoreland Zoning regulations
- Work with enforcement officers to protect shorelines by ensuring that meaningful penalties are imposed for flagrant violations of existing regulations such as no wake zones and other boating/personal watercraft regulations that help prevent shoreline erosion, wildlife disturbance, and other detrimental practices on lakes and ponds

Appendix V. Key Players in Strategy Implementation

State Agencies

- Work with town officials and watershed associations to provide material and technical support for upgrading or building all existing public and private roads to meet water quality protection standards.
- Provide technical assistance and relevant data to support efforts to inventory and monitor invasive species in the watersheds for the following classes: aquatic plants, introduced fish species, & forest pests
- Provide knowledge, expertise and training in how to use mechanical, chemical, or biological controls as appropriate to address existing invasive threats
- Work with local authorities and organizations to prevent introduction of invasive plants and non-native fish species into ponds and lakes
- Work with town officials and regional organizations to evaluate stocking programs in the watersheds and prevent the stocking of previously unstocked streams and rivers
- Provide technical expertise in efforts to work with area landscapers, nurseries, etc. to prevent introduction of invasive plants
- Work with conservation organizations and town officials to develop warning systems (utilizing local media sources and other means) to effectively notify communities of emerging or imminent threats from invasive species
- Work with regional partners to ensure full and effective enforcement of Shoreland Zoning regulations
- Work with town officials to enforce penalties for flagrant violations of existing regulations such as no wake zones and other boating/personal watercraft regulations that help prevent shoreline erosion, wildlife disturbance, and other detrimental practices on lakes and ponds
- Work with local recreational vehicle groups to foster awareness among users of the potentially harmful environmental impacts (e.g. erosion) from improper use of recreational vehicles on non-designated trails and other unauthorized areas.
- Work with town officials to identify locations of underground fuel tanks both past and present and the products that they contain(ed)
- Work with appropriate partners to ensure that all timber harvesting within the watersheds be conducted according to Best Management Practices to prevent erosion, preserve vegetative buffers and protect water quality.
- Work with appropriate partners to provide resources to local foresters/loggers to guarantee that logging roads and skid trails are well-built and provide adequate drainage while minimizing erosion.
- Work with local and national entities to try and minimize the impact of low-flying aircraft
- Work with conservation organizations and towns to support outright purchase, conservation easements, or landowner management agreements on lands that ensure future public access to lakes, ponds, rivers, trails, and lands for multiple uses (such as hunting)
- Work with towns to identify surface waters threatened by overextraction and offer assistance in the adoption of regulations that address abuses.
- Work regionally to adopt and enforce commercial groundwater extraction ordinances that protect the quality of surface waters and the functional integrity of associated wetlands and aquifers.

Federal Agencies (e.g. *US DA, NRCS, Threshold to Maine, US Fish and Wildlife Service, etc.*)

- Collaborate with community partners to offer youth education programs that build awareness of the value of soil conservation and erosion prevention.
- Work with regional partners to facilitate the development of a local landowner based forestry cooperative, with high stewardship standards, that provides locally grown wood to local consumers.
- Work with state and local entities to try and minimize the impact of low-flying aircraft
- Provide support for the development of markets for local food production through USDA programs such as Threshold to Maine, Cooperative Extension Service, etc.
- Help promote consumer support of locally produced food through educational programs that highlight the benefits of eating locally produced food
- Collaborate with community partners to offer agricultural education programs for youth and the general public that foster an understanding and appreciation of the benefits of local agriculture
- Work with conservation organizations and towns to support outright purchase, conservation easements, or landowner management agreements on lands that ensure future public access to lakes, ponds, rivers, trails, and lands for multiple uses (such as hunting) through programs like the Landowners Incentive Program
- Be prepared to direct private landowners to help them access stewardship and professional resources

Appendix V. Key Players in Strategy Implementation

Private Landowners

- Become familiar with the particular contribution that private landowners make to the conservation values
- Become aware of and participate in opportunities for tax incentives through land conservation and/or current use policies
- Utilize public and private opportunities to access stewardship and professional resources
- Consider conserving lands through public/private partnerships for permanent protection
- Consider entering into a long-term management agreement to preserve conservation values if permanent protection is not possible.
- Participate in educational opportunities about the value of well-built dirt roads, driveways and forest access roads.
- Take advantage of opportunities to become educated on the problems posed by invasive species
- Attend educational programs on the benefits of using native plants in landscaping and consider implementing ideas
- Reduce or eliminate use of detrimental chemicals by learning about alternative products and methods.
- Identify whether you have a faulty septic systems adjacent to a lake, ponds or river and seek appropriate assistance from the town or area watershed association to eliminate it
- Become aware of Shoreland Zoning regulations and existing restrictions on the construction of man-made beaches and make sure that any shoreland holdings are in compliance
- Understand the importance of shoreline vegetative buffers and the restrictions on their destruction/alteration
- Consider a conservation easements/ landowner management agreement for riparian zone buffer for shorelands on area lakes and ponds.
- Identify sources of nutrient loading from agricultural operations and minimize its impact by obtaining technical assistance and incentives to implement mitigation and prevention projects.
- Identify instances of pollution from past local dump sites and work with towns to mitigate problems
- Ensure that all timber harvesting on your lands are conducted according to Best Management Practices to prevent erosion, preserve vegetative buffers and protect water quality.
- Work with foresters/loggers to guarantee that logging roads and skid trails are well-built and provide adequate drainage while minimizing erosion.
- Work with regional partners to facilitate the development of a local landowner based forestry cooperative, with high stewardship standards, that provides locally grown wood to local consumers
- Become aware of the value of large forest blocks.

General Public

- Build community support for the preservation of identified conservation values
- Collaborate with community partners to offer youth environmental education programs that emphasize critical thinking and decision making skills with regard to conservation issues (i.e. emphasize “how to think” not “what to think” about conservation issues).
- Collaborate with community partners to offer youth education programs that build awareness of the value of soil conservation and erosion prevention.
- Educate targeted audiences (landowners, land managers, towns and students) about problems posed by invasive species
- Participate in community educational programs (in collaboration with local nurseries and landscapers) on the benefits of using native plants in landscaping
- Participate in the development of warning systems (utilizing local media sources and other means) to effectively notify communities of emerging or imminent threats from invasive species
- Reduce or eliminate homeowner use of detrimental chemicals by learning about alternative products and methods.
- Work with local purveyors to ensure alternative products are available.
- Support youth educational programs (science fairs, semester projects, etc.) that raise awareness of the benefits of using ecologically benign products
- Support efforts to increase recycling at area transfer stations by broadening the types of products accepted and increasing the number of days that hazardous waste is accepted
- Obey no wake zones and other boating/personal watercraft regulations to prevent shoreline erosion, wildlife disturbance, and other detrimental practices on lakes and ponds.
- Be a responsible driver of a recreational vehicle and help foster awareness among other drivers of the potentially harmful environmental impacts (e.g. erosion) from their improper use of on non-designated trails and other unauthorized areas

Appendix V. Key Players in Strategy Implementation

General Public (continued)

- Support efforts to build the capacity for towns to evaluate potential point source pollution risks of new and existing businesses and develop recommendations and/or requirements for consideration of non polluting alternatives as a condition for new business approval.
- Facilitate the development of a local landowner based forestry cooperative, with high stewardship standards, by seeking opportunities to purchase locally grown wood
- Participate in youth and general public educational programs that foster an understanding and appreciation of the benefits provided by environmentally sound forest management.
- Participate in public forums with state and federal entities to try and minimize the impact of low-flying aircraft
- Support efforts to address the potential impacts of noise from increased motor traffic through regulation and enforcement (e.g. reducing speed limits, enforcing existing speed limits, and/or restricting the use of engine brakes in village areas)
- Participate as a volunteer crew on large lakes and ponds to identify shoreline alterations
- Identify existing restrictions on the construction of man-made beaches and work with individual towns to ensure their enforcement
- Support local farming by supporting farm friendly local ordinances
- Help develop markets for local food production by buying local food and supporting an initiative for an area farmer's market
- Promote consumer support of locally produced food through education of benefits of eating locally produced food
- Collaborate with community partners to offer agricultural education programs for youth and the general public that foster an understanding and appreciation of the benefits of local agriculture
- Educate landowners, land managers and the public on the value of large forest blocks.
- Work regionally to adopt and enforce commercial groundwater extraction ordinances that protect the quality of surface waters and the functional integrity of associated wetlands and aquifers.

Appendix VI. Focus Areas for Land Protection Efforts

Cold River Watershed

Shell Pond Lands—this area around Shell Pond is essentially an in-holding in the WMNF and as a result its protection would assure the ecological integrity of this section of the WMNF.

Conservation values associated with this area include:

- Rare Plants
- Rare/Exemplary Natural communities
- Adjacent to conservation land
- Medium sized/undeveloped pond (Shell Pond)
- Wadingbird & Waterfowl Habitat
- Part of a large unfragmented forest block

Upper Cold River Corridor (from approximately the NH border to Bradley Brook confluence)—this area holds prime agricultural soils and supports the largest concentration of active farm land in the project area.

Conservation values associated with this area include:

- Agricultural Lands
- Rivers and Streams (Cold River)
- Recreational Fishing
- Deer Wintering Area
- Part of a large unfragmented forest block

Lower Cold River—Charles Pond (from approximately Bradley Brook Confluence to Charles Pond and its associated wetlands)—this area supports the largest wetland complex in the Cold River Watershed and associated wadingbird and waterfowl habitat.

Conservation values associated with this area include:

- Wetland communities (Large wetland complexes)
- Rare/Exemplary Nat. communities
- Rivers and Streams (Cold River)
- Medium Sized/undeveloped Pond (Charles Pond)
- Recreational Fishing
- Wadingbird and Waterfowl Habitat
- Part of a large unfragmented forest block

Lower and Upper Kimball Ponds (especially areas south and west of Upper Kimball Pond and north and east of Lower Kimball Pond)—areas of these shorelines that are not yet developed offer opportunities to protect large wetland complexes and significant natural features (rare plants/animals and natural communities) that enhance the ecological values of these outwash ponds.

Conservation values associated with this area include:

- Adjacent to Conservation Land
- Rare Plants/Animals
- Rare/Exemplary Nat. Communities
- Medium Sized Ponds
- Recreational Fishing
- Wetland communities (Large wetland complexes)
- Wadingbird and Waterfowl Habitat (Lower Kimball Pond)

Appendix VI. Focus Areas for Land Protection Efforts

Cold River Watershed (continued)

White Mountain National Forest Boundary Lands in New Hampshire—the White Mountain National Forest boundary line in New Hampshire is rather jagged and therefore has the potential for future fragmentation. Protecting parcels adjacent to the National Forest will enhance the integrity of this extremely large unfragmented forest block

Conservation values associated with this area include:

- Adjacent to Conservation Land
- Rare/Exemplary Nat. Communities
- Rivers and Streams (tributaries to Cold River)
- Part of a large unfragmented forest block
- Viewsheds

Kezar Lake Watershed

Cold Brook Drainage—Stoneham (extending from forest boundary down to approximately Little Pond in Stoneham)—this area is essentially surrounded on three sides by the WMNF and belongs to an extremely large unfragmented forest block. It includes Little Pond and its associated wadingbird and waterfowl habitat and has a number of features such as steep slopes with bare rock and calcareous bedrock that suggest that it may host rare plants and/or natural communities.

Conservation values associated with this area include:

- Adjacent to Conservation Land
- Small pond (Little Pond)
- Rivers and Streams (tributaries to Kezar Lake)
- Wadingbird and Waterfowl Habitat
- Deer Wintering Area
- Part of a large unfragmented forest block
- Viewsheds

Bradley Pond Headwaters—the Heald-Bradley Pond Reserve represents one of the largest blocks of conservation land in the project area that is not part of the White Mountain National Forest. It therefore presents one of the best opportunities for additional conservation lands to build on it. The ponds are medium sized, but are not heavily used and are in good condition. The northern portion of this focus area serves as a potentially important corridor for linkage of wildlife habitat from the large forest block that encompasses much of the upper Kezar River watershed to the forest blocks of the White Mountain National Forest. The low summits of this area add to the quality of the regions viewsheds.

Conservation values associated with this area include:

- Adjacent to Conservation Land
- Medium sized ponds (Heald & Bradley Ponds)
- Recreational fishing
- Part of a large unfragmented forest block
- Wildlife corridor connection
- Viewsheds

Appendix VI. Focus Areas for Land Protection Efforts

Kezar Lake Watershed (continued)

Kezar Lake Outlet Fen—this area represents a biological hotspot with rare plant, animals, and natural communities. It is a large wetland complex with rich biological values. The area east of the outlet stream is protected but the area west of the outlet stream also warrants protection effort.

Conservation values associated with this area include:

- Adjacent to Conservation Land
- Rare Plants/Animals
- Rare/Exemplary Nat. Communities
- Wetland communities (Large wetland complexes)
- Wadingbird and Waterfowl Habitat

Horseshoe Pond Highlands (extends approximately from Horseshoe Pond east to Mud Pond and south to Noah Eastman Pond)—this area abuts the WMNF at its northwestern edge and includes the hills and low summits east of Horseshoe Pond. It belongs to a very large unfragmented forest block and the intact low summits contribute significantly to the quality of the viewsheds.

Conservation values associated with this area include:

- Adjacent to Conservation Land
- Medium & Small ponds (Horseshoe, Noah Eastman & Mud Ponds)
- Recreational Fishing
- Rivers and Streams (tributaries to Kezar Lake)
- Wadingbird and Waterfowl Habitat
- Deer Wintering Area
- Part of a large unfragmented forest block
- Viewsheds

Sucker Brook Headwaters (extends from the highlands along the Cold River/Kezar Lake Watershed boundary east to Sucker Brook and south to the Sucker Brook Reserve)—this area abuts conservation lands to the north (WMNF & GLLT land) and to the south (Sucker Brook Reserve) and includes the height of land on the western margin of the Kezar Lake Watershed which provide viewsheds to the west from the lowlands. It contains the headwater streams of Sucker Brook, which is a major source of freshwater into Lower Bay. Several medium sized wetlands with associated wadingbird and waterfowl habitat along Sucker Brook add to ecological value.

Conservation values associated with this area include:

- Adjacent to Conservation Land
- Wetland communities (Medium sized wetlands)
- Wadingbird and Waterfowl Habitat
- Rivers and Streams (Sucker Brook and its tributaries)
- Recreational Fishing
- Deer Wintering Area
- Part of a large unfragmented forest block
- Viewsheds

Appendix VI. Focus Areas for Land Protection Efforts

Kezar River Watershed

Kezar Pond Lands (includes large wetland complex at the north end of Kezar Pond including the lower section of the Kezar River and the shoreline lands that wrap around the eastern and southern end of the pond)—despite its size Kezar Pond currently has light, relatively low impact shoreline development and relatively little motor boat use. As a shallow, outwash pond it has significant adjacent fen communities that serve as habitat for both rare plants and waterfowl. There is currently no conservation land in this portion of the watershed.

Conservation values associated with this area include:

- Wetland communities (Large wetland complexes)
- Rare Plants
- Rare/Exemplary Nat. Communities
- Wadingbird and Waterfowl Habitat
- Rivers and Streams (Kezar River)
- Ponds & Lakes (Kezar Pond)
- Recreational Fishing
- Deer Wintering Area
- Part of a large unfragmented forest block

Five Kezar Pond Lands (area east of Back Pond Reserve and encompassing wetlands and low summits adjacent to the Five Kezar Ponds)—these ponds are a relatively undeveloped cluster of ponds that serve as the headwaters to the Kezar River. The area also includes medium-sized wetlands with associated wadingbird and waterfowl habitat. The undeveloped low summits around the ponds add to the viewsheds of this region. There is currently relatively little of the area in conservation protection and adding to the existing GLLT preserve would add to the ecological integrity of these headwater ponds.

Conservation values associated with this area include:

- Adjacent to Conservation Land
- Wetland communities (Large wetland complexes)
- Wadingbird and Waterfowl Habitat
- Rivers and Streams (Kezar River)
- Ponds & Lakes (Five Kezar Ponds)
- Recreational Fishing
- Part of a large unfragmented forest block
- Viewsheds

Kezar Highlands (these highlands extend along the watershed boundary that separates the Kezar Lake and Kezar River watersheds from Trout Pond Preserve to Sabattus Mountain Park)—these highlands include a variety of low summits that add significantly to the viewsheds within the Kezar River watershed. Protecting these highlands would protect some of the headwaters of the Kezar River watershed and provide a block of contiguous moderate elevation wildlife habitat within a large unfragmented forest block.

Conservation values associated with this area include:

- Adjacent to Conservation Land
- Part of a large unfragmented forest block
- Viewsheds

Appendix VI. Focus Areas for Land Protection Efforts

Kezar River Watershed (continued)

Kezar River Lands (this area extends from Rte 93 and Mill Pond up to about Dan Charles Pond)—lands immediately adjacent to the Kezar River include a variety of small- to medium-sized wetlands scattered along the river valley and wadingbird and waterfowl habitat along Mill Pond. These lands because of their proximity to the Kezar River provide the best opportunity to protect the water quality of the river and to provide long-term access to the river as well.

Conservation values associated with this area include:

- Adjacent to Conservation Land
- Wetland communities (Small- to medium-sized wetlands)
- Wadingbird and Waterfowl Habitat
- Rivers and Streams (Kezar River)
- Recreational Fishing
- Part of a large unfragmented forest block

Appendix VIII--Soils Series Descriptions and Supporting Land Uses

Skerry-Monadnock-Lyman-Hermon

The Skerry series consists of very deep, moderately well drained soils that formed in a loamy mantle overlying dense, sandy glacial till on drumlins and glaciated uplands. They are moderately deep to a densic contact. Estimated saturated hydraulic conductivity is moderately high to high in the solum and moderately low or moderately high in the dense substratum. Slope ranges from 0 to 25 percent.

The nearly level to moderately steep Skerry soils are on drumlins and glaciated uplands. Most of these soils are forested. Principle species include sugar maple, yellow birch, paper birch, eastern white pine, eastern hemlock, balsam fir, white spruce, and red spruce. Areas cleared of trees and stones are used primarily for hay and pasture.

The Monadnock series consists of very deep, well drained soils that formed in a loamy mantle overlying sandy glacial till on upland hills, plains, and mountain sideslopes. Estimated saturated hydraulic conductivity is moderately high or high in the mineral solum and high or very high in the substratum. Slope ranges from 0 to 60 percent. Monadnock soils are gently sloping to very steep soils of the glaciated uplands. Slope ranges from 0 to 60 percent. The soils formed in a loamy mantle underlain by acid, sandy glacial till of Wisconsin age derived mainly from schist, granite, gneiss, and quartzite. The till generally contains stones and/or boulders.

Most of these soils are forested. Common forest species are northern red oak, eastern white pine, paper birch, American beech, eastern hemlock, and red pine. Some areas have been cleared of surface stones and are used for crops and pasture.

The Lyman series consists of shallow, somewhat excessively drained soils formed in glacial till. They are on rocky hills, mountains and high plateaus. Estimated saturated hydraulic conductivity is moderately high to high in the mineral soil. Slope ranges from 3 to 80 percent. Depth to bedrock ranges from 10 to 20 inches. Potential for runoff is very high.

These soils are on rocky hills, mountains and high plateaus. Slope ranges from 3 to 80 percent. The soils developed in a thin mantle of glacial till and frost fractured rock fragments derived principally from gray, greenish gray, or nearly black mica schist rocks with lesser amounts of phyllite, granite and gneiss.

Predominantly forested. Vegetation is mainly white pine, hemlock, red spruce, white, black and yellow birch, sugar maple, beech, fir, white ash and basswood. Small acreages have been cleared and used for growing hay or pasture, or are idle.

The Hermon series consists of very deep, somewhat excessively drained soils on upland till plains, hills and ridges. These soils formed in glacial till. Estimated saturated hydraulic conductivity is high or very high throughout the mineral soil. Slope ranges from 0 to 60 percent.

Hermon soils are on glaciated upland plains, hills, and ridges. Slope is dominantly 3 to 25 percent, but ranges from 0 to 60 percent. The soils formed in glacial till derived mainly from granite and gneiss.

Mainly used for forestry. Common tree species include beech, sugar maple, yellow birch, paper birch, gray birch, hemlock, white pine, red spruce, white spruce, and balsam fir. Some cleared areas have had stones removed and are used for pasture, hay, lowbush blueberries, and row crops. Other areas have been cleared of trees, but not stones, and are used for lowbush blueberries.

Skerry-Hermon-Brayton

(See Skerry and Hermon above)

The Brayton series consists of very deep, poorly drained soils on toeslopes and depressions of glaciated uplands. These soils formed in dense till. Brayton fine sandy loam, in a gently sloping, very stony forested area. Brayton soils are in depressions and on toeslopes of glaciated uplands. Slopes range from 0 to 25 percent. The soils formed in dense till derived mainly from granite, phyllite, schist, slate, and shale of Wisconsin age. Poorly drained. A perched water table is above the dense substratum from autumn through spring.

Most areas of this soil are forested. Some areas are cleared and used for hay and pasture. Forest vegetation is mainly red spruce, white spruce, black spruce, balsam fir, eastern white pine, red maple, northern white cedar, and paper birch, yellow birch and hemlock.

Skerry-Colonel-Becket

(See Skerry above)

The Colonel series consists of, somewhat poorly drained soils formed in dense till on drumlins and till ridges. They are shallow to a dense lodgement till and very deep to bedrock. Colonel soils are on glaciated uplands. Slope ranges from 0 to 35 percent but is commonly less than 10 percent. The soils formed in dense, loamy glacial till of Wisconsin Age derived mainly from mica schist, granite, phyllite, and gneiss. Somewhat poorly drained.

Mostly forest. Common tree species include red maple, eastern white pine, paper birch, red spruce and balsam fir. Areas cleared of stones are used mainly for hay and pasture.

Skerry-Rumney-Podunk-Ondawa-Cornish

(See Skerry above)

The Rumney series consists of very deep, poorly drained soils formed in recent alluvium on floodplains. Slope ranges from 0 to 3 percent. Rumney soils are on the floodplains of rivers and streams. Slope ranges from 0 to 3 percent. The soils formed in recent alluvium derived principally from gneiss, schist, granite, and quartzite. Flooding generally occurs once or twice annually, but may occur less often than once in 2 years in some places. Overflow generally occurs during spring runoff and during periods of high rainfall. Poorly drained. The potential for surface runoff is very high, high, or negligible.

Cleared areas are used mainly for hay and pasture. The remaining areas are mostly forested. Common tree species are willow, elm, eastern white pine, tamarack, red spruce, black spruce, red maple, and gray birch.

The Podunk series consists of very deep, moderately well drained soils formed in recent alluvium on floodplains. The Podunk soils are on floodplains along the major rivers and streams. The soils formed in recent alluvium derived principally from gneiss, schist, granite, and quartzite. Slope ranges from 0 to 3 percent. Flooding frequency varies from once or twice a year to once in 5 to 10 or more years. Overflow generally occurs during spring runoff and during periods of high rainfall. Moderately well drained.

Used mainly for growing row crops, hay, or pasture. Wooded areas are in eastern white pine, white birch, yellow birch, gray birch, balsam fir, red spruce, white spruce, hemlock, red maple, elm, and alders.

The Ondawa series consists of very deep, well drained soils formed in recent alluvium on floodplains. Ondawa soils are on floodplains and high bottoms. Slope ranges from 0 to 3 percent. The soils formed in recent alluvial deposits derived principally from gneiss, schist, granite, and quartzite. Flooding frequency ranges from once or twice a year to once in 5 to 10 years or more. Flooding generally occurs during spring runoff or during periods of high rainfall in the fall. Floodwater seldom covers these soils for periods of more than 1 or 2 days on the high bottoms, but the duration may be slightly longer in the lower positions. Well drained.

Most areas are used for growing silage corn, hay, and pasture crops. Common trees in woodlots include eastern white pine, red pine, white birch, gray birch, elm, balsam fir and white spruce.

The Cornish series consists of very deep, somewhat poorly drained soils formed in alluvial deposits on flood plains. Cornish soils are on flood plains that are commonly in broad depressions. Slope ranges from 0 to 2 percent. The soils formed in alluvial deposits of very fine sand and silt. Flooding frequency ranges from twice annually to once in 10 years. Overflow generally occurs during spring runoff and during heavy rains. Somewhat poorly drained. Runoff is negligible or very high.

Cleared areas are used mainly for hay, pasture, potatoes, and truck crops. The remaining areas are mostly forested; common tree species include willow, elm, eastern white pine, balsam fir, red spruce, white spruce, red maple, and gray birch.

Naumburg-Croghan-Adams

The Naumburg series consists of very deep, poorly and somewhat poorly drained soils that formed in sandy deltaic or glaciofluvial deposits. These soils are on low sand plains and terraces. Naumburg soils occupy low-lying areas of sand plains or terraces. Slope ranges from 0 to 8 percent. These soils formed in glaciofluvial or deltaic sands predominantly from areas of granitic rocks or acid sandstone. Some areas are associated

with calcareous till, and in these places the ground water and C horizon are slightly acid. Somewhat poorly and poorly drained. Runoff ranges from high or very high.

Predominantly wooded or idle. A few areas are used for growing hay or pasture. Idle areas support poplar and birch saplings or are covered by sparse stands of grass with Spirea and similar shrubs. Forested areas support spruce, pine, balsam fir, hemlock, and some hardwoods such as maples.

The Croghan series consists of very deep, moderately well drained soils formed in deltaic or glacio-fluvial deposits. They are on terraces and sand plains. Croghan soils are on terraces and sand plains. Slope ranges from 0 to 15 percent. They formed in deltaic or glacial outwash sand that was deposited in or next to proglacial lake basins. The sediments are dominated by quartz, but feldspars and other weatherable minerals constitute at least 10 percent, and generally 20 percent or more of the volume. Moderately well drained. The potential for surface runoff is negligible to low.

Dominantly forested or idle, but some areas are cropped. Cropped areas are mainly used for hay or for blueberry production, but in some locations oats, or corn for silage is grown. Eastern white pine, hemlock, balsam, red pine, sugar maple, and yellow birch are in woodlots. Brushy aspen and birch are on idle land.

The Adams series consists of very deep, excessively and somewhat excessively drained soils formed in glacial-fluvial or glacio-lacustrine sand. They are on outwash plains, deltas, lake plains, moraines, terraces, and eskers. Adams soils are on nearly level to very steep sand plains, kames, moraines, benches, eskers, deltas, and terraces. Slope ranges from 0 to 70 percent. These soils formed in sandy glaciofluvial or glaciolacustrine deposits from predominantly crystalline rock or sandstone. Somewhat excessively drained. Runoff is very slow to medium.

Extensive areas are idle and support aspen, birch, and pine seedlings or sweet fern, spirea, and brambles. Uncleared areas support maple, beech, spruce, and pine. Farmed areas are used mainly for hay or pasture with limited acreages of corn and small grain.

Tunbridge-Skerry-Monadnock-Lyman-Dixfield-Colonel

(see Skerry and Colonel above)

The Monadnock series consists of very deep, well drained soils that formed in a loamy mantle overlying sandy glacial till on upland hills, plains, and mountain sideslopes. Monadnock soils are gently sloping to very steep soils of the glaciated uplands. Slope ranges from 0 to 60 percent. The soils formed in a loamy mantle underlain by acid, sandy glacial till of Wisconsin age derived mainly from schist, granite, gneiss, and quartzite. The till generally contains stones and/or boulders. Well drained. Runoff ranges from medium to rapid and internal drainage is medium.

Most of these soils are forested. Common forest species are northern red oak, eastern white pine, paper birch, American beech, eastern hemlock, and red pine. Some areas have been cleared of surface stones and are used for crops and pasture.

The Lyman series consists of shallow, somewhat excessively drained soils formed in glacial till. They are on rocky hills, mountains and high plateaus. These soils are on rocky hills, mountains and high plateaus. Slope ranges from 3 to 80 percent. The soils developed in a thin mantle of glacial till and frost fractured rock fragments derived principally from gray, greenish gray, or nearly black mica schist rocks with lesser amounts of phyllite, granite and gneiss. Somewhat excessively drained. Potential for runoff is very high.

Predominantly forested. Vegetation is mainly white pine, hemlock, red spruce, white, black and yellow birch, sugar maple, beech, fir, white ash and basswood. Small acreages have been cleared and used for growing hay or pasture, or are idle.

Sebago-Croghan-Colton-Adams

(see Croghan and Adams above)

The Sebago series consists of very deep, very poorly drained soils formed in herbaceous and woody organic deposits more than 51 inches thick. They are in bogs and swamps. Sebago soils are in bogs and swamps that are in depressions on glaciated uplands, glaciofluvial deposits and lake and marine lowlands. They range from small enclosed bogs to areas of several hundred acres. Slope is less than 2 percent. Sebago soils formed in moderately and slightly decomposed herbaceous and woody materials. Very poorly drained. Surface runoff is ponded or very slow.

These soils are covered by vegetation primarily consisting of shrubs, cattails, and sedges, with scattered clumps of trees. The shrubs include leatherleaf, labrador tea, highbush blueberry, bog cranberry, huckleberry, and sheep laurel. Common tree species include black spruce, balsam fir, tamarack, and red maple.

The Colton series consists of very deep, excessively drained soils formed in glacio-fluvial deposits. They are on terraces, kames, eskers, and outwash plains. Colton soils are on glacial outwash terraces, plains, kames, and eskers. Slope ranges from 0 to 70 percent. The soils formed in water-sorted sand, gravel, cobbles, and stones of predominantly granite rocks with lesser amounts of sandstone. Excessively drained. The potential for surface runoff is very low to medium.

Large areas are idle and support seedling birch and pine, bracken fern, and blueberries. Farmed areas are used mainly for grass hay or pasture with some corn and oats. Forests include sugar maple, eastern white pine, red pine, and white spruce.

Lyman-Herman-Berkshire

(see Lyman and Herman above)

The Berkshire series consists of very deep, well drained soils formed in till. They are on glaciated uplands. Permeability is moderate or moderately rapid. Well drained. Berkshire soils are gently sloping to very steep soils on glaciated uplands. Slope ranges from 3 to 75 percent. The soils developed in till of late Wisconsin age, derived principally from acid, gray to black or olive mica schist with some phyllite, granite and gneiss.

Largely forested with beech; paper, black, and yellow birch; sugar and red maple; eastern hemlock, red spruce, balsam fir, eastern white pine, red pine, white ash, and basswood. Cleared areas are used for growing grasses and legumes for hay and pasture, corn for silage used in support of dairying, and potatoes. A few areas are in urban uses.

Marlow-Lyman-Berkshire

(See Lyman and Berkshire above)

The Marlow series consists of well drained soils that formed in loamy till on drumlins and glaciated uplands. They are moderately deep to a densic contact and very deep to bedrock. Marlow soils are nearly level to very steep soils on drumlins and uplands. Slope ranges from 0 to 60 percent, but commonly is less than 35 percent. The soils formed in dense, loamy till derived mainly from mica schist, granite, and phyllite. Well drained. Permeability is moderate in the solum and moderately slow or slow in the densic materials. Potential for runoff is medium to high.

Areas cleared of stones are used mainly for hay and pasture and some cultivated crops. In forested area, the principal species are sugar maple, eastern white pine, balsam fir, red spruce, white spruce, white ash, yellow birch, paper birch, and red pine.

Waumbek-Herman-Berkshire

(See Herman and Berkshire above)

The Waumbek series consists of very deep, moderately well drained soils formed in stony, sandy till. They are on glaciated uplands. Waumbek soils are on nearly level to moderately steep positions glaciated uplands. Slope ranges from 0 to 25 percent. The soils formed in stony, sandy glacial till derived mostly from granitic and schistose rocks. Moderately well drained. Permeability is moderately rapid or rapid in the solum and rapid in the substratum.

Mainly used for forestry. Principal species include eastern white pine, white spruce, red spruce, balsam fir, sugar maple, and paper birch. Areas cleared of surface stones are used mostly for hay and pasture.

Saddleback-Ricker-Enchanted

The Saddleback series consists of shallow, well drained soils on mountains. These soils formed in glacial till. Saddleback soils are on mountain ridges. Slope ranges from 3 to 80 percent. The soils formed in a thin mantle of glacial till. Elevations range from 2300 to

5300 feet above mean sea level. Well drained. Permeability is moderately slow to moderately rapid in the organic surface layers and moderate in the mineral solum.

Forest. Common tree species include balsam fir, mountain paper birch, red spruce, American mountain ash, yellow birch, mountain maple, and striped maple.

The Ricker series consists of very shallow and shallow, well drained to excessively drained organic soils on mountains and hills. They formed in thin organic deposits underlain in most places by a very thin mineral horizon over bedrock. Ricker soils are gently sloping to very steep soils at elevations of 5 to 5,300 feet in uplands and along the coast. They are on the tops and side slopes of knolls, hills, and mountains. Slope ranges from 3 to 80 percent. The soils formed in organic deposits underlain by very thin mineral horizon over bedrock. Bedrock is granite, gneiss, phyllite, schist, slate, metasandstone or anorthosite. Well drained to excessively drained. Estimated saturated hydraulic conductivity is moderately high to very high in the organic layers and moderately high or high in the mineral horizon. These soils are saturated during periods of heavy rainfall or snow melt.

Most areas are wooded. Most nonforested areas have a ground cover of alpine grass and shrubs. Areas of Ricker soils are used for watershed protection, recreation, wildlife habitat, and forestry. Common trees are Balsam fir, red spruce, and mountain birch, paper birch, and mountain ash. Sphagnum moss is common ground cover.

The Enchanted series consists of deep, well drained soils on mountain side slopes and ridge tops. These soils formed in glacial till. Enchanted soils are on the sides and tops of mountain ridges. Slope ranges from 15 to 80 percent. The soils formed in glacial till. Well drained.

Forested. Common trees species include balsam fir, mountain paper birch, red spruce, American mountain ash, yellow birch, striped maple, and mountain maple.

Surplus-Sisk-Saddleback-Glebe

(See Saddleback above)

The Surplus series consists of very deep, moderately well drained and somewhat poorly drained soils on mountain side slopes. These soils formed in dense glacial till. Surplus soils are in high elevation valleys and on smooth side slopes of mountain ridges. The slope gradient ranges from 3 to 45 percent. The soils formed in dense glacial till. Moderately well drained and somewhat poorly drained.

Forest. Balsam fir, mountain paper birch, red spruce and American mountain ash grow throughout the elevation range. Yellow birch, mountain maple, striped maple and red maple commonly grow at the lower elevations.

The Sisk series consists of very deep, well drained soils on smooth side slopes of mountain ridges. Sisk soils are in high elevation valleys and on smooth side slopes of

mountain ridges at elevations greater than 2,300 feet. Elevations range from 2300 to 5300 feet above mean sea level. Slope ranges from 12 to 60 percent. The soils formed in dense glacial till. Well drained.

Forest. Balsam fir, mountain paper birch, red spruce and American mountain ash grow throughout the elevation range. Yellow birch, mountain maple and striped maple commonly grow at the lower elevations.

The Glebe series consists of moderately deep, well drained soils on glaciated uplands. They formed in loamy till. : Glebe soils are on mountain side slopes, mountain tops, mountain ridges, and hill tops. Slope ranges from 3 to 80 percent. The soils formed in loamy till of Wisconsin age. Elevation is typically greater than 2,000 feet. Well drained. These soils are saturated for short duration during period of rainfall or snowmelt, but water moves laterally across the bedrock and does not become stagnant. Permeability is moderately rapid.

Nearly all of the areas are forested. The common coniferous species are eastern hemlock, balsam fir, and red spruce. Northern hardwoods are mountain ash, American beech, paper birch, yellow birch, mountain maple, sugar maple, and red maple. Ground cover in small open areas is moss, ferns, or blueberries.

Rating for Capacity To Support Specified Land Use

Soil Type	Agriculture	Forestry	Recreation	Wildlife Habitat	Building/Develop
Adams	Prime *	Good	Good	Poor	Good
Becket	Prime *	Good	Good	Good (open fields)	Moderate (wetness)
Berkshire	Low	Good	Poor (steep/stones)	Good (forest/fields)	Fair(wetness/stone)
Brayton	Low	Fair	Poor (wetness)	Good (wetlands)	Poor (wetness)
Colonel	Prime **	Fair	Fair (wetness)	Good (open fields)	Poor (wetness)
Colton	Prime *	Good	Good	Poor	Good
Cornish	Prime **	Good	Fair (wetness)	Good (forests)	Poor (flooding)
Croghan	Prime *	Good	Fair (wetness)	Fair (forest/fields)	Fair (wetness)
Dixfield	Prime	Good	Fair (wetness)	Good (forests)	Poor (wetness)
Enchanted	Poor	Poor	not rated	not rated	not rated
Glebe	Poor	Poor	not rated	not rated	not rated
Hermon	Prime *	Good	Fair (large stones)	Fair (forest/fields)	Fair (large stones)
Lyman	Low	Good	Good	Poor	Poor (rock)
Marlow	Prime	Good	Good	Good (forest/fields)	Fair (wetness)
Monadnock	Prime	Good	Good	Good (forests)	Good
Naumburg	Low	Fair	Poor (wetness)	Fair (wetlands)	Poor (wetness)
Ondawa	Prime **	Good	Fair (wetness)	Good (forest/fields)	Poor (flooding)
Podunk	Prime **	Good	Fair (wetness)	Good (forest/fields)	Poor (flooding)
Ricker	Poor	Poor	Poor (fragile)	Poor	Poor (rock/humus)
Rumney	Medium	Fair	Poor (wetness)	Fair (wetland plants)	Poor (flooding)
Saddleback	Poor	Poor	Poor (steep)	Fair (open fields)	Poor (rock/slope)
Sebago	Low	Poor	not rated	not rated	not rated
Sisk	Poor	Poor	not rated	not rated	not rated
Skerry	Poor	Good	Fair (wetness)	Good (forest/fields)	Poor (wetness)
Surplus	Poor	Poor	not rated	not rated	not rated
Tunbridge	Prime	Good	Good	Good (forest/fields)	Fair (rock)
Waumbek	Poor	Fair	Fair (wetness/stone)	Fair (open fields)	Poor (wetness)

Notes:

Prime *--where irrigated and slopes less than 8 percent

Prime **--where drained or protected from flooding in growing season

1. Forestry rating according to erosion risk, equipment restrictions and potential for windthrow
2. Recreation ratings based upon ability to support paths and trails
3. Building ratings based upon ability to perk, frost heave potential and depth to water table, ledge or other deterrent.

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Urban Planning Evaluation

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Environmental Evaluation for Conservation Planning					
Enter data in yellow and green cells only					
Name:	Greater Lovell Land Trust	B: CMU/Fields:	B. Date:	C: Client Objectives:	Purpose and Need for Action:
Address:	P.O. Box 181	Upper Saco River Watershed		To influence the standards for siting planning and infrastructure associated with urban development to address the preservation and integrity of local ecological systems	To implement strategies for ensuring development and urban growth does not negatively impact conservation values.
City, State, Zip:	Center Lovell, Me. 04016				
Phone:	925-1056				
H. Alternatives and Effects	No Action (Benchmark Conditions including existing practices applied)		Alternative 1		
	Development standards and enforcement vary by municipality, with most of the development occurring below the subdivision threshold for planning board review.		To encourage full enforcement of existing regulations, encourage improved planning and new ordinances that address ecological and community values.		
		Current Long-term Trend	Short-term Effects (during installation)	Long-term Effects (after establishment)	Note if Benchmark or Alternative meets Q.C.
Air Quality					
No resource concerns exist for air quality on this planning unit		no effect	no effect	no effect	Benchmark meets Q.C.
Air Quality Notes:					
Domestic Animals					
No resource concerns exist for domestic animals on this planning unit		no effect	no effect	no effect	Benchmark meets Q.C.
Domestic Animals Notes:					
Fish & Wildlife					
Fish and Wildlife - Habitat Fragmentation		slight increase	slight decrease	slight decrease	Alternative meets Q.C.
Fish and Wildlife Notes:		Native salmon and trout populations under potential stress			

Appendix VII NRCS Environmental Evaluations for Conservation Planning Urban Planning Evaluation

United States Department of Agriculture
Natural Resources Conservation Service

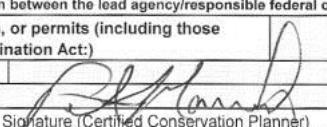
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RESOURCE CONCERN(S)	Current long-term Trend	Short-term Effects (during installation)	Long-term Effects (after established)	Note if Benchmark or Alternative meets Q.C.
Plant Condition				
No resource concerns exist for plants on this planning unit	no effect	no effect	no effect	Benchmark meets Q.C.
Plant Condition Notes:				
Soil Condition				
No resource concerns exist for soil condition on this planning unit	no effect	no effect	no effect	Benchmark meets Q.C.
Soil Condition Notes:				
Soil Erosion				
Soil Erosion: Roads, Road Sides and Construction Sites	slight increase	slight decrease	significant decrease	Alternative meets Q.C.
Soil Erosion Notes:				
Water Quality				
Water Quality: Excessive Suspended Sediment and Turbidity in Surface Water	slight increase	slight decrease	significant decrease	Alternative meets Q.C.
Water Quality: Excessive Nutrients and Organics in Surface Water	slight increase	slight decrease	significant decrease	Alternative meets Q.C.
Water Quality Notes:				
Water Quantity				
No resource concerns exist for water quantity on this planning unit	no effect	no effect	no effect	Benchmark meets Q.C.
Water Quantity Notes:				

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Urban Planning Evaluation

United States Department of Agriculture
Natural Resources Conservation Service

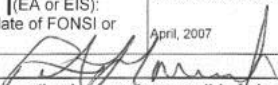
ME-CPA-52
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G. Economic & Social Considerations	No Action Alternative	Selected Alternative Effects		Description of Effects
	Status	Short-term	Long-term	
Land use	significant amount of developable land is undeveloped at present	slight increase	moderate increase	voluntary private landowner actions vital to success
Capital	land trust has limited capacity for fee acquisitions	slight decrease	slight increase	land trust to stress conservation easements versus fee
Labor	adequate human resources available	no effect	no effect	trust staff and volunteers to lead
Management level	landowner dependent transactions	slight increase	moderate increase	Plan supports landowner action to set aside native habitats
Profitability	commercial groundwater extraction may be effected in less to sell	no effect	slight decrease	acquirer impacts to water temp to be determined
Risk	towns/private road assocos may not be willing to accept the costs of standards	no effect	moderate increase	difficult politically and economically to implement
Social issues and	broad community support is good, but can be lost if economics are unfavorable			fish and wildlife will benefit
COMPLIANCE WITH APPLICABLE FEDERAL LAWS, EXECUTIVE ORDERS, & POLICY (NEPA planning requirements for resource issues)				
J. Special Environmental Concerns	K. Effects			
	If effect is applicable for Concern, explain in the Other/notes section, or the Evaluation Procedure Guide Sheet, or attached assistance notes. The Cultural Resources and Endangered & Threatened Species Guide Sheets are REQUIRED attachments for all ME-CP			
	No Action	Applicable? (Y/N)	Status/Effect	Action Required? Y/N
•Coastal Zone Management Areas	not applicable	no effect	no effect	N
•Cultural Resources: click for online version of ME-CR-1		Required		
•Endangered & Threatened Species: click for online version of ME-ECS-1		Required		
Environmental Justice	not applicable	no effect	no effect	N
Floodplain Management	no effect	no effect	no effect	N
Invasive Species	no effect	no effect	no effect	N
Natural Areas	slight increase	y	additions to existing areas expected	Y
Prime and Important Farmlands	no effect	y	most unconverted at present	Y
Riparian Area	no effect	y	BMP use good	N
Scenic Beauty	slight increase	y	views need protection proposed	Y
Wetlands - NRCS	no effect	y	improve protection	Y
Wetlands - Other	not applicable	N	not applicable	N
Wild And Scenic Rivers	not applicable	N	not applicable	N
Other/notes:				
•Item may require consultation between the lead agency/responsible federal official and another governmental unit.				
L. Easements, permissions, or permits (including those required by the F&W Coordination Act):				
M. Mitigation/BMP's:				
N.	 Signature (Certified Conservation Planner)			7/24/08 Date:
O. Agencies, persons, and references consulted:				

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Urban Planning Evaluation

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NEPA requirements identified		
P. Findings		
As the Responsible federal official, select the preferred alternative:		
I have considered the effects of this action and the alternatives on the Resource, Economic, and Social Considerations; the Special Environmental Concerns; and the extraordinary circumstances criteria in the instructions for form ME-CPA-52. I find, for t		
NEPA review identified	NEPA action required	NEPA reference documentation
is not a federal action	No additional analysis is required.	Not Applicable
✓ has been sufficiently analyzed in an existing NRCS NEPA document.	No additional analysis is required.	See below in (Q.1)
effects are unknown, OR are not likely to be significant, OR may result in a significant impact on the human environment	Refer to State Office for guidance. An EA or EIS may need to be prepared.	
Q. Rationale supporting the finding:		
1. Provide citation of current NEPA document tiered to: (See Maine NEPA Tiering Documentation for guidance and example)		
Name/project: Use of NRCS Conservation Practices to Address Natural Resource Concerns on Non-Federal Lands in the New England States and New York Prepared by: Natural Resources Conservation Service NEPA document (EA or EIS): Environmental Assessment Other pertinent information (date of FONSI or ROD): April, 2007		
R. 	D.C.	7/11/08
Signature(lead agency/responsible federal official)	Title	Date

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Agriculture Evaluation

United States Department of Agriculture
Natural Resources Conservation Service

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Environmental Evaluation for Conservation Planning						
Enter data in yellow and green cells only						
Name:	Greater Lovell Land Trust	B: CMU/Fields:	B. Date:	C: Client Objectives:	Purpose and Need for Action:	
Address:	P.O. Box 181	Upper Saco River Watershed		To preserve the area's soil capacity to produce agricultural products and build local farm infrastructure for economic and community sustainability.	To implement strategies for to preserve prime soils and other farming opportunities.	
City, State, Zip:	Center Lovell, Me. 04016					
Phone:	925-1056					
H. Alternatives and Effects	No Action (Benchmark Conditions including existing practices applied)		Alternative 1			
	Hay production most common practice with very few working farms producing locally grown food and providing sustainable employment		To mitigate or prevent farmland losses and to increase production of locally grown agricultural products.			
			Current Long-term Trend	Short-term Effects (during installation)	Long-term Effects (after establishment)	Note if Benchmark or Alternative meets Q.C.
Air Quality						
Air Quality-Objectionable Odors			no effect	no effect	no effect	Benchmark meets Q.C.
Air Quality Notes:						
Domestic Animals						
No resource concerns exist for domestic animals on this planning unit			no effect	no effect	no effect	Benchmark meets Q.C.
Domestic Animals Notes:						
Fish & Wildlife						
No resource concerns exist for fish and wildlife on this planning unit			no effect	no effect	no effect	Benchmark meets Q.C.
Fish and Wildlife Notes:			The potential for some conversion of forest to fields and renewed tillage of current fields may provide habitat for certain wildlife species			

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Agriculture Evaluation

United States Department of Agriculture
Natural Resources Conservation Service

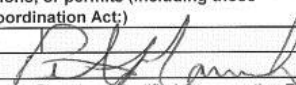
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RESOURCE CONCERN(S)	Current long-term Trend	Short-term Effects (during installation)	Long-term Effects (after established)	Note if Benchmark or Alternative meets Q.C.
Plant Condition				
No resource concerns exist for plants on this planning unit	no effect	no effect	no effect	Benchmark meets Q.C.
Plant Condition Notes:				
Soil Condition				
Soil Condition: Compaction	no effect	no effect	no effect	Alternative meets Q.C.
Soil Condition: Animal Wastes and Other Organics - Nitrogen	no effect	no effect	to be determined	Alternative meets Q.C.
Soil Condition: Contaminants - Commercial Fertilizer, Nitrogen	slight decrease	slight decrease	to be determined	Alternative meets Q.C.
Soil Condition: Subsidence	no effect	slight increase	moderate increase	Alternative meets Q.C.
Soil Condition Notes:				
Soil Erosion				
Soil Erosion: Sheet and Rill Erosion	no effect	no effect	no effect	Alternative meets Q.C.
Soil Erosion Notes:				
Water Quality				
Water Quality: Excessive Nutrients and Organics in Surface Water	no effect	no effect	no effect	Alternative meets Q.C.
Water Quality Notes:				
Water Quantity				
No resource concerns exist for water quantity on this planning unit	no effect	no effect	no effect	Alternative meets Q.C.
Water Quantity Notes:				

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Agriculture Evaluation

United States Department of Agriculture
Natural Resources Conservation Service

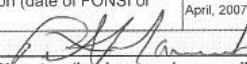


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G. Economic & Social Considerations	No Action Alternative	Selected Alternative Effects		Description of Effects
	Status	Short-term	Long-term	
Land use	high percentage of prime soils reverted to forestland but not developed	moderate increase	moderate increase	Farmland made accessible to successful farmers
Capital	land trust has limited capacity for fee acquisitions	slight decrease	slight increase	Land trust facilitation to attract investment partners
Labor	Local farmers are few	slight increase	moderate increase	Use of FarmLink, MOFGA, community farm to bring in house and outside expertise is sufficient to achieve
Management level	land trust is skilled and working with partners	moderate increase	significant increase	Community support for local grown products at fair prices
Profitability	Local food production profitability increasing	slight increase	moderate increase	Community farm investment may reduce risk on some farms
Risk	Risk is borne by the farm owner unless CSA	no effect	slight decrease	Local tradition of working landscape
Social issues and	community support for farm land use is positive			
COMPLIANCE WITH APPLICABLE FEDERAL LAWS, EXECUTIVE ORDERS, & POLICY (NEPA planning requirements for resource issues)				
J. Special Environmental Concerns	K. Effects			
	If effect is applicable for Concern, explain in the Other/notes section, or the Evaluation Procedure Guide Sheet, or attached assistance notes. The Cultural Resources and Endangered & Threatened Species Guide Sheets are REQUIRED attachments for all ME-CP			
	No Action	Applicable? (Y/N)	Status/Effect	Action Required? Y/N
•Coastal Zone Management Areas	not applicable	no effect	no effect	N
•Cultural Resources: click for online version of ME-CR-1		Required		
•Endangered & Threatened Species: click for online version of ME-ECS-1		Required		
Environmental Justice	not applicable	no effect	no effect	N
Floodplain Management	to be determined	y	to be determined	N
Invasive Species	no effect	y	no effect	N
Natural Areas	no effect	y	no effect	N
Prime and Important Farmlands	moderate increase	y	Many reverted to forestland	Y
Riparian Area	no effect	y	BMP use good	N
Scenic Beauty	slight increase	y	field and orchard added	N
Wetlands - NRCS	no effect	y	Use BMP's	y
Wetlands - Other	not applicable	N	not applicable	N
Wild And Scenic Rivers	not applicable	N	not applicable	N
Other/notes:				
•Item may require consultation between the lead agency/responsible federal official and another governmental unit.				
L. Easements, permissions, or permits (including those required by the F&W Coordination Act):				
M. Mitigation/BMP's:				
N.	 Signature (Certified Conservation Planner)			7/22/08 Date
O. Agencies, persons, and references consulted:				

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Agriculture Evaluation

United States Department of Agriculture
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NEPA requirements identified		
P. Findings		
As the Responsible federal official, select the preferred alternative:		
I have considered the effects of this action and the alternatives on the Resource, Economic, and Social Considerations; the Special Environmental Concerns; and the extraordinary circumstances criteria in the instructions for form ME-CPA-52. I find, for t		
NEPA review identified	NEPA action required	NEPA reference documentation
is not a federal action	No additional analysis is required.	Not Applicable
✓ has been sufficiently analyzed in an existing NRCS NEPA document.	No additional analysis is required.	See below in (Q.1)
effects are unknown, OR are not likely to be significant, OR may result in a significant impact on the human environment	Refer to State Office for guidance. An EA or EIS may need to be prepared.	
Q. Rationale supporting the finding:		
1. Provide citation of current NEPA document tiered to: (See Maine NEPA Tiering Documentation for guidance and example)		
Name/project: Prepared by: NEPA document (EA or EIS): Other pertinent information (date of FONSI or ROD):	Use of NRCS Conservation Practices to Address Natural Resource Concerns on Non-Federal Lands in the New England States and New York Natural Resources Conservation Service Environmental Assessment April, 2007	
R. 		
Signature(lead agency/responsible federal official)	Title	Date

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Forest Evaluation

United States Department of Agriculture
Natural Resources Conservation Service

ME-CPA-52
October, 2007

Environmental Evaluation for Conservation Planning					
Enter data in yellow and green cells only					
Name:	Greater Lovell Land Trust	B. CMU/Fields:	B. Date:	C. Client Objectives:	Purpose and Need for Action:
Address:	P.O. Box 181	Upper Saco River Watershed		To preserve the area's forestland and forestry infrastructure for economic, ecological and community sustainability.	To implement strategies preserving healthy managed forests.
City, State, Zip:	Center Lovell, Me. 04016				
Phone:	925-1056				
H. Alternatives and Effects	No Action (Benchmark Conditions including existing practices applied)		Alternative 1		
	The practice of forestry is sustainable provided lands are not lost to alternative uses and no further erosion of the forestry infrastructure occurs.		To mitigate or prevent net losses to forest productivity and infrastructure.		
		Current Long-term Trend	Short-term Effects (during installation)	Long-term Effects (after establishment)	Note if Benchmark or Alternative meets Q.C.
Air Quality					
No resource concerns exist for air quality on this planning unit		no effect	no effect	no effect	Benchmark meets Q.C.
Air Quality Notes:					
Domestic Animals					
No resource concerns exist for domestic animals on this planning unit		no effect	no effect	no effect	Benchmark meets Q.C.
Domestic Animals Notes:					
Fish & Wildlife					
Fish and Wildlife - Habitat Fragmentation		moderate increase	slight decrease	significant decrease	Alternative meets Q.C.
Fish and Wildlife - State T & E Species, Special Concern/Declining Species, Essential Habitats		slight decrease	no effect	no effect	Alternative meets Q.C.
Fish and Wildlife Notes:		Habitat loss and population losses due to fragmentation possible without action			

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Forest Evaluation

United States Department of Agriculture
Natural Resources Conservation Service

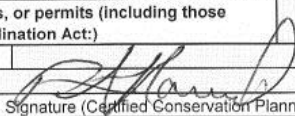
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RESOURCE CONCERN(S)	Current long-term Trend	Short-term Effects (during installation)	Long-term Effects (after established)	Note if Benchmark or Alternative meets Q.C.
Plant Condition				
Plant Condition - Productivity, Health & Vigor	no effect	slight increase	moderate increase	Alternative meets Q.C.
Plant Condition - T & E Plant Species (State or Federal), Declining Species, Species of Concern	slight decrease	slight decrease	slight decrease	Alternative meets Q.C.
Plant Condition Notes:				
Soil Condition				
No resource concerns exist for soil condition on this planning unit	no effect	no effect	no effect	Benchmark meets Q.C.
Soil Condition Notes:				
Soil Erosion				
Soil Erosion: Roads, Road Sides and Construction Sites	no effect	slight decrease	moderate decrease	Alternative meets Q.C.
Soil Erosion: Classic Gully Erosion	no effect	slight decrease	moderate decrease	Alternative meets Q.C.
Soil Erosion Notes:	Full use of Forestry BMP's through education and implementation will achieve results			
Water Quality				
Water Quality: Excessive Nutrients and Organics in Surface Water	no effect	slight decrease	slight decrease	Alternative meets Q.C.
Water Quality: Excessive Suspended Sediment and Turbidity in Surface Water	no effect	slight decrease	slight decrease	Alternative meets Q.C.
Water Quality Notes:	Use of BMP's has steadily reduced this threat but more is needed			
Water Quantity				
No resource concerns exist for water quantity on this planning unit	no effect	no effect	no effect	Alternative meets Q.C.
Water Quantity Notes:				

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G. Economic & Social Considerations	No Action Alternative	Selected Alternative Effects		Description of Effects
	Status	Short-term	Long-term	
Land use	Many quality forest stands in the study area threatened by land conversion	moderate increase	moderate increase	Incentives for long term management may improve quality
Capital	land trust has capital to initiate a Forestry Cooperative	slight decrease	moderate increase	Forestry Cooperative can increase available capital
Labor	Loggers, millers and secondary processors in reduced supply	slight increase	moderate increase	Increased respect and profitability in various professions can attract
Management level	land trust is skilled and working with partners and in forestry	slight increase	moderate increase	In house and outside expertise is sufficient to achieve
Profitability	Forestry cooperative can improve profitability	slight increase	moderate increase	Community support for local grown products at fair prices
Risk	Risk is borne by all parties thus reduced for all	slight decrease	significant increase	Risk offset by increased profitability and shared risk.
Social issues and	community support for local forest products is positive		decrease	cal tradition of working landscap
COMPLIANCE WITH APPLICABLE FEDERAL LAWS, EXECUTIVE ORDERS, & POLICY				
(NEPA planning requirements for resource issues)				
J. Special Environmental Concerns	K. Effects			
	If effect is applicable for Concern, explain in the Other/notes section, or the Evaluation Procedure Guide Sheet, or attached assistance notes. The Cultural Resources and Endangered & Threatened Species Guide Sheets are REQUIRED attachments for all ME-CP			
	No Action	Applicable? (Y/N)	Status/Effect	Action Required? Y/N
●Coastal Zone Management Areas	not applicable	no effect	no effect	N
●Cultural Resources: click for online version of ME-CR-1		Required		
●Endangered & Threatened Species: click for online version of ME-ECS-1		Required		
Environmental Justice	not applicable	no effect	no effect	N
Floodplain Management	not applicable	n	no effect	N
Invasive Species	no effect	n	no effect	N
Natural Areas	no effect	n	no effect	N
Prime and Important Farmlands	no effect	n	no effect	N
Riparian Area	no effect	y	BMP use good	N
Scenic Beauty	slight increase	y	improved practices	N
Wetlands - NRCS	no effect	y	Use BMP's	y
Wetlands - Other	not applicable	N	not applicable	N
Wild And Scenic Rivers	not applicable	N	not applicable	N
Other/notes:				
●Item may require consultation between the lead agency/responsible federal official and another governmental unit.				
L. Easements, permissions, or permits (including those required by the F&W Coordination Act):				
M. Mitigation/BMP's:				
N.	 Signature (Certified Conservation Planner)			7/24/08 Date:
O. Agencies, persons, and references consulted:				

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Forest Evaluation

United States Department of Agriculture
Natural Resources Conservation Service

ME-CPA-52
October, 2007

NEPA requirements identified		
P. Findings		
As the Responsible federal official, select the preferred alternative:		
I have considered the effects of this action and the alternatives on the Resource, Economic, and Social Considerations; the Special Environmental Concerns; and the extraordinary circumstances criteria in the instructions for form ME-CPA-52. I find, for t		
NEPA review identified	NEPA action required	NEPA reference documentation
is not a federal action	No additional analysis is required.	Not Applicable
✓ has been sufficiently analyzed in an existing NRCS NEPA document.	No additional analysis is required.	See below in (Q.1)
effects are unknown, OR are not likely to be significant, OR may result in a significant impact on the human environment	Refer to State Office for guidance. An EA or EIS may need to be prepared.	
Q. Rationale supporting the finding:		
1. Provide citation of current NEPA document tiered to: (See Maine NEPA Tiering Documentation for guidance and example) Use of NRCS Conservation Practices to Address Natural Resource Concerns on Non-Federal Lands in the New England States and New York		
Name/project:	Natural Resources Conservation Service	
Prepared by:	Environmental Assessment	
NEPA document (EA or EIS):	April, 2007	
Other pertinent information (date of FONSI or ROD):		
R.	 Signature(lead agency/responsible federal official)	DC Title
		7/2/07 Date

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Recreation Evaluation

United States Department of Agriculture
Natural Resources Conservation Service

ME-CPA-52
October, 2007

Environmental Evaluation for Conservation Planning Enter data in yellow and green cells only						
Name:	Greater Lovell Land Trust	B: CMU/Fields:	B. Date:	C: Client Objectives:	Purpose and Need for Action:	
Address:	P.O. Box 181	Upper Saco River Watershed		To preserve access to and high quality recreational opportunities on our local land and waters	To implement strategies preserving access while encouraging safe behaviors and ecologically compatible recreational uses.	
City, State, Zip:	Center Lovell, Me. 04016					
Phone:	925-1056					
H. Alternatives and Effects	No Action (Benchmark Conditions including existing practices applied)		Alternative 1			
	Current Recreational use is mostly traditional hiking, hunting, fishing and boating. User conflicts though minimal are on the increase		To mitigate or prevent net losses to access, reduce user conflicts and increase land and water based recreational opportunities.			
			Current Long-term Trend	Short-term Effects (during installation)	Long-term Effects (after establishment)	Note if Benchmark or Alternative meets Q.C.
Air Quality						
No resource concerns exist for air quality on this planning unit			no effect	no effect	no effect	Benchmark meets Q.C.
Air Quality Notes:						
Domestic Animals						
No resource concerns exist for domestic animals on this planning unit			no effect	no effect	no effect	Benchmark meets Q.C.
Domestic Animals Notes:						
Fish & Wildlife						
Fish and Wildlife - State T & E Species, Special Concern/Declining Species, Essential Habitats			to be determined	slight increase	slight decrease	Alternative meets Q.C.
Fish and Wildlife Notes:			Shoreland erosion and personal watercraft and boating behaviors can threaten loons and bald eagles			

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Recreation Evaluation

United States Department of Agriculture
Natural Resources Conservation Service


ME-CPA-52
October, 2007

RESOURCE CONCERN(S)	Current long-term Trend	Short-term Effects (during installation)	Long-term Effects (after established)	Note if Benchmark or Alternative meets Q.C.
Plant Condition				
Plant Condition - Noxious and Invasive Plants	no effect	to be determined	to be determined	Alternative meets Q.C.
Plant Condition Notes: One area pond infested with milfoil with eradication effort in place, aquatic invasive introduction a real threat				
Soil Condition				
No resource concerns exist for soil condition on this planning unit	no effect	no effect	no effect	Benchmark meets Q.C.
Soil Condition Notes:				
Soil Erosion				
Soil Erosion: Classic Gully Erosion	no effect	slight decrease	moderate decrease	Alternative meets Q.C.
Soil Erosion: Shoreline Erosion	no effect	slight decrease	moderate decrease	Alternative meets Q.C.
Soil Erosion Notes: ATV use on inappropriate sites and boat wakes two most evident threats				
Water Quality				
No resource concerns exist for water quality on this planning unit	no effect	no effect	no effect	Benchmark meets Q.C.
Water Quality Notes:				
Water Quantity				
No resource concerns exist for water quantity on this planning unit	no effect	no effect	no effect	Alternative meets Q.C.
Water Quantity Notes:				

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Recreation Evaluation

United States Department of Agriculture
Natural Resources Conservation Service

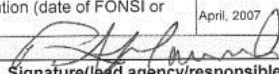
ME-CPA-52
October, 2007

G. Economic & Social Considerations	No Action Alternative		Selected Alternative Effects		Description of Effects
	Status		Short-term	Long-term	
Land use	Several all season hiking trails, boat launches exist, with more land being posted land trust and one town has capital to purchase and create new opportunities		slight increase	slight increase	Use land trust multiple use policies as public education tool
Capital			slight increase	moderate increase	Several projects in discussion phase with owners
Labor	Labor the enforce A/V and water recreational users is inadequate		slight increase	moderate increase	Law enforcement capacity to respond can be effective
Management level	Land Trust can manage its own lands but not the waters or private lands		slight increase	moderate increase	Will best be done with towns and Lake Associations
Profitability	not applicable except as it may help recreation related businesses		no effect	no effect	Retaining the historic quality experience provides niche market
Risk	Risk to quality experience can reduce visitors and lower property values		to be determined	to be determined	Risk offset by increased profitability through niche
Social issues and	community support for traditional uses strong				Access guarantees are local
COMPLIANCE WITH APPLICABLE FEDERAL LAWS, EXECUTIVE ORDERS, & POLICY (NEPA planning requirements for resource issues)					
J. Special Environmental Concerns	K. Effects				
	If effect is applicable for Concern, explain in the Other/notes section, or the Evaluation Procedure Guide Sheet, or attached assistance notes. The Cultural Resources and Endangered & Threatened Species Guide Sheets are REQUIRED attachments for all ME-CP				
	No Action	Applicable? (Y/N)	Status/Effect	Action Required? Y/N	
●Coastal Zone Management Areas	not applicable	no effect	no effect	N	
●Cultural Resources: click for online version of ME-CR-1		Required			
●Endangered & Threatened Species: click for online version of ME-ECS-1		Required			
Environmental Justice	not applicable	no effect	no effect	N	
Floodplain Management	not applicable	n	no effect	N	
Invasive Species	no effect	n	no effect	N	
Natural Areas	no effect	n	no effect	N	
Prime and Important Farmlands	no effect	n	no effect	N	
Riparian Area	see effects notes	y	reduce shoreline erosion	Y	
Scenic Beauty	slight increase	y	additional trails	N	
Wetlands - NRCS	no effect	y	Use BMP's	y	
Wetlands - Other	not applicable	N	not applicable	N	
Wild And Scenic Rivers	not applicable	N	not applicable	N	
Other/notes:					
●Item may require consultation between the lead agency/responsible federal official and another governmental unit.					
L. Easements, permissions, or permits (including those required by the F&W Coordination Act):					
M. Mitigation/BMP's:					
N.				7/22/09	Date
O. Agencies, persons, and references consulted:					

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Recreation Evaluation

United States Department of Agriculture
Natural Resources Conservation Service

ME-CPA-52
October, 2007

NEPA requirements identified		
P. Findings		
As the Responsible federal official, select the preferred alternative:		
I have considered the effects of this action and the alternatives on the Resource, Economic, and Social Considerations; the Special Environmental Concerns; and the extraordinary circumstances criteria in the instructions for form ME-CPA-52. I find, for t		
NEPA review identified	NEPA action required	NEPA reference documentation
is not a federal action	No additional analysis is required.	Not Applicable
✓ has been sufficiently analyzed in an existing NRCS NEPA document.	No additional analysis is required.	See below in (Q.1)
effects are unknown , OR are not likely to be significant, OR may result in a significant impact on the human environment	Refer to State Office for guidance. An EA or EIS may need to be prepared.	
Q. Rationale supporting the finding:		
1. Provide citation of current NEPA document tiered to: (See Maine NEPA Tiering Documentation for guidance and example)		
Name/project:	Use of NRCS Conservation Practices to Address Natural Resource Concerns on Non-Federal Lands in the New England States and New York	
Prepared by:	Natural Resources Conservation Service	
NEPA document (EA or EIS):	Environmental Assessment	
Other pertinent information (date of FONSI or ROD):	April, 2007	
R. 	D.C.	7/2/09
Signature(lead agency/responsible federal official)	Title	Date

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Wildlife Evaluation

United States Department of Agriculture
Natural Resources Conservation Service

ME-CPA-52
October, 2007

Environmental Evaluation for Conservation Planning					
Enter data in yellow and green cells only					
Name:	Greater Lovell Land Trust	B. CMU/Fields:	B. Date:	C. Client Objectives:	Purpose and Need for Action:
Address:	P.O. Box 181	Upper Saco River Watershed		To maintain viable native terrestrial and aquatic populations in the Upper Saco River watershed.	To implement strategies for ensuring the integrity of each through public and private collaborative actions.
City, State, Zip:	Center Lovell, Me. 04016				
Phone:	925-1056				
H. Alternatives and Effects	No Action (Benchmark Conditions including existing practices applied)		Alternative 1		
	Native populations are at increased threat of habitat loss due to increased and unplanned development and potential water quality degradation.		To mitigate or prevent habitat losses through the identification and preservation of large unfragmented forest blocks, wildlife corridors and water quality preservation.		
		Current Long- term Trend	Short-term Effects (during installation)	Long-term Effects (after establishment)	Note if Benchmark or Alternative meets Q.C.
Air Quality					
No resource concerns exist for air quality on this planning unit		no effect	no effect	no effect	Benchmark meets Q.C.
Air Quality Notes:					
Domestic Animals					
No resource concerns exist for domestic animals on this planning unit		no effect	no effect	no effect	Benchmark meets Q.C.
Domestic Animals Notes:					
Fish & Wildlife					
Fish and Wildlife - Habitat Fragmentation		moderate decrease	slight decrease	slight decrease	Alternative meets Q.C.
Fish and Wildlife - State T & E Species, Special Concern/Declining Species, Essential Habitats		slight decrease	slight decrease	slight increase	Alternative meets Q.C.
Fish and Wildlife Notes:		Native salmon and trout populations under potential stress			

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Wildlife Evaluation

United States Department of Agriculture
Natural Resources Conservation Service

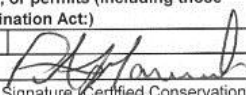
ME-CPA-52
October, 2007

RESOURCE CONCERN(S)	Current long-term Trend	Short-term Effects (during installation)	Long-term Effects (after established)	Note if Benchmark or Alternative meets Q.C.
Plant Condition				
Plant Condition - Threatened and Endangered Plant Species	slight decrease	slight decrease	moderate increase	Alternative meets Q.C.
Plant Condition - Noxious and Invasive Plants	no effect	no effect	slight decrease	Benchmark meets Q.C.
Plant Condition - Productivity, Health & Vigor	slight decrease	slight increase	moderate increase	Alternative meets Q.C.
Plant Condition Notes:				
Soil Condition				
No resource concerns exist for soil condition on this planning unit	no effect	no effect	no effect	Benchmark meets Q.C.
Soil Condition Notes:				
Soil Erosion				
Soil Erosion: Roads, Road Sides and Construction Sites	slight increase	slight decrease	significant decrease	Alternative meets Q.C.
Soil Erosion: Shoreline Erosion	slight increase	moderate decrease	moderate decrease	Alternative meets Q.C.
Soil Erosion Notes:				
Water Quality				
Water Quality: Harmful Temperatures in Surface Water	slight increase	no effect	slight decrease	Alternative meets Q.C.
Water Quality: Excessive Nutrients and Organics in Surface Water	slight decrease	no effect	moderate decrease	Benchmark meets Q.C.
Water Quality: Excessive Suspended Sediment and Turbidity in Surface Water	slight decrease	no effect	slight decrease	Benchmark meets Q.C.
Water Quality Notes:				
Water Quantity				
Water Quantity: Insufficient Flows in Water Courses	no effect	no effect	slight decrease	Alternative meets Q.C.
Water Quantity - Aquifer Overdraft	no effect	no effect	moderate decrease	Alternative meets Q.C.
Water Quantity Notes:				

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Wildlife Evaluation

United States Department of Agriculture
Natural Resources Conservation Service

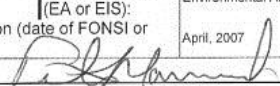
ME-CPA-52
October, 2007

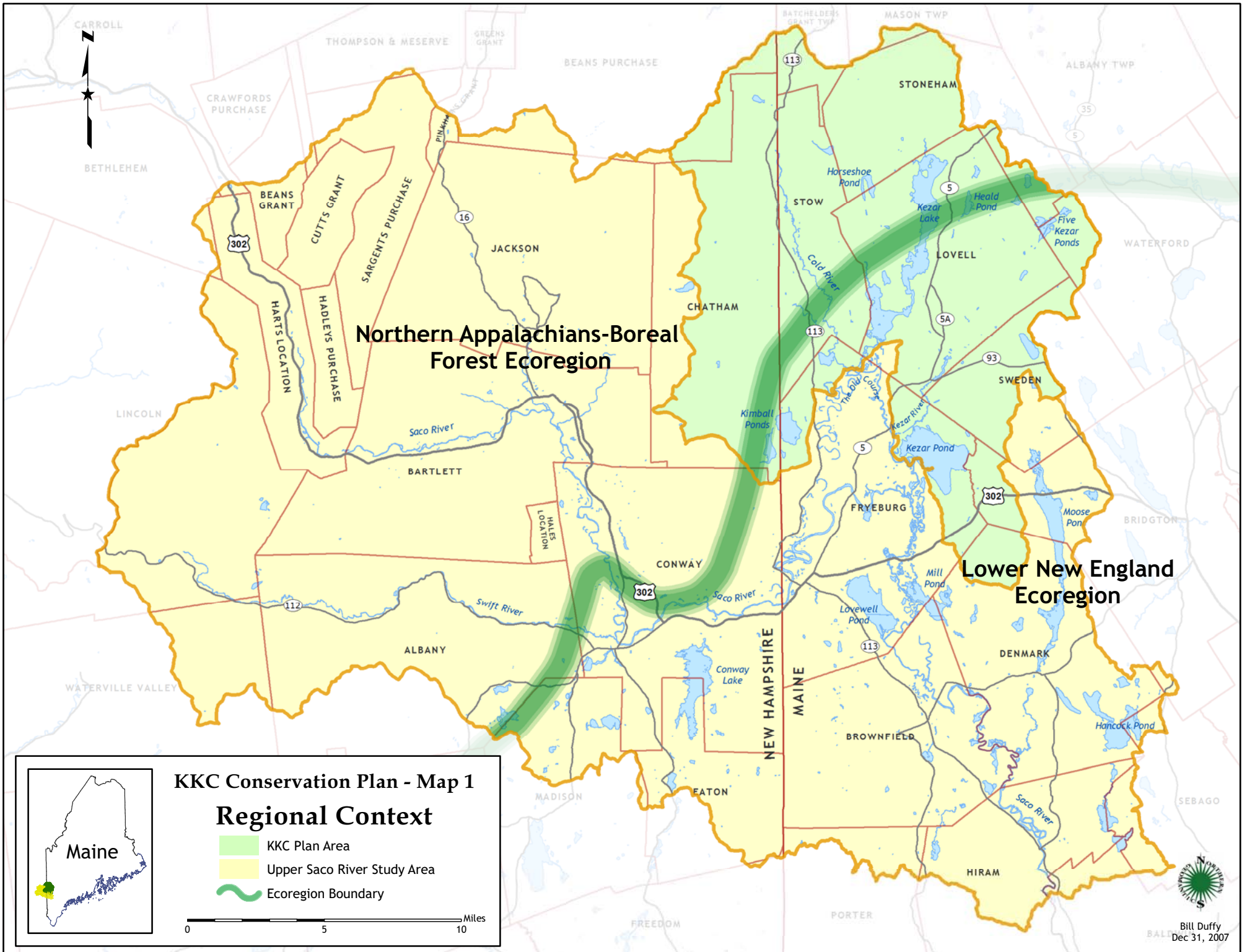
G. Economic & Social Considerations	No Action Alternative	Selected Alternative Effects		Description of Effects
		Status	Short-term	
Land use	significant forest blocks for native populations and traditional recreation	slight increase	moderate increase	voluntary private landowner actions vital to success
Capital	land trust has limited capacity for fee acquisitions	slight decrease	slight increase	land trust to stress conservation easements versus fee
Labor	adequate human resources available	no effect	no effect	trust staff and volunteers to lead
Management level	landowner dependent transactions	slight increase	moderate increase	Plan supports landowner actions to set aside native habitats
Profitability	commercial groundwater extraction may be effected in less to sell	no effect	slight decrease	acquirer impacts to water temp to be determined
Risk	towns/private road assoc's may not be willing to accept the costs of standards	no effect	moderate increase	difficult politically and economically to implement
Social issues and	broad community support is good, but can be lost if economics are unfavorable			fish and wildlife will benefit
COMPLIANCE WITH APPLICABLE FEDERAL LAWS, EXECUTIVE ORDERS, & POLICY (NEPA planning requirements for resource issues)				
J. Special Environmental Concerns	K. Effects			
	If effect is applicable for Concern, explain in the Other/notes section, or the Evaluation Procedure Guide Sheet, or attached assistance notes. The Cultural Resources and Endangered & Threatened Species Guide Sheets are REQUIRED attachments for all ME-CP52s.			
	No Action	Applicable? (Y/N)	Status/Effect	Action Required? Y/N
●Coastal Zone Management Areas	not applicable	no effect	no effect	N
●Cultural Resources: click for online version of ME-CR-1		Required		
●Endangered & Threatened Species: click for online version of ME-ECS-1		Required		
Environmental Justice	not applicable	no effect	no effect	N
Floodplain Management	no effect	no effect	no effect	N
Invasive Species	no effect	no effect	no effect	N
Natural Areas	slight increase	y	additions to existing areas expected	Y
Prime and Important Farmlands	no effect	y	most unconverted at present	Y
Riparian Area	no effect	y	BMP use good	N
Scenic Beauty	slight increase	y	viewshed protection proposed	Y
Wetlands - NRCS	no effect	n	no effect	y
Wetlands - Other	no effect	y	no effect	N
Wild And Scenic Rivers	not applicable	N	not applicable	N
Other/notes:				
●Item may require consultation between the lead agency/responsible federal official and another governmental unit.				
L. Easements, permissions, or permits (including those required by the F&W Coordination Act):				
M. Mitigation/BMP's:				
N.				7/7/03
Signature (Certified Conservation Planner)			Date:	
O. Agencies, persons, and references consulted:				

Appendix VII. NRCS Environmental Evaluations for Conservation Planning Wildlife Evaluation

United States Department of Agriculture
Natural Resources Conservation Service

ME-CPA-52
October, 2007

NEPA requirements identified		
P. Findings		
As the Responsible federal official, select the preferred alternative:		
I have considered the effects of this action and the alternatives on the Resource, Economic, and Social Considerations; the Special Environmental Concerns; and the extraordinary circumstances criteria in the instructions for form ME-CPA-52. I find, for the reasons stated in (Q) below, that the preferred alternative:		
NEPA review identified	NEPA action required	NEPA reference documentation
is not a federal action	No additional analysis is required.	Not Applicable
✓ has been sufficiently analyzed in an existing NRCS NEPA document.	No additional analysis is required.	See below in (Q.1)
effects are unknown, OR are not likely to be significant, OR may result in a significant impact on the human environment	Refer to State Office for guidance. An EA or EIS may need to be prepared.	
Q. Rationale supporting the finding:		
1. Provide citation of current NEPA document tiered to: (See Maine NEPA Tiering Documentation for guidance and example)		
Name/project:	Use of NRCS Conservation Practices to Address Natural Resource Concerns on Non-Federal Lands in the New England States and New York	
Prepared by:	Natural Resources Conservation Service	
NEPA document (EA or EIS):	Environmental Assessment	
Other pertinent information (date of FONSI or ROD):	April, 2007	
R.		DC 7/27/07
	Signature(lead agency/responsible federal official)	Title Date

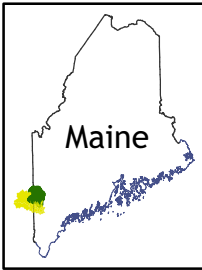
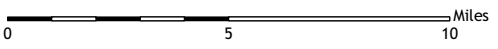


Northern Appalachians-Boreal Forest Ecoregion

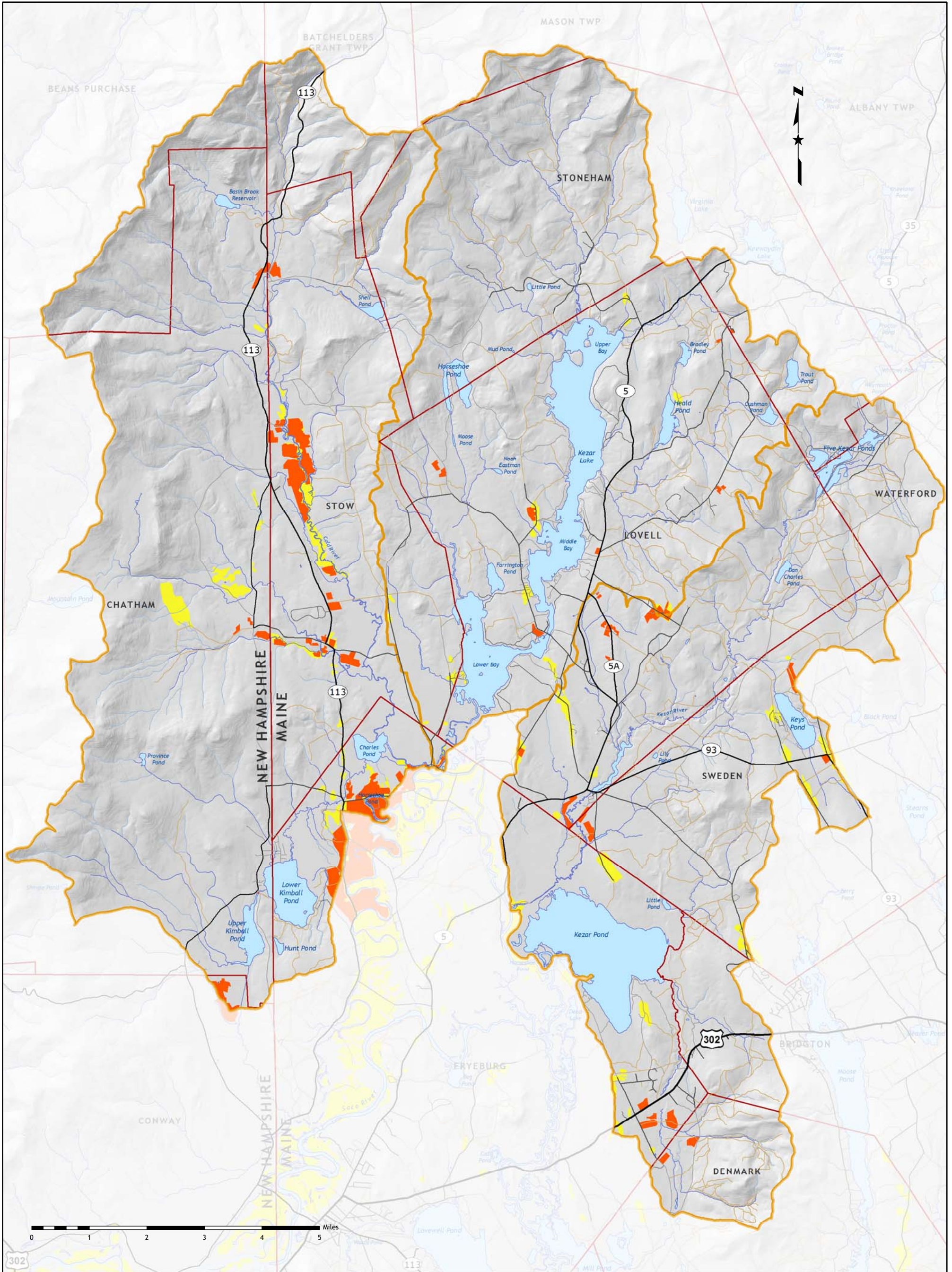
Lower New England Ecoregion

**KKC Conservation Plan - Map 1
Regional Context**

- KKC Plan Area
- Upper Saco River Study Area
- Ecoregion Boundary



Map 4



LEGEND

- Areas of prime farmland soils
- Active Farms
- Watershed Boundaries

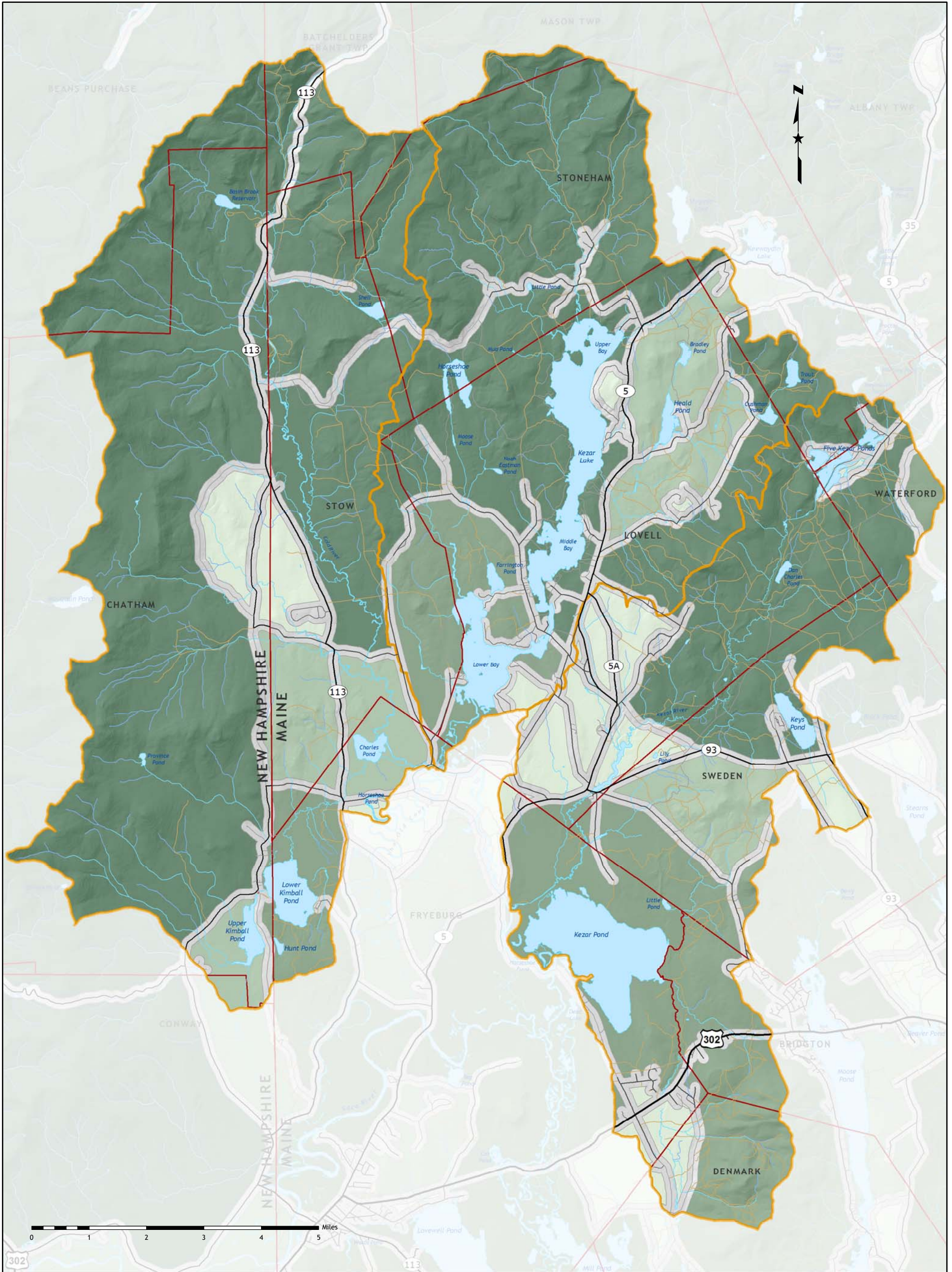
KKC Conservation Plan - Map 4

Agricultural Lands



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Dec. 31, 2007

Map 5



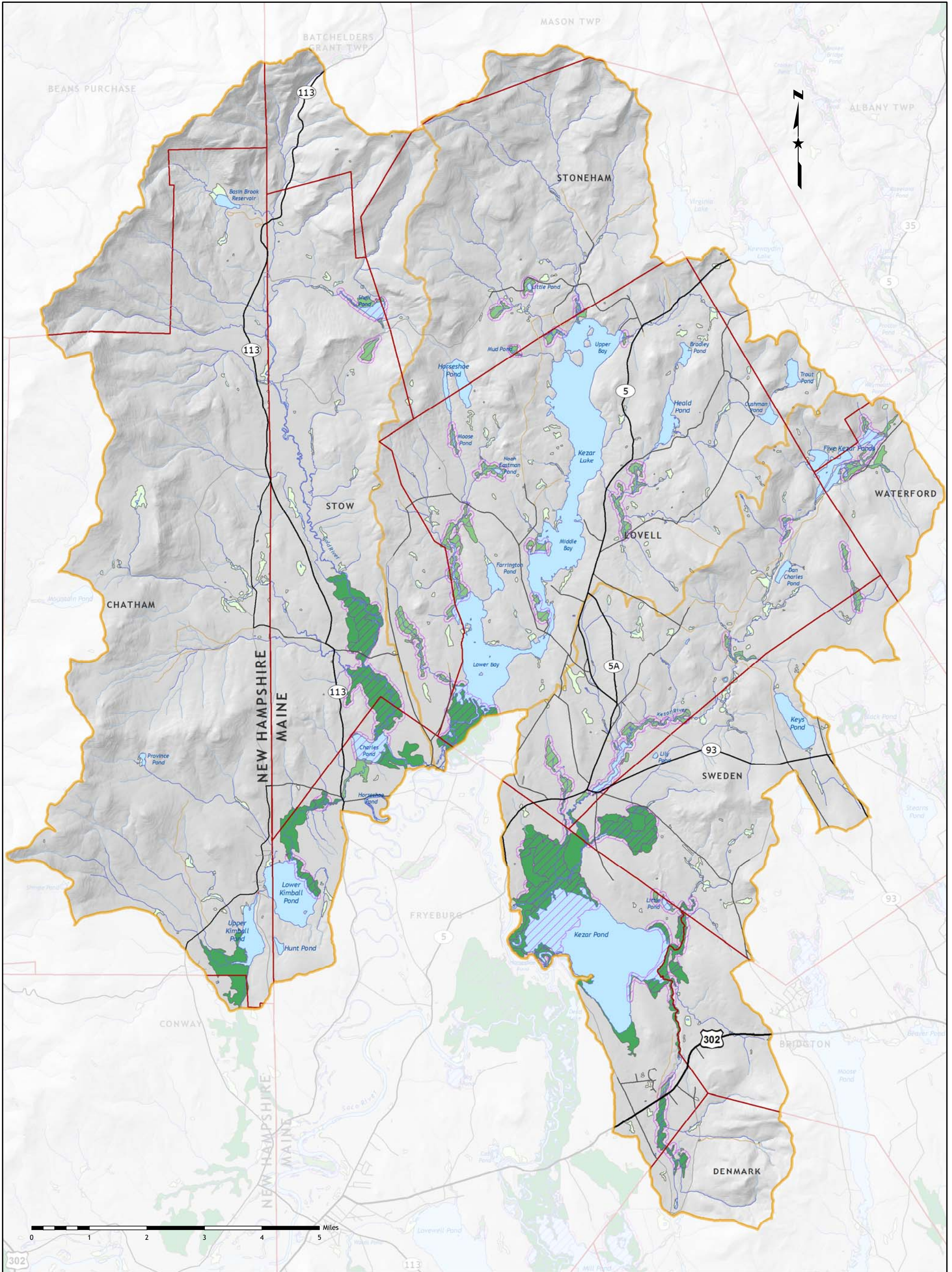
LEGEND	
Unfragmented Blocks	Roads
 < 1000 acres	 US Routes
 1000 - 2500 acres	 State Routes
 2500 - 10,000 acres	 Local Roads
 > 10,000 acres	 Gravel Roads
	 Unimproved Roads

KKC Conservation Plan - Map 5 Unfragmented Forest Blocks



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Dec. 31, 2007

Map 6



LEGEND

Wetland Communities

- Large wetland complexes (> 100 acres)
- Medium to small wetlands with associated waterbird habitat (<100 acres)
- Other medium to small wetlands (<100 acres)
- Waterfowl/Wading Bird Habitat
- Watershed Boundaries

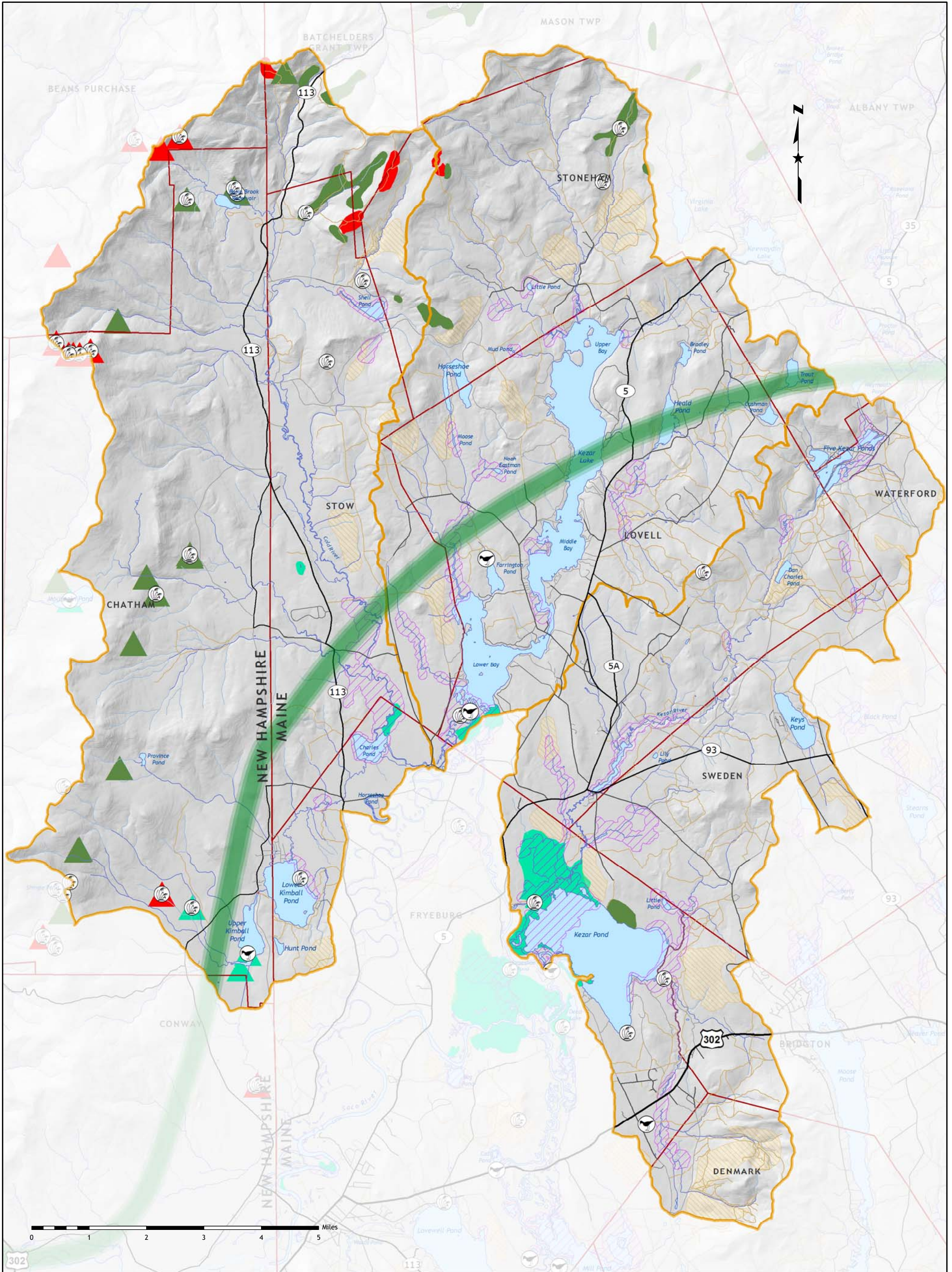
KKC Conservation Plan - Map 6

Wetland Communities



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Map 7



LEGEND

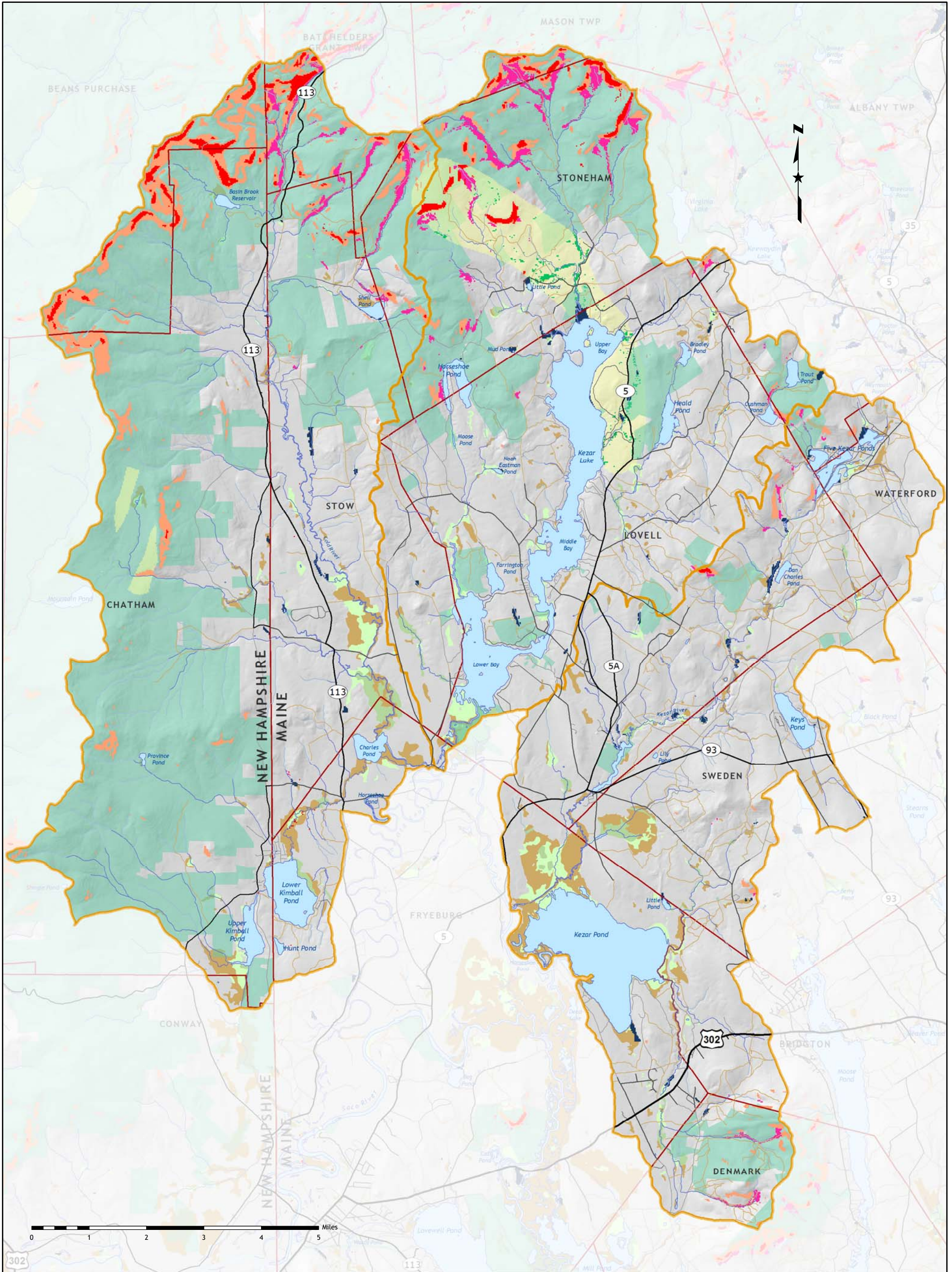
- Watershed Boundaries
- Waterfowl/Wading Bird Habitat
- IFW Deering Wintering Areas
- Rare plant
- Rare animal
- Rare/Exemplary Communities: Open or Rocky summits
- Open Wetlands
- Wooded Uplands
- Ecoregion Boundary

KKC Conservation Plan - Map 7 Significant Natural Features














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Dec. 31, 2007

Map 8



LEGEND

- | | | | | | |
|---|--------------------|---|--------------------------|---|-----------------------------|
|  | Bare rock/cliff |  | Steep slopes |  | Modeled Vernal Pools |
|  | Calcareous wetland |  | NWI Emergent Wetlands |  | Existing Conservation Lands |
|  | Enriched coves |  | NWI Scrub/Shrub Wetlands |  | Watershed Boundaries |
|  | Calcareous bedrock |  | NWI Forested Wetlands | | |

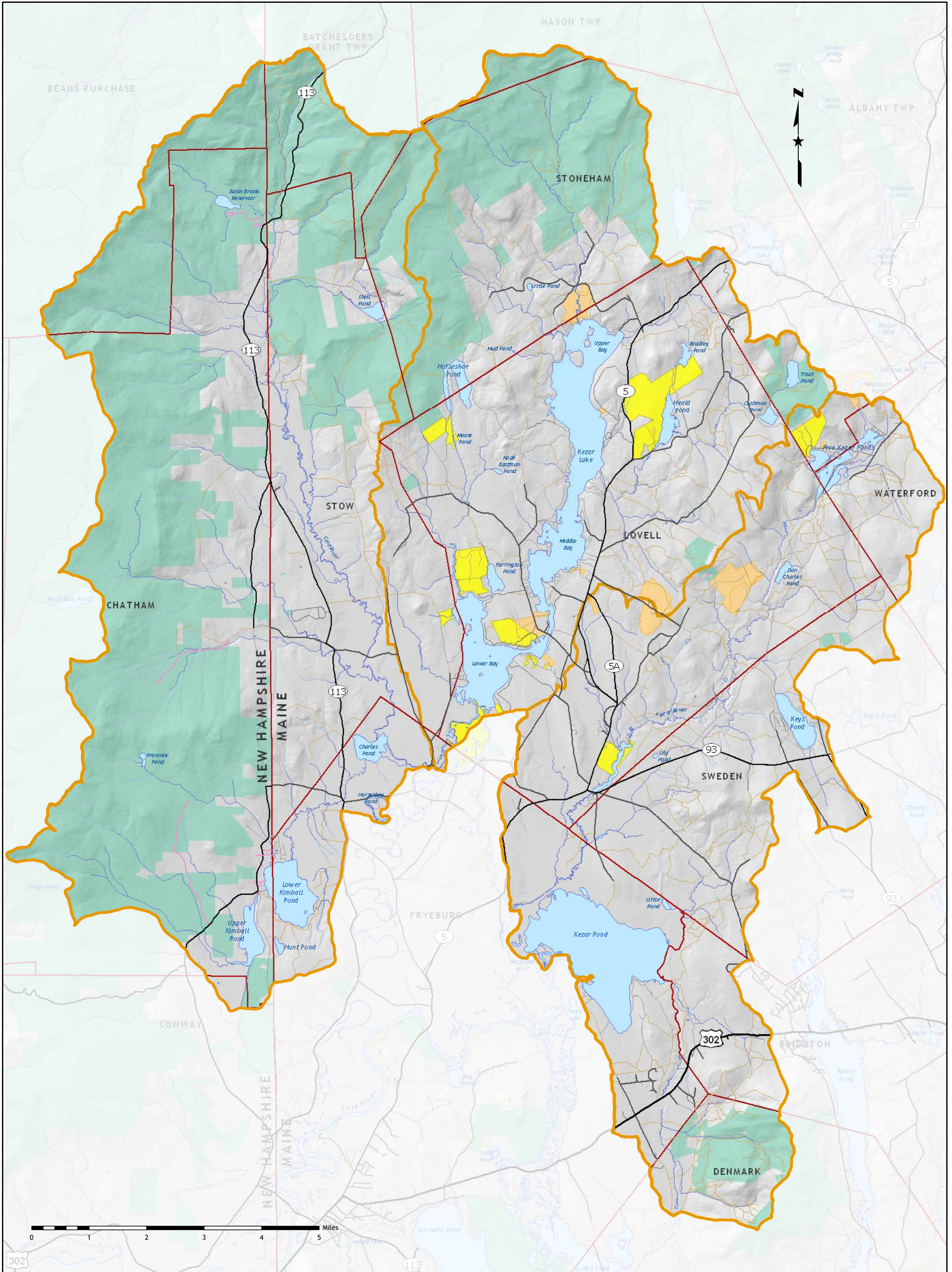
KKC Conservation Plan - Map 8

Fieldwork Targets



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Dec. 31, 2007

Map 9



LEGEND

- GLLT Easement
- GLLT Fee
- Other Conservation Lands
- Watershed Boundaries

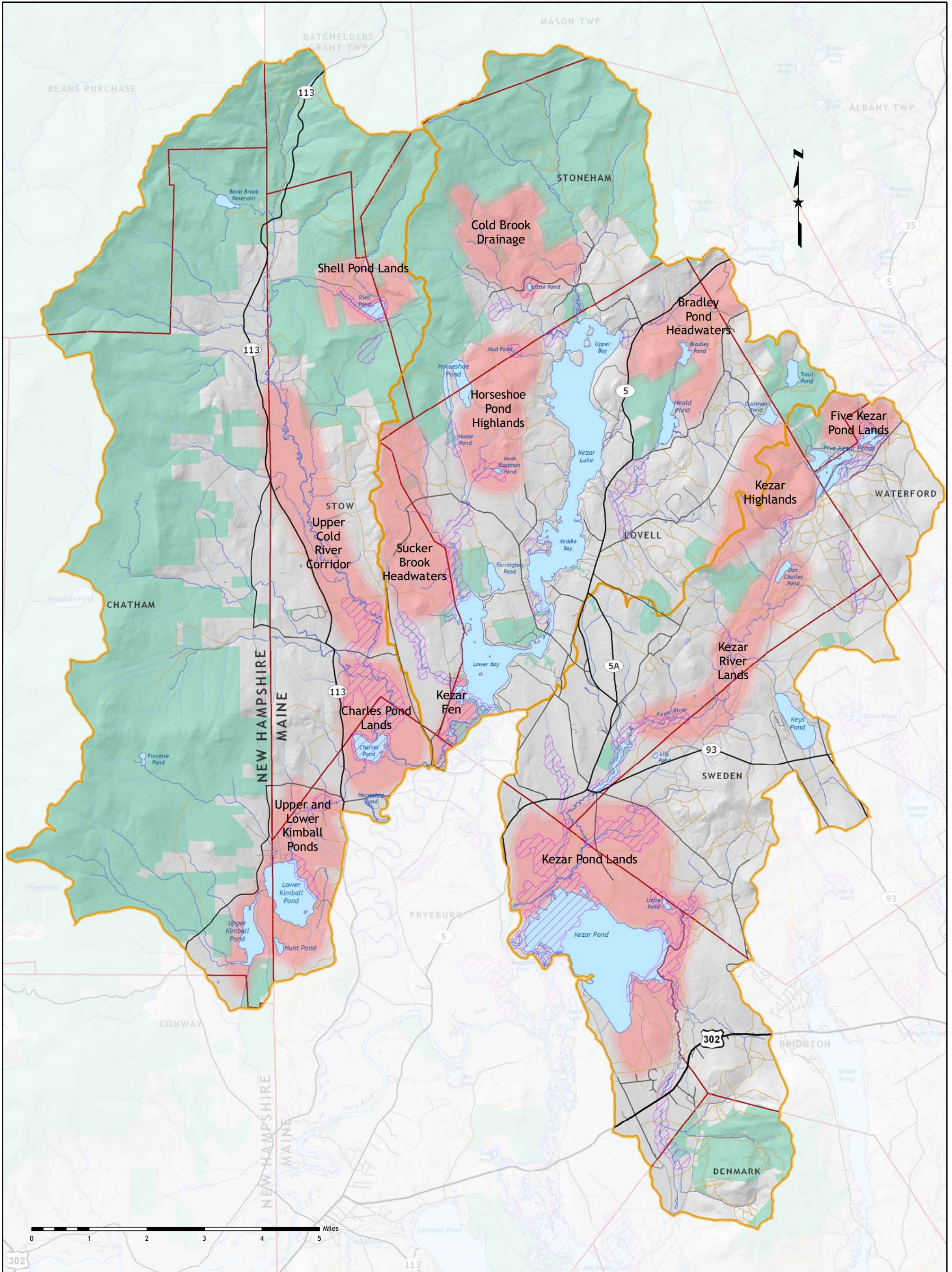
KKC Conservation Plan - Map 9

Conservation Lands



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Map 10



LEGEND

- Focus Areas
- Existing Conservation Lands
- Waterfowl/Wading Bird Habitat
- Watershed Boundaries

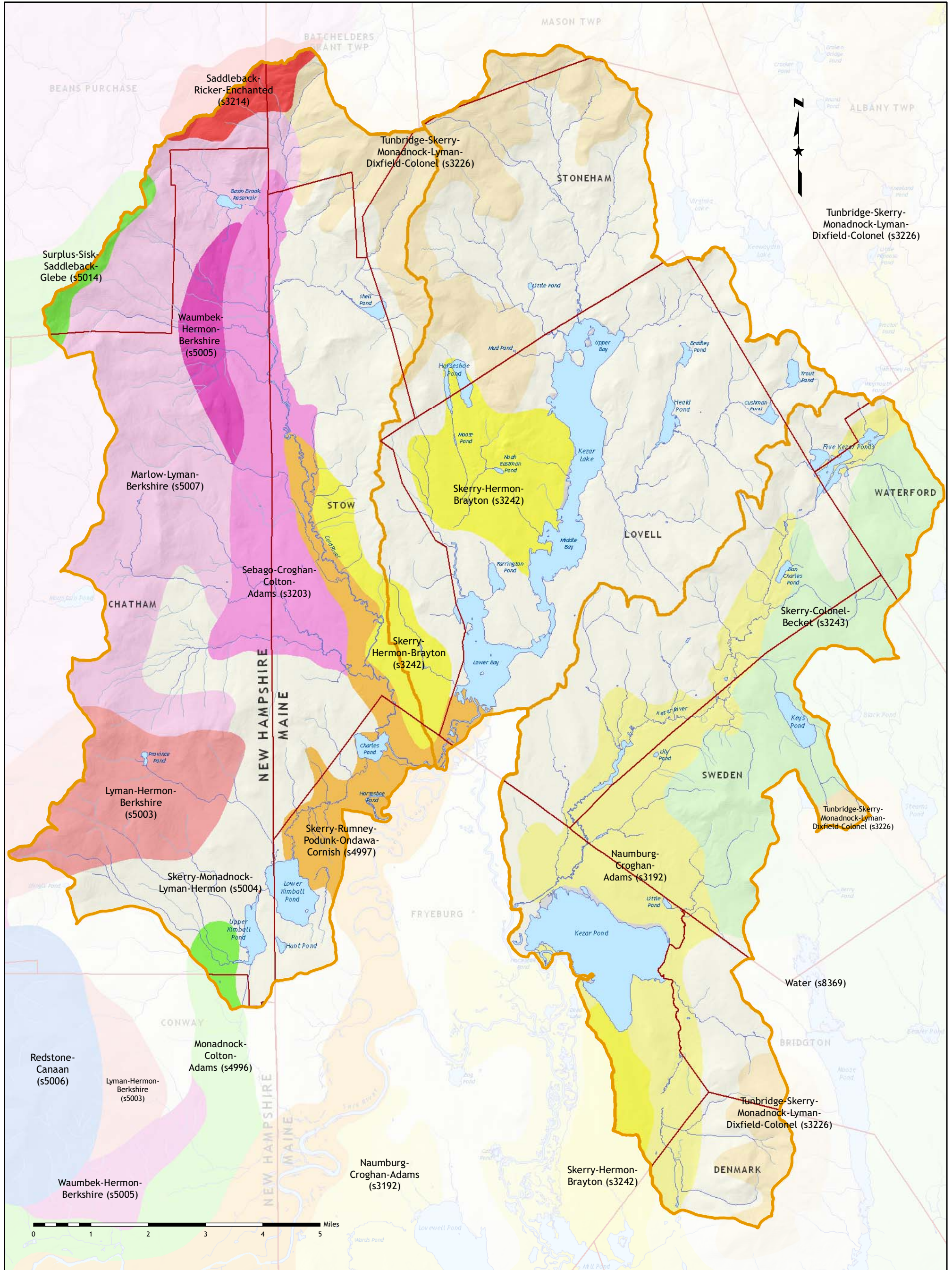
KKC Conservation Plan - Map 10

Focus Areas for Land Protection Efforts




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Map 11



KKC Conservation Plan - Map 11

General Soil Map

LEGEND
 Watershed Boundaries



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 Apr. 15, 2008