OPEN SPACE AND RECREATION PLAN

1997 - 2002

TOWN OF SUDBURY

06/09/98

Preface

This Open Space and recreation Plan is the work of many people. Authors include Frances Clark, Susan Crane, Debbie Dineen, Bridget Hanson, Jody Kablack, Carol Petrow, Sigrid Pickering, Ted Pickering, Pat Savage, and Charles Zucker. Special thanks are due to Debbie Greeno and Carol Petrow who put it all together.

Table of Contents

Section 1 - Plan Summary

This Open Space Plan was developed at a time that Sudbury was at a crossroads. The Town grew very rapidly in the last thirty years and the population tripled. Now, the Town is maturing: many residents are approaching retirement and the Town needs to address their needs. In addition to providing a diverse stock of housing, the Town must somehow free itself from its dependence on single-family homes as the majority of the tax base. The rapid growth of the past three decades and the present growth spurt the Town is undergoing make thinking about open space preservation more acute and more pressing.

This Plan presents an analysis of the Town's resources and needs and offers an action plan for meeting those needs. The first step in developing the plan was clarification of the Town's open space and recreation goals. These goals include protecting the Town's water supply, protecting wildlife habitat, preserving the Town's character, and providing active and passive recreation opportunities for all of the Town's citizens.

This Open Space Plan is one of a series of plans the Town has created and we have drawn from previous plans in creating this one. There is a major difference between this and previous plans: this is the last one that will have as one of its goals preserving parcels of land as open space. If the current pace of development continues, in five years, when the plan will be rewritten, there will be no more undeveloped open space to preserve. While we were developing this plan, one of the major parcels that we identified as worth preserving came on the market and was sold for development. There are only a few such parcels remaining. If any parcels are to be preserved, it needs to be now.

Section 2 - Introduction

This Open Space Plan was developed to provide the Town a framework with which to approach the task of open space preservation and to help establish priorities among the sometimes overwhelming number of projects involved. There were two prior Open Space Plans written in 1977 and 1985. While some of the goals presented in the previous plans have been attained, many remain some of which have been partly addressed before and some of that which are brand new.

The impetus to develop the Plan began with the Conservation Commission, but also involved other Town departments such as Park and Recreation and the Planning Board. Valuable demographic information was provided by the Town Clerk's office. Members of the Historic Commission helped with research for the Town's history.

This Open Space Plan is consistent with goals of MetroGreen, the Land Resources Element of Metropolitan Area Planning Council's (MAPC) regional development plan, MetroPlan 2000. Many of the action items are identical in both plans.

Sudbury is part of the Metrowest subregion of MAPC and the Council has recently undertaken an analysis of all existing open space lands in this subregion. When the analysis has been completed, MAPC will send a copy of its findings to the Town.

The Conservation Commission surveyed townspeople to determine what their needs and interests were. Additional public input was received at several well-attended public meetings of the Open Space Subcommittee of the Conservation Commission.

Section 3 - Community Setting

A. Regional Context

Sudbury is located approximately 25 miles west of Boston in the heart of "Metrowest". It is predominantly residential, although there are some vestiges of farming and a small segment of light industry. Like its neighbors, Sudbury is an outer suburb of Boston. Once it became more profitable to build than to farm, Sudbury's rolling landscape made it easy to develop, and the Town experienced tremendous growth in the 1950's and 1960's. The eastern border of the Town is dominated by the floodplain of the Sudbury River, which is the major regional topographic feature. The Sudbury River has been designated as a Wild and Scenic River from Framingham to Billerica. Nobscot Mountain, a large hill that Sudbury shares with Framingham, is the other principal regional geographic feature of the Town. Both of these are important areas for outdoor recreation, not only for Sudbury residents, but also for the larger community.

Being a semi-rural residential community, the recreation and open space needs are primarily to provide for active recreation (mostly for school-aged children), for passive recreation, for preservation of remaining farmland, and for habitat preservation for wildlife.

B. History of the Community

Sudbury was settled by English colonists in 1638 and incorporated in 1639, the second Massachusetts town "beyond the flow of the tide". The initial center of the Town was in Wayland, with Sudbury a western district. Part of the original attraction of the area was the broad river meadows for pasture. (After the dam at Billerica was enlarged in 1825, the meadows became less useful for agriculture, as they were now more consistently flooded).

Native Americans also inhabited the area, although their numbers had been substantially reduced by epidemics in the early 17th century. Many Native American artifacts have been discovered in Sudbury, including stone tools, a cremation pit, and grinding stones.

In the latest 17thth century a Wampanoag chieftain, Metacomet, known by the English as "King Philip", created an alliance of many Indian groups to make war on the colonists who were usurping their lands. Sudbury was on the frontier then, defended by garrison houses, and was the site of one of the major English losses of King Philip's War, the Battle of Green Hill, in 1676.

A century later, on April 19, 1775, over three hundred Sudbury militiamen marched to Concord to become a major presence at the battles of Lexington and Concord. This march is reenacted annually at daybreak each Patriot's Day.

Toward the end of the 19th century, Sudbury remained a primarily agrarian community. What industry there was, was centered at South Sudbury (now Mill Village) where there were a series of mills. Other industries included numerous greenhouses; these were heated by coal, which became more available after the railroad came in 1871.

The other population centers of the late nineteenth and early twentieth century include the Town center and North Sudbury, which was just a small village.

The last half-century has seen a tremendous increase in the population of Sudbury, as it has evolved from a small country town to a suburb of greater Boston. Although passenger rail service to Sudbury was discontinued in 1971, the advent of high technology industries in Boston and along outlying Route 128 has spurred a large population growth in this town.

C. Population Characteristics

Until 1945, Sudbury had been a small, agricultural village dating back to early Colonial Times, and proudly boasted of its role in the American Revolution. Since 1945 however, Sudbury has experienced rapid population growth, with the population stabilizing at approximately 15,000 since 1975. Sudbury's population as of January 1, 1996 was 15,846. Sudbury is approximately 25 square miles, giving it a density of about 600 people per square mile.

The rapid population growth in the 1940's through the 1960's was due to the availability of land for residential use and the fact that Sudbury was within commuting distance of Boston. Stabilization of the population may be the result of many factors: the physical constraints of developing the remaining land in Sudbury, successful preservation efforts for much of the Sudbury River floodplain and other environmentally sensitive areas (and therefore a lack of available land), fluctuations in the building trade industries, and the conscious or sub-conscious sentiment in Town that over-development is not wanted.

The fact that substantial development has taken place in the last 20 years with little increase in the total population suggests that the numbers of households are increasing, but the number of people per household is decreasing. In 1975, the number of dwellings was 3860, the average number of persons per dwelling was 3.9, and approximately 35% of the total population were school age children. Current statistics indicate that the number of housing units in Sudbury is 5304 (1996 figures obtained from the Assessors Office), the average number of persons per housing unit is 2.98 and the percentage of the total population which is school age is 30%.

Population projections prepared by the Metropolitan Area Planning Council in February 1996 estimate that over the next two decades we can expect to see the following changes in Sudbury's population:

1996	15,846 (present)
2000	15,469
2010	16,404
2020	17,222

This represents an almost 9% increase in the current population by the year 2020, with a corresponding increase in the number of households by over 30% (to 6369 total households). These projections may or may not be valid, depending to a great extent on the methods Sudbury employs to control growth and preserve open space. A build-out analysis was conducted in 1997 to give a more accurate accounting of the actual number of developable parcels in Town and estimated projections for population growth. The analysis showed that there is the potential for 1008 additional homes and that the Town would reach total build-out in 13 years.

D. Growth and Development Patterns

1. Patterns and Trends

Sudbury was settled in 1636 as a farming community, with the population reaching 2,000 by 1776. In 1945 the population was still only 2,500, with agriculture still the main occupation in the Town. The period between 1945 and 1970 was one of tremendous residential growth. Since this time the Town has changed from being a predominantly rural farming community to a suburban "bedroom" community of Boston. As of November 1997, the population is 16,784. Land use is still primarily residential with some light industry and retail business uses.

Zoning in Sudbury is predominantly residential, occupying over 93% of the total land area in the Town. Minimum lot sizes throughout the town are 1 to 1.5 acres. A small portion of the Town is zoned for 5-acre lots, corresponding to properties once held in ownership by the Wayside Inn. Approximately 7% of the total land area are zoned non-residential, including business zones, industrial zones, and one research zone. The non-residential areas in Town are primarily located along the Route 20 corridor and its intersection with Union Avenue. The Town has experienced little growth in the commercial sector in the last decade due to a surge in commercial development in the 1980's and the diminution of the supply of commercial land now available. The Fort Devens Sudbury Annex property, 500 acres located along the western boundary of the Town, is zoned for Open Space and has recently been transferred to the US Fish and Wildlife Service for protection as a wildlife refuge.

Although the population had remained somewhat fixed around 15,000 for over 20 years, development demands for new homes have increased. This is most likely due to the greater number of households in Sudbury, each with fewer numbers of people in them than 20 years ago.

The subdivision activity of the past 10 years has taken its toll on many large, visible tracts of land, as well as smaller parcels which were enjoyed mostly by the adjacent neighborhoods. Little open space has been preserved in the conventional developments, due to unwillingness by developers to sacrifice valuable land. Furthermore, financial constraints have kept the Town from purchasing reserved land for parks or recreation.

2. Infrastructure

While development of frontage lots proliferated in the 1950's, the 1990's saw the back lands subdivided, with the creation of mostly dead end streets. Due to environmental constraints which limit road construction across wetlands and a general lack of frontage due to previous development patterns (Form A lots), these newer dead end streets burden the local roadway system by forcing more traffic onto them with fewer and fewer outlets. Residents of dead end streets enjoy the solitude they offer the neighborhood, however, those people living in the older neighborhoods along the more traveled routes have to cope with increasing traffic. Not only are the older neighborhoods subjected to more traffic posing safety concerns, but they are also frequently bisected by the newer roadways. Alternative methods for joining neighborhoods are now essential. Pedestrian and bike paths through neighborhoods and conservation land, thereby avoiding congested streets and conventional modes of transportation, can accomplish this.

3. Long-term Development Patterns

A comprehensive approach to land development is needed to preserve the character of Sudbury, including its historic charm, its agricultural roots, its wooded landscape, and the unique biological attributes of its vast wetland systems. Conservation and development should be mutually inclusive processes in order to produce the most beneficial product for everyone - the Town, the residents and the habitat. Open Space Cluster Development plans are one example of how the two can work together.

Protection of land as open space is a critical component of development. Prioritization of parcels for protection clearly defines the Towns goals and sets an incentive for interested parties to get involved - to raise awareness of the assets of these properties, to raise funds for purchasing properties, to become involved in developing growth management policies. (See Map 4B)

Section 4 - Environmental Inventory and Analysis

A. Geology, Soils, and Topography

The two major geologic features of Sudbury are the Sudbury River, which flows from south to north demarcating most of the town's eastern boundary, and Nobscot Hill, which reaches a summit of 600 ft above sea level near the town's southern boundary. They represent the highest and lowest elevations of the area, with the Sudbury River defining the low point at 115 feet

above sea level. Elevations between the two undulate gracefully with rolling hills and rounded plains interspersed with numerous wetlands and vernal pools.

The landscape of Sudbury was molded by glaciers that buried it in sheets of ice more than a mile thick as they advanced and inundated it with meltwaters when they last receded about 13,000 years ago. In general soils have formed in glacial outwash deposits at elevations below 200 feet and they intergrade into soils formed in compact glacial till and ground moraine, which predominate at elevations above 250 feet. The two areas can be identified in the field by the association of stone walls with ground moraine and of stands of white pine trees that thrive in the sandy deposits of glacial outwash. Soils within floodplains along the Sudbury River and major streams are formed of alluvial materials. On the slopes of Nobscot Hill and some other minor hills in the area, soils have developed on the mantle of ground moraine deposited by glaciers onto bedrock.

A significant portion of the land area in Sudbury is wetlands that serve to retain storm water, to protect from flood damage, to purify water that percolates through them, and to provide habitat for many kinds of wildlife. The Sudbury Wetlands Administration Bylaw further strengthens State law and the Massachusetts Wetlands Protection Act to protect local wetlands as a resource in the public interest from uncontrolled activities that could undermine their essential functions. Wetlands are identified by characteristic plants adapted to wet conditions, the occurrence of hydric soils, and by hydrology. The USDA-Natural Resources Conservation Service defines a hydric soil as a soil that is saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions in the upper part.

In terms of approximate area extent, the soils of Sudbury can be summarized as follows:

Glacial Till/Moraine Upland Soils - 20%	(e.g., Charlton, Paxton, Scituate soil series)
Glacial Outwash Upland Soils - 40%	(e.g., Carver, Hinckley, Windsor soil series)
Hydric Soils - 25%	(e.g., Raypol, Scarboro, Whitman soil series)
Shallow Bedrock Soils - 10%	(e.g., Hollis soil series)
Floodplain Soils - 5%	(e.g., Occum, Pootatuck, Winooski soil series)

More than a third of Sudbury's soil presents severe limitations for the siting of septic systems due to wetness, slope, depth to bedrock (ledge), flooding and other unfavorable features. The placement of septic systems on residential lots with much less than one acre of suitable upland soils or in too close proximity to soils with severe limitations will likely result in long term maintenance problems and premature failure.

The bedrock of Sudbury is unequally divided by the Bloody Bluff Fault, which separates the Nashoba Terrane from the Avalon Terrane and the Boston Basin. The Nashoba Terrane is somewhat of a geologic enigma: its rocks are much more highly metamorphosed than those on either side of it, and are typical of rocks, which are formed at great depth. This is in contrast to the rocks of the Boston Basin, which are (lightly metamorphosed) sandstone, mudstone, and volcanics. It may be that the Nashoba Terrane represents a mini-continent that was trapped

between ancestral North America and the Caledonian Continent when they collided in the Devonian.

All the high spots in Sudbury (Nobscot, Goodman's Hill, Pendleton Hill and Green Hill) are underlain by the more resistant Avalon rocks. The Nashoba rocks to the northwest, which are generally light gray granite, gneiss, and schist, produce a more low-lying terrain.

B. Landscape Character

Sudbury's landscape is varied, with some hilly wooded sections and some open fields with gentle slopes. Its most dramatic landscape feature is the floodplain of the Sudbury River with its wide sweep of marsh. There are many hills whose silhouettes determine the familiar horizon of the town. Although the Sudbury River has the largest associated wetlands, there are other smaller rivers and marshes throughout the Town. Two of the most prominent are the Hop Brook Marsh and the marsh at Haynes Meadow.

The topography promotes the large number of vernal pools, which are basin depressions that contain water for at least two continuous months during the late spring/early summer and are used exclusively by certain amphibians for breeding precisely because they are free of adult predatory fish populations. Vernal pools are characterized by the presence of wood frogs and mole salamanders and can occur in all positions in the landscape ranging from within other wetland areas to isolated upland settings. The occurrence of wood frog choruses in the late spring betrays the existence of a vernal pool.

One of the features that particularly contribute to the Town's character are the roadside fields, Driving through Town one can see remnants of the past - the old farmsteads and stone walls marking the boundaries of their adjacent fields. However, these fields are especially vulnerable to development and now many of the old farmhouses are surrounded by more modern single family homes.

There are other reminders of Sudbury's rich heritage and Colonial past. Stone road markers along old roadways, historic homes and churches, Colonial graveyards, sign posts identifying historical points of interest (placed throughout the town in 1930 by the Massachusetts Bay Colony Tercentenary Committee), and picturesque open spaces reflect the Town's history.

While some of the roadside fields remain today, many of them which have not succumbed to development have reverted to woodland. The woods are perhaps the dominant type of landscape; much of the town seems tucked in among the trees. The forests themselves include oak-hickory stands and pine forests. There are extensive areas of pine woods on the western side of the town.

The Town is at a point in its development where, if things continue as they have, the town will lose its semi-rural character and become indistinguishable from many other suburbs of Boston. One goal of this Open Space Plan is to identify just which parcels are essential to retaining Sudbury's rural character.

C. Water Resources

Self-reliant in terms of water supply and wastewater disposal, Sudbury is somewhat distinguished from its neighbors by not subscribing at all to the services provided by Greater Boston's water authority, the Massachusetts Water Resources Authority (MWRA). Town residents have escaped a steep escalation in water fees resulting from MWRA's construction of the Deer Island Wastewater Treatment Plant (undertaken to stop the ongoing pollution of Boston Harbor). On the other hand, residents have been shaken recently by revisions to Title V, the sanitary code of Massachusetts that regulates on-site sewage disposal systems.

While some properties have been opened up to housing development by changes in the design criteria for septic system leach fields, homeowners are now required by Title V to ensure the proper operation of their septic systems when selling their homes and must have it repaired if they fail inspection. As the Town's drinking water is supplied by groundwater pumping stations operated by the Sudbury Water District, it is absolutely essential that residents maintain their personal wastewater disposal systems in good working order. Unfortunately, it is not always easy to detect a failing septic system and the soils of Sudbury are not the most suitable for on-site disposal of wastes.

Sudbury is blessed by its location alongside the serene Sudbury River with the Great Meadows National Wildlife Refuge that lies beside its banks. For most of the year, the river slowly courses its way alongside Sudbury and accommodates various recreational activities such as canoeing, birdwatching, and fishing (catch and release only due to mercury contaminated fish). In the springtime, however, the river reaches flood stage with run-off from melting snows and spring rains giving it the appearance of a long vast lake. The river has been documented rising more than twelve feet. By detaining floodwaters for controlled release it provides an invaluable flood control function.

Future generations will enjoy much of the greater Sudbury River Valley as it exists today for the US Fish and Wildlife Service has been acquiring land since the 1940s to form the Great Meadows National Wildlife Refuge, now totaling approximately 3000 acres. It is fitting that much of the area adjoining the Sudbury River will be keep in its natural condition for, like Walden Pond, the beauty of the Sudbury River was inspirational to Henry Thoreau, the forefather of America's environmental movement.

D. Vegetation

1. Forests

Most of Sudbury is wooded with a mixture of mixed oak, oak/white pine, white pine, and pitch pine forest types. While much of the area has become fragmented by housing developments, often with larger and larger lawn areas, there are still a few substantial areas of intact woodland. Most significant is the tract of forest covering Nobscot Mountain, which then connects through

the Wayside Inn Historic District to the Desert Project Areas north to the Sudbury Annex. This western side of Sudbury (and parts of Framingham and Marlboro) provides excellent habitat for area-sensitive species of birds and mammals as well as healthy populations of more common and adaptable species such as coyote, raccoons, fisher, and skunk. There is also the potential for extensive trail networks, including segments of the Bay Circuit, through these woodlands. The forests on the east side of Sudbury, sheltering the edges of the marshes and floodplain of Sudbury River, are less accessible to people due to the extensive floodplain and different uses such as town dump, highways, abandoned MBTA tracks, and U.S. Fish and Wildlife refuge.

a. **Mixed oak forests:** A mixture of oak species (white, red, and black) dominates the majority of Sudbury forests with white pine often comprising a strong component. These forests average 60-80 years old, with many trees ranging from 8-16" in diameter. White oak dominates the dry crests of eskers (sometimes with scarlet oak) as seen on the town property west of Haynes School or on well-drained sandy plains as found in the southwest corner of the Women's Federation Land. Otherwise, at mid to lower slopes, red and black oaks are most common with some mixing of white ash, American elm, black cherry, and red maple. More occasionally sugar maples, beech, and/or black birch are seen growing in richer soils. Eastern Hemlock can be found on cool north slopes, but rarely in large numbers. Mid-story vegetation consists often of saplings of these same species. Witch-hazel may be found along slopes by streams or wetlands.

Shrub layers are rarely dense due to shading by closed tree canopy. However, scattered about are clumps of American hazelnut (*Corylus americana*), highbush blueberry (*Vaccinium corymbosum*), northern arrowwood (*Viburnum recognitum*), and nannyberry (*Viburnum lentago*). Where more light penetrates due to a fallen tree or two or along the edge of a trail, there are often dense patches of low-growing black huckleberry (*Gaylussacia baccata*), early blueberry (*Vaccinium vacillans*) and low-bush blueberry (*Vaccinium angustifolium*) with some sheep laurel (*Kalmia angustifolia*) mixed in. Herbaceous plants, those that disappear in winter, include scattered evergreen woodfern (*Dryopteris intermedia*), swathes of hay-scented fern (*Dennstaedtia punctilobula*), and often ubiquitous Canada mayflower (*Maianthemum canadense*). More rarely seen in cooler sites are bunchberry (*Cornus canadensis*), bluebead lily (*Clintonia borealis*), and the delicate, ephemeral wood anemones (*Anemone quinquefolia*). Evergreen groundcovers include the fragrant-leafed wintergreen (*Gaultheria procumbens*), diminutive twinflower (*Linnaea borealis*), partridge berry (*Mitchella repens*), the more prominent pipsissewa (*Chimaphila umbellata*), striped wintergreen (*Chimaphila maculata*), dewberry (*Rubus flagellaris*), and shinleafs (*Pyrola rotundifolia* and *Pyrola elliptica*). Occasionally, one will find the ghostly clusters of Indian pipes (*Monotropa uniflora*), a parasite. Various creeping, bushy clubmosses (*Lycopodium obscurum, L. tristachyum, L. complanatum,* and *L. clavatum*) add interest throughout the year as well. Open patches have various blackberries that are attractive to wildlife, meadowsweet, young gray birch, cherry, and all too often the exotic European buckthorn.

Oak forests dominate several of our most popular conservation lands. The Boy Scout Reservation which encompasses most of Nobscot Mountain, is almost exclusively oak woods due to its steep, well drained slopes and lack of disturbance over many years. Mostly oak

canopies shade Hop Brook Marsh, Hop Brook, and other Town conservation lands. The variety of associated species, the dramatic seasonal changes (including late fall color), and the varied terrain usually associated with these forests, provide excellent nature experiences for Sudbury residents. Also, many of these wooded areas are near to schools, providing for rich educational opportunities.

Oaks are rated as the most important food for wildlife. The mast or acorn crop provides vital nutrition for gray squirrels, chipmunks, deer, wild turkey, and blue jays. Deer and grouse browse on the young growth. The trees young, old, and dying provide nesting cover for a variety of birds and other mammals. For instance, large old snags provide shelter for raccoons.

Many of these woods have mature oak trees that could be harvested. However, due to the fact that there are few large tracts remaining for area-sensitive bird and mammal species, the considerable value of mature trees for wildlife, and the aesthetics for visitors to conservation lands, it is not recommended that the woods be cut.

b. **White pine forests:** Some small areas around Sudbury are almost exclusively white pine. White pine stands grow on sandy soils where once there was an abandoned field. Due to site conditions and chance, including the release of the field in a high-yield seed year, they have grown up into white pine. These sites have scant understory of saplings, shrubs, herbs, or evergreen groundcovers. While some stands may provide good timber and some wildlife value, when they are located on public or private conservation lands such as Women's Federation Memorial Forest, Hop Brook and Hop Brook Marsh conservation lands, and Davis Farm Land, these dense evergreen woodlands provide great aesthetic appeal. The open understory, stillness, and often impressive trunks provide the walker with a sense of tranquillity and awe. In winter, such forests can harbor flocks of chickadees and kinglets and the occasional great horned owl.

c. **Pitch pine community:** In southwestern sections of Sudbury (and eastern Marlboro), where glacial Lake Sudbury once stood, are deep deposits of sandy soil. These very well-drained sites support predominantly pitch pine (*Pinus rigida*) forests. Although some of these forests types are now growing into mixed oak/pitch pine forests, areas which have had repeated fires such as "The Desert" area of town, have large stands of this fire-adapted species. Occasionally red maple, cherry, or a tree oak will sprout into an opening. Where fires have been most frequent or intense, thereby creating open areas, scrub oak forms impenetrable thickets. The various members of the Heath family (*Gaylussacia baccata, Vaccinium vaccillans*, and *Vaccinium angustifolium*) can also be abundant. Sweetfern (*Comptonia peregrina*), meadowsweet (*Spirea latifolia*), and frostweed (*Helianthemum canadense*) may grow into these open patches as well. Herbaceous plants are uncommon except for bracken fern (*Pteridium aquilinum*), Pennsylvania sedge (*Carex pennsylvanica*), and rarely the lovely birdfoot violet (*Viola pedata*). Asters and goldenrods may be found in openings or along trails in the fall.

These burned over areas provide a mosaic of evergreen and deciduous tree and shrub patches that are conducive to wildlife. Deer browse on the oak sprouts along with grouse, and potentially

wild turkey. Palm warblers, towhees, and cuckoos are common in these dry, second-growth habitats.

While to some observers these pine barrens may be considered stark, and others consider such areas wastelands, the pitch pine community in Sudbury is one of its rarest habitat types. With careful management by the new coalition of landowners of the "Desert Project Area", this natural area will soon be open for passive recreation. The many woodland trails, the dry wooded habitats interspersed with lush wetlands and streams provide excellent opportunities for people to explore the subtle, often contrasting, qualities of this natural habitat.

2. Fields

As is the case elsewhere in eastern Massachusetts, the farmland that used to cover much of Sudbury in the 1930's and 1940's, has been abandoned and turned into housing developments. However there are some significant areas that provide economic, scenic, recreation and in a few instances, wildlife amenities to the town.

a. **Agricultural fields:** The majority of agricultural fields are located on the north end of Sudbury between Rte.117 and Concord Road, although there are other scattered fields along Sherman's Bridge Road, Horse Pond Road, and Morse Road. Most are annually cultivated for a variety of crops including corn, squash and pumpkins, and some "pick your own" produce such as Verrill's strawberry and asparagus patch; a few of these fields are hayed. Some of these agricultural lands are permanently protected under the Agricultural Preservation Restriction Program (APR) program and others are under 61 A, the tax-incentive program for farmers. Most of these working fields are not accessible to the public visually or physically with some important exceptions. The Town-owned Davis Farm land, managed in part by the Sudbury Conservation Commission and in part by the Park and Recreation Department, includes several acres kept open along Rte. 117. A small area down the old road is particularly notable for butterflies. Nearby, on the old Unisys property, now called Frost Farm, are some fields that are periodically mowed. Crops include typical European fodder grasses such as Kentucky bluegrass (*Poa pratensis*), timothy (*Phleum pratense*), and orchard grass (*Dactylis glomerata*). Other town conservation land is leased out to a local greenhouse grower specializing in annuals and perennials. This same operator has several open acres near the heart of town, just north of Route 20, most of which are prepared for potted plants.

b. **Uncultivated fields:** This field type typically is dominated by bunchgrass with red cedar trees scattered here and there. Of particular note is a rare field type of grass: little bluestem (*Andropogon scoparius*). The only large tract in town is on the Waite property at the corner of Concord Road and North Road. With a barn on the crest of the hill, broad open slope, stone walls, and adjacent wetland, it is a particularly scenic sight for travelers driving from Concord to Sudbury, and represents the epitome of Sudbury's "rural character". It also serves to protect a long stretch of Pantry Brook, just before it enters the state's Pantry Brook Wildlife Management Area and provides a wildlife corridor between protected lands to the west and the large preserved acreage to the east--Pantry Brook Wildlife Management Area and Great Meadows National

Wildlife Refuge. Also, these extensive little bluestem fields may include the Juniper Hairstreak Butterfly--once common but now becoming increasingly rare due to loss of habitat. This species requires red cedar trees to survive. Also, cedar wax-wings thrive on cedar berries. Other grassland birds may be present. This property provides not only a scenic amenity, but also highly significant wildlife values.

c. **Recreational fields:** Recreational fields including those associated with public schools provide opportunities for active recreation which is currently in great demand. However, they provide little wildlife or natural scenic values since the field areas are maintained as open space for recreation use and not as wildlife habitat.

d. **Wet meadow:** One exception to the ecological deserts created by recreational fields is the wet meadow just south of Feeley Field on Raymond Road. This acre (or more) of open land provides a buffer to the ball field and is mowed only once a year between mid-July and late August. Annual mowing in combination with the wet mucky soils provide excellent habitat for a large diversity of herbaceous wetland plants: sedges, rushes, grasses, and wildflowers that are very unusual in Sudbury. The variety of plants also provides for an abundance of unusual butterflies and dragonflies.

This wet meadow is used, with permission, by the New England Wildflower Society for its more advanced botanical courses and also for training wetland scientists in wetland boundary delineation. Amateur botanists and entomologists also frequent the site. Woodcocks use these types of open areas for their unique courtship dances, so this area would be prime habitat for these birds. Thus, this wet meadow comprises a locally rare habitat for many species, provides unusual educational opportunities, as well as provides for a buffer around the ball field.

Most of the other remaining wet meadows in Sudbury, including land to the south of Feeley Field which is owned by the Sudbury Water District, have recently grown in with shrubs and will soon be dominated by red maples. Consequently, the Feeley Field wet meadow is one of the few such wetland habitats remaining in Sudbury, and the only one on public land

3. Wetlands

Sudbury has a great variety of wetland types from forested and shrub swamps to deep water marshes to ponds, lakes, streams, and rivers. Each has its own associated set of species; however, in many cases the various types merge into one another and create mosaics of habitat types. This mixture of habitats adds greatly to the wildlife and scenic values of the wetlands. In general, many of the wetlands are not as accessible as the upland areas due to difficulty of creating and maintaining trails. This is unfortunate for residents because wetlands, of all the Town's plant communities, support the greatest biodiversity. However, their seclusion only enhances their value to wildlife which depends on these undisturbed areas for food, shelter, breeding, and migration. Indeed, as they are often linked by a series of streams and smaller wetlands, these linear habitats provide vital links to wildlife populations throughout the town.

This dispersal of individuals with their associated variation of genetic inheritance, is essential to healthy populations now and in the future.

a. **Bogs:** There are few bogs in Sudbury, and those that remain have been severely impacted by drainage systems. For instance, a classic kettlehole bog located behind Haynes School has large drainage pipe altering the quality of water and eliminating any opportunities for rare bog orchids.

b. **Cedar swamp:** There is a cedar swamp in the north part of Sudbury just off Route 117 and another along the north side of Willis Pond on land owned by the Department of Defense.

c. **Red maple swamps:** By far the most common wetland type in Sudbury and throughout the Northeast, red maple swamps can be found in isolated wetland pockets, wetlands adjacent to small streams, and along the edges of lakes and rivers throughout Sudbury. It is the most common wetland in people's "backyards". The dominant species is red maple (*Acer rubrum*) which can be mixed with white ash (*Fraxinus americana*), white pine (*Pinus strobus*), and American elm (*Ulmus americana*). The understory can vary greatly within and between individual swamps depending on land use history, seasonal fluctuations in the water table, and pure chance. On the drier end of the wetland spectrum are scattered clumps of sweet pepperbush (*Clethra anifolia*), highbush blueberries, silky dogwood (*Cornus amoemum*), maleberry (*Lyonia ligustrina*), chokeberry (*Aronia arbutifolia*), swamp azalea (*Rhododendron viscosum*), winterberry (*Ilex verticillata*) with an herbaceous layer of ferns including sensitive fern (*Onoclea sensibilis*), interrupted fern (*Osmunda claytoniana*), cinnamon fern (*Osmunda cinnamomea*), and sometimes royal fern (*Osmunda regalis*) in more moist depressions. Spice bush (*Lindera benzoin*) is more rarely seen due to its preference for rich soils. The bold leaves of skunk cabbage (*Symplocarpus foetidus*) are often a frequent sight in these wet woodlands, especially along slow or intermittent streams, along with bright yellow marsh marigolds (*Caltha palustris*) in spring, and sometimes brilliant red cardinal flowers (*Lobelia cardinalis*) in August. Sphagnum moss may fill in wet depressions. Where the water table may fluctuate 2-3 feet and the area was once a pasture, tussock sedge (*Carex stricta*) may predominate below a canopy of red maple.

Due to their prevalence on both public and private land, red maple swamps are often not considered to be of particular interest; however, to the attentive nature watcher, these areas provide a wide number of opportunities. Red maple swamps harbor many different animals and plants that are relatively accessible to the viewer. Many conservation lands have trails that skirt the edges of such areas or have short boardwalks that take one through these lush habitats. Also, because they are protected, red maple swamps provide buffers between houses and reduce densities, adding to the rural feeling and privacy of home owners in the Town.

d. **Shrub swamps:** Where deep water (1-2') stresses and thereby reduces the number of deep-rooted trees, large tussocks of sedge may support islands of extremely dense shrubs under a scant overstory of trees or no trees at all. Many of the shrub species listed above become dense and often bear bounties of fruits that attract a variety of wildlife, particularly birds. Buttonbush is common in some deep-water shrub swamps. Also, along the edges of sluggish open water may

be found thickets of bayberry and leatherleaf. The openings created by such wetland hydrology can be aesthetically pleasing as well as of high wildlife value.

e. **Marsh:** Herbaceous plants that can survive in up to three feet of water dominate marshes. Typically in Sudbury we notice cattail marshes, often with clumps of alder (*Alnus spp.*), shrub willows (*Salix spp.*), and black willow (*Salix nigra*), near the edge or on widely scattered islands. One such marsh can be easily seen along Raymond Road where it covers the Town wells. These and other marshes in town are being overwhelmed by purple loosestrife, an invasive introduction from Europe. This is particularly apparent along Cold Brook just north of Concord Road and along the Sudbury River at the various road crossings.

The marshes along parts of Hop Brook, including the Women's Federation, Hop Brook and Hop Brook Marsh Conservation Lands, are notable for the dominance of five-foot high reed canary grass (*Phalaris arundinacea*) which forms wide belts along the edge of the stream. While much of the area may appear to be a monoculture, in disturbed areas such as beaver meadows and ice scours, there can be a great diversity of annual species including arrow-leaf tearthumb (*Polygonum sagittatum*), Halberd-leaf tearthumb (*Polygonum arifolium*), marshpepper smartweed (*Polygonum hydropiper*), water purslane (*Ludwigia palustris*), bugleweeds (*Lycopus spp.*), rice cutgrass (*Leersi oryzoides*) and jewelweed (*Impatiens capensis*) colonizing the bare ground. Perennial burreeds (*Sparganium spp.*), arrowheads (*Sagittaria spp.*), soft rush (*Juncus effusus*), and other sedges persist on less disturbed sites. Orange tangles of parasitic dodder clamber over the grasses and large black and yellow spiders mark their fine webs with a white zigzag to warn mammals of their work. There are also stiff stands of cattail (*Typha latifolia*), giant burreed (*Sparganium americanum*), and occasionally softstem bulrush (*Scirpus validus*) with their linear, upright leaves. Woolgrass (*Scirpus cyperinus*), with its soft cinnamon heads and tussocks of arching thin leaves can dominate areas as well. A few culms of the state-listed river bulrush (*Scirpus fluviatilis*) are found in disturbed areas. Nearer the upland, bluejoint grass (*Calamagrositis canadensis*) and tussock sedge begin to replace the reed canary grass. Wetland shrubs such as blueberry, arrowwood, and winterberry skirt the edges along with healthy red maple. Spikes of brilliant cardinal flower are particularly appealing in late summer. Of note are several bands of red maple that succumbed to the higher water table caused by beaver dams at various points along the brook. Dead gray trunks, many still with bark, have become popular nesting, feeding, and roosting areas for woodpeckers, black phoebes, and eastern kingbirds.

These protected marshes along Hop Brook are vital habitats for insects, songbirds, waterfowl, and mammals. Dragon- and damsel-flies are prevalent along with spiders and mosquitoes that help to nourish nestling birds. Beaver have colonized Hop brook over the last ten years.

4. Plant Species of Special Concern or Watch in Sudbury

Plants that are protected under the Massachusetts Natural Heritage & Endangered Species Program are listed in Table 1.

Table 1 - State-listed Plant Species in Sudbury

COMMON NAME	SCIENTIFIC NAME	STATE STATUS
Arethusa	*Arethusa bulbosa*	Threatened
Fen Sedge	*Carex tetanica*	Special Concern
Indian Paintbrush	*Castilleja coccinea*	Historic
Slender Cottongrass	*Eriophorum gracile*	Threatened
Heartleaf Twayblade	*Listera cordata*	Endangered
Leafy White Orchis	*Platanthera dilatata*	Threatened
Lion's Foot	*Prenanthes serpentaria*	Endangered
Pod-grass	*Scheuchzeria palustris*	Threatened
Tall Nut-sedge	*Scleria triglomerata*	Endangered
Swamp Oats	*Sphenopholis pensylvanica*	Threatened
Britton's Violet	*Viola brittoniana*	Threatened

Source: Natural Heritage & Endangered Species Program (12/97)

Two other plant species not included on the above list are notable because they are locally rare:

a. Wild Lupine (Lupinus perennis): There is a colony found along the abandoned railroad tracks on Hop Brook Conservation Land and Women's Federation land.

b. River Bulrush (Scirpus fluviatilis): There are a few stems near the bridges across the brook in Hop Brook Marsh Conservation Land; it is much more plentiful along the Sudbury River near Heard Pond.

E. Fisheries & Wildlife

1. Sudbury Natural Areas Project (SNAP)

Sudbury has a rich diversity of habitat types and natural, unfragmented corridors that allow movement of wildlife. The Sudbury Natural Areas Project (SNAP) is a strategic concept plan to systematically restore the ecological integrity of Sudbury's landscape. This plan will revitalize the Town's capacity to support native plant and animal diversity in a town-wide landscape context. It is an ambitious effort to reclaim vital natural areas, wildlife habitat features, characteristics, and qualities that have already been swept from Sudbury's landscape.

Actively reclaiming key segments along streams and brooks, uplands near ponds, vernal pools, and bordering vegetated wetlands will reconstitute their systemic ecological functions and result in restoring the ecological integrity of the natural systems that define Sudbury's ecology.

The SNAP Concepts are summarized below:

- Analyze, evaluate and implement resource protection in the ecological context of the landscape (town-view) level rather than on a property-by-property basis;
- Build preservation and restoration efforts around core linkage systems and reclaim vital elements of developed areas within and feeding these core systems;
- Reduce fragmentation, segmentation, and edge effects of natural areas by filling gaps in protected land and actively re-patching development/natural area boundaries;
- Develop stream-side wildlife corridors using additional protection of Rivers Protection Act;
- Emphasize critical habitat feature protection and restoration;
- Revegetate areas with native plant species endemic to the Sudbury landscape;
- Use active management of lands to restore and maintain habitat and biological diversity at the landscape level; and
- Educate town officials and residents on the quality of life of natural areas and wildlife and the community benefits of town-wide steward-ship of natural areas and wildlife.

2. Habitat Types

a. **Wooded wetlands (swamps):** These occur on the periphery of the river floodplain, particularly along tributary streams such as Bridge Brook and upstream along upland watercourses and water bodies. Pockets of such areas also occur in kettle depressions in outwash areas and in uplands where the groundwater table is high.

Deer and other mammals use these areas for shelter in winter. Deer prefer the cover of the softwood wetlands, which also provide forage. Song birds feed on the fruit and insects plentiful here. These are important breeding areas for such amphibious species as frogs, salamanders, and toads.

b. **Seasonally flooded basins or flats, shrub swamps, and meadows:** In Sudbury these habitat types occur mostly in the floodplain areas and along upland streams and water bodies. The soil may be waterlogged or covered with water during the spring, but will be well drained during the growing season.

Animals supported include migratory waterfowl, muskrat, some mink and weasel, raptors (hawks and owls), raccoons, deer, and game birds (pheasant, woodcock, and grouse). The seasonally flooded basins and flats provide the primary feeding and resting areas for migratory waterfowl.

c. **Bogs and shallow marshes:** These occur mostly around Willis Lake, Pantry Brook, and Allowance Brook, as well as scattered upland areas. The most likely plants are heath shrubs, cranberries, sedges, sphagnum moss, and sundews. Trees include red maples, some hemlock, black spruce, and white cedar. In the wetter areas cattails, some bulrushes, pickerelweed, arrowheads, and some larger sedges abound.

Animals found in bogs and shallow marshes include wading birds (herons, rails, bitterns), small pan fish, skunks, and turtles. Shallow marshes are secondary nesting and feeding grounds for pairs and small flocks of waterfowl. Their primary importance to upland game is water supply, hunting, and grazing areas. Bogs are important to the wading birds and as winter forage areas for upland wildlife.

d. **Deep marshes:** Deep marshes occur along the Sudbury River and in scattered upland areas of high water table. Vegetation is similar to the shallow marsh. Deep marshes also provide nesting and feeding areas for many waterfowl, but are not as significant in this respect as the shallow marshes. The fringes of deep marshes are feeding and watering grounds for upland mammals (raccoons, skunks, deer) and wading water birds. Their primary importance is for fisheries and other aquatic recreation.

e. **Fields:** Fields are important home habitats for small mammals which form the basis of major food chains. Primary consumers such as mice, woodchucks, and rabbits live and feed in this habitat, providing critical food sources for secondary consumers such as hawks, foxes, coyotes, and owls. Fields also provide food for song birds and game birds, as well as for larger grazing animals such as deer.

The following are of particular value as wildlife habitats: fields bordered by thickets, forests or marshes, fields which have water sources or are near water sources, and fields which provide a diversity of vegetation.

f. **Brushlands or thickets:** These frequently occur in proximity to open fields as they are a habitat most often created by vegetative succession or the over-growth of unused agricultural fields.

Thickets provide critical shelter and forage for song birds, game birds (woodcock, pheasant, grouse) and small mammals (rabbits, muskrats when near wetlands), particularly in winter. Thickets in proximity to open fields are of particular value as the two habitats are attractive to many of the same wildlife species during different seasons, when each provides different shelter and foraging resources

g. **Deciduous woodlands:** The habitat is dominated by gray squirrels, chipmunks, raccoons, and song birds (downy woodpeckers, chickadees, bluejays). Other less predominant resident species include skunk, foxes, weasels, mink, nesting hawks (migratory), deer, pheasants, and certain waterfowl if near water.

Deciduous woodlands lose many active resident species in winter to hibernation (subsurface burrows or hollow trees) and to migration (song bird species and hawks). Several species do not remain all year in this habitat, but move according to the season (food and shelter availability), most often to thickets and/or coniferous woodlands.

h. **Coniferous woodlands:** Because of its year round foliage, this habitat is attractive to wildlife during winter months. Deer, particularly, prefer to "yard" in these areas during months of heavy snows. Also, hawks nest in summer; herons nest (if near marsh), owls nest year round (and hunt in nearby fields); raccoons nest here, and red squirrels prefer this habitat year round. If this habitat is near a water hole and/or field, it will be of increased wildlife value due to the food need of many coniferous-preferring wildlife species.

3. Wildlife Corridors

One of the more significant contributors to the loss of species diversity is the loss of appropriate habitat to maintain a healthy ecosystem. For many species, especially predatory birds and mammals, a key inhibitory factor is the fragmentation of habitat areas into many small, preserved parcels which are difficult, if not impossible, for these species to pass between.

Although Sudbury has seen significant residential growth over the last decade, with the concomitant loss of many differing habitats and their resident natural communities, a unique resource still remains. Significant wildlife corridors on both the east side (Great Meadows National Wildlife Refuge with several other adjacent preserved parcels - King Philip Woods) and west side (Fort Devens Annex and its juxtaposed preserved parcels Hop Brook Conservation land, Woman's Federation Memorial Forest) of Sudbury remain intact. These areas are home to a wealth of resident and migratory species, some of which are rare, threatened or endangered. These species range from the smallest of insects and crayfish, rare salamanders and turtles, exotic plants such as orchids as well as large predators like the Northern Harrier, coyote and bobcat.

Smaller corridors, some of which have a limited connection with the major corridors to the east and west, are scattered throughout town which should be targeted for preservation. Primary objectives in prioritizing these corridors should include the need to identify and protect specific areas that support significant natural communities and provide habitat for rare species. A second major objective is to provide corridors that allow for passive recreational use thus facilitating a healthy interaction between all resident species of Sudbury, Human and other.

4. Rare, Threatened, and Endangered Wildlife Species in Sudbury

Sudbury is home to a number of wildlife species that are protected under the Massachusetts Endangered Species Act. (See Table 2)

Table 2 - State-listed Wildlife Species in Sudbury

COMMON NAME	SCIENTIFIC NAME	STATE STATUS
Sharp-shinned Hawk	*Accipiter striatus*	Special Concern
Blue-spotted Salamander	*Ambystoma laterale*	Special Concern
Marbled Salamander	*Ambystoma opacum*	Threatened
Henslow's Sparrow	*Ammodramus Henslowii*	Endangered
American Bittern	*Botaurus lentiginosus*	Endangered
Purple Tiger Beetle	*Cicindela purpurea*	Special Concern
Hentz's Redbelly Tiger Beetle	*Cicindela rufiventris hentzii*	Threatened
Sedge Wren	*Cistothorus platensis*	Endangered
Spotted Turtle	*Clemmys guttata*	Special Concern
Common Moorhen	*Gallinula chloropus*	Special Concern
Least Bittern	*Ixobrychus exilis*	Endangered
Pied-billed Grebe	*Podilymbus podiceps*	Endangered
Eastern Box Turtle	*Terrapene carolina*	Special Concern

Source: Natural Heritage & Endangered Species Program (12/97)

F. Scenic Landscapes

For the most part, Sudbury is not a town of vistas. There are some dramatic viewpoints, but much of the scenery is on a small, more intimate scale.

One of the few large-scale views is from Old Sudbury Road descending toward the river. As you emerge from the trees, the landscape opens out and you can see the wide expanse of marsh. The Sudbury River can be seen meandering through the wetland, which is surrounded by low hills, and there are two sentinel drumlins, Weir Hill and Round Hill, which punctuate the floodplain. From the top of these hills, you can see the marshes and far into the distance.

Perhaps the best vantage point to view the landscape of Sudbury and the Metrowest area is Tippling Rock on the shoulder of Nobscot Hill. On a clear day when the leaves are off the trees, beyond the scenery of Sudbury are views of the tops of Boston's tallest buildings to the east, Mount Monadnock to the northwest, Mount Wachusett to the west, and the Blue Hills to the southeast. For the most part, the beautiful view from Tippling Rock appears as a continuous forest canopy of mixed stands of conifers and deciduous trees. The predominantly green scenery belies the fact that Sudbury has been experiencing tremendous pressure from suburban sprawl for sub-division development.

There is substantial evidence of Sudbury's history in town. The old Town Center has a group of 18th century buildings which includes the Old Meeting House. The Old Burying Ground, with graves of Revolutionary War veterans, the Town Commons, and the Town Pound are also in the Town Center.

Many of the roads in town date from Colonial times. As you drive along them, the views of woods, fields, and meadows laced together with the ubiquitous stone walls give a sense of Sudbury's more pastoral past. Some better examples of these are North Road, Water Row Road, Concord, and Old Sudbury Road. The Wayside Inn is located in the western part of Sudbury. The Inn was built in 1770 on the Boston Post Road and has been operated as an Inn ever since. The area near the Inn was bought by Henry Ford in the 1920's and developed as an historic area. Ford restored the Inn and, just down the road, erected the landmark Gristmill out of fieldstone employing the old building methods using only oxen and manpower. The mill uses only water power to grind corn. On the Inn's grounds, Ford also built the Martha-Mary Chapel, a traditional New England chapel, and nearby he relocated the "Little Red Schoolhouse" attended by "Mary and Her Little Lamb." This area provides a sense of what the Town was like in its early days.

G. Environmental Problems

Sudbury has experienced an array of environmental problems of various degrees of severity. The two major environmental problems concern pollution of ground water and pollution of surface water.

Most of the population of Sudbury receives drinking water from municipal ground water wells. The remaining residents obtain water from their own private wells. The town's main aquifer runs under business and commercial districts on Route 20 with much of the central area of Route 20 located within Zone II recharge areas of the main municipal wells. Businesses in this area include gas stations and dry cleaners. Over the last five years there have been at least six releases of hazardous materials within a one mile stretch of Route 20. These releases include fuel from two Mobil Stations, trichloroethylene (TCE) from dry cleaning operations, polychlorinated biphenyls (PCB) at the former Linde Gas Company, and waste oil used in a greenhouse operation. The town adopted a Water Resource Protection District Bylaw in 1989 which requires a special permit for certain high-risk uses within Zone II of municipal aquifers.

Other releases of hazardous materials have occurred in several other areas of town. The former Unisys site on Route 117 was found to contain TCE and a former laboratory on Dutton Road had releases of chemicals used in the manufacture of soil test kits and anti-freeze.

The other major environmental problem stems from the release of effluent from the Marlboro Easterly Wastewater Treatment Plant into Hop Brook. The increased loading of phosphorus entering the Hop Brook pond System renders the four downstream ponds and 9.4 miles of the brook in Sudbury unusable and unbearable during the warmer months due to the algae blooms that carpet the ponds and the associated odor caused by decaying algae. The town funded a $37,000 study to determine the cause of the blooms and identify solutions. Concerned residents to address clean-up of the ponds and brook have formed a private citizen's group, the Hop Brook Protection Association (HBPA). The HBPA has obtained grants to investigate constructed wetlands treatment systems and to hire college students to work on remediation plans and algae harvesting. The town supports the efforts of HBPA and continues to lobby the Environmental

Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) for stricter limits on the discharge of phosphorus from the wastewater treatment plant.

Other environmental issues that face Sudbury include pollution of surface water from non-point source discharges from surface water runoff, faulty septic systems, and the use and overuse of fertilizers and inground sprinkler systems. Much of Sudbury's main roadway infrastructure was constructed over thirty years ago when "best management practices" were not applied to the design of stormwater runoff. Roadways were built in a manner that allowed drainage to flow directly and quickly into the nearest low-lying area. As a result, many roads have paved swales channeling runoff directly into a wetland without any filtration. Catch basins were never equipped with grease and gas traps or sumps and acted only as conduits to get runoff away from the traveled surface. This allowed polluting petroleum hydrocarbons, salt, and silt to enter the wetlands and ultimately the ground water recharge areas. Many of these features are still in place today. The Sudbury Conservation Commission and the Department of Public Works is developing an upgrade program to retrofit older catch basin with grease and gas traps and sumps. Direct discharge swales are being replaced with vegetated swales and rip-rap to take up and settle out some pollutants. Leaching catch basins are being installed where site conditions permit. The town is actively seeking grants and setting aside funds to implement this program.

Detention/retention basins sized to treat and contain the first one-inch of runoff are required in new developments. Private contractors are required to install drainage upgrades when enlarging existing projects.

The new house market seems to demand large lawns that are subsequently maintained with liberal application of fertilizers. As a result Sudbury has seen a corresponding increase in the amount of algae on our ponds and streams (exclusive of Hop Brook as noted above).

Section 5 - Inventory of Lands of Conservation and Recreation Interest

Sudbury is fortunate in having significant areas of protected open space including Great Meadows National Wildlife Refuge and the Ft. Devens Annex. On the other hand, much of the open space, which is privately held, is not protected and is being developed at a dramatic pace. Of the 86 privately-held, significant parcels identified in the last Open Space Plan (1985) 21 have been developed, a loss of 1300 acres. In the same period of time, 12 parcels (700 acres) have been protected. There are fewer large parcels of open space in town. One of the concerns of the townspeople expressed in the survey (Appendix A) is that it is likely that the remaining large parcels will be maximally developed if steps are not taken now to preserve them. Table 4 and Map 4 show the areas of public and private open space, and indicate which parcels are protected and which are not.

A. Private Parcels

1. Private Land Inventory

The Private Land Inventory was developed using input from public hearings and taking into consideration proximity to existing protected parcels and the natural, historic, wildlife and cultural features of the site in accordance with the goals and objectives of this Plan. The purpose of this inventory is to identify privately-owned parcels of land that contain resources or features of local and/or regional significance that will be destroyed and unable to be recreated should the parcel be altered by full or partial development. These parcels have been identified as ***primary priority*** parcels for protection.

This Plan also identifies parcels of ***secondary priority*** for protection. These parcels contain specific features that may be protected by well-planned limited development or are of greater significance only if adjacent parcels are also protected.

Recent information has shown that there is a greater cost to taxpayers long-term when a parcel of land is developed for residential housing. This is particularly true in Sudbury where new construction is almost entirely single-family homes. This type of development creates the greatest need for town services, especially those services associated with education.

With this in mind, all undeveloped land in Sudbury zoned for residential use, especially single-family residences, becomes a priority in terms of financial impact as a result of the development. We recognize however that it is unrealistic to acquire, in fee, all remaining undeveloped land in town. This section of the Plan attempts to identify key parcels that will best contribute towards achievement of the goals and objectives as outlined in this Plan. Other sections of the Plan investigate mechanisms for protecting only key features of the site while allowing development when outright purchase is unrealistic.

2. PRIMARY PRIORITY (PP) PARCELS

PP#1: MEACHEN
Marlboro Rd. (north side), 62 acres

This parcel consists of one of the last unprotected farm fields in town. Suitable farm soils have been confirmed with interest in purchasing the development rights expressed by the state Department of Food and Agriculture in a joint venture with the town under the Agricultural Preservation Restriction Program. The field is a total of 19.1 acres with the balance of the land in wetlands and woodlands.

A large vernal pool is located within the woods on the eastern portion of the site. This pool contains a confirmed substantial population of a state-listed salamander species of special concern. Protection of not only the pool itself and the surrounding wetland but of the upland habitat area as well is of primary importance.

(Note: At a Special Town Meeting in Fall 1997, the Town voted to exercise its 61A option and purchase this property.)

PP#2: NOBSCOT RESERVATION BOY SCOUTS OF AMERICA
Nobscot Rd., 311 acres

The Nobscot Reservation totals over 600 acres on the Sudbury/Framingham line. Although currently used by the Boy Scouts and the public for passive recreation, this vast parcel, critically situated on Nobscot Mountain does not have the benefits of any permanent protection from development. Its abuts property owned by the state Department of Environmental Management and the Sudbury Conservation Commission. An existing trail system links these three large parcels and includes a portion of the Bay Circuit Trail stretching from Plum Island in the north to the Nobscot area in the west, to Duxbury on the south shore.

Nobscot ("Place of Falling Rocks") Mountain is rich in history and areas of important ecological significance. Tippling Rock, a large outcrop, is a local landmark where views of New Hampshire to the north and Boston to the east can be enjoyed. Wetlands, vernal pools, wildlife habitat, water supply protection and historical significance combine to make the Nobscot area of primary importance for protection.

PP#3: WAITE, C.
Concord Rd., 103 acres

This property is located on both the east and west sides of Concord Rd. in an area where there is a large number of important protected agricultural and wildlife habitat areas. Pantry Brook flows through the northerly portion of the site. Lands to the northwest are permanently protected through an Agricultural Preservation Restriction and land to the east, totaling over 400 acres is the State Division of Fisheries and Wildlife Pantry Brook Management Area.

The Waite property contains a vast tussock sedge red maple swamp area that is the confirmed habitat of a state-listed turtle species of special concern. The property is particularly important as a wildlife corridor and as a vestige of Sudbury's agricultural past and Town character.

PP#4: MACONE
Concord Rd., 27 acres

Although not large in size, the Macone parcel is critically located along the Sudbury River with over 1500 feet of river frontage. The site is currently in intensive agricultural use and is used to store large equipment and various trucks and machinery. A portion of

the site, including some of the farm fields, is located below the FEMA flood elevation. There have been previous wetland violations and some limited restoration work done.

Permanent protection of this parcel should include a full restoration and wildlife habitat management plan. Town ownership would provide a recreational area for fields as well as a town-owned boat launching site.

PP#5: SEARS, PIPER, LIBBY & HILL
Between Plympton Rd. and Rice Rd., total of 165 acres

These four abutting properties are viewed as a group as their individual open space value diminishes if viewed in isolation. Together these parcels contain at least four vernal pools, open meadows, forested slopes, rock outcroppings, steep ravines, streams and ponds. This combination of features provides a substantial wildlife corridor with diverse breeding & nesting sites, migratory routes.

Currently Sears and Hill properties have preliminary development plans submitted to the town, however the town has a first purchase option under Chapter 61A on the Hill property.

PP#6: WOLBACH
Wolbach Road., 47 acres

The Wolbach property is a gap in an existing link of open space and wildlife habitat corridors. To the north is the King Philip Conservation Land. Further north is the Sears, Piper and Hill properties listed above. To the east and south is part of the Great Meadows National Wildlife Refuge. Closing the gap in this wildlife corridor will provide the connectivity necessary to support a diversity of species dependent upon the Sudbury River, its floodplain and the adjacent upland fields and wetlands.

The site has open fields, river floodplain and undisturbed wooded areas.

PP#7: NEWBRIDGE FARM TRUST (DICKEY)
Newbridge Rd. and Water Row, 80 acres

This large parcel is located at the corner of Newbridge Road and Water Row. It is surrounded on two sides by protected land owned by the Sudbury Valley Trustees and to the east by the Great Meadows National Wildlife Refuge. The parcel contains open fields, wetland, and upland and lowland forests. Some frontage lots along Newbridge Road have been subdivided off and some of the northern portion of the site was purchased by the Sudbury Valley Trustees and the federal government.

3. SECONDARY PRIORITY (SP) PARCELS

SP#1: WEISBLATT
Adams Road, 43 acres

The development of this parcel has generated much controversy recently within the town. A proposal for single-family attached housing was defeated at town meeting. The site contains two vernal pools with two vernal pools just off-site with buffer areas located on the Weisblatt parcel. The site is heavily treed and sits on the slopes of Nobscot Mountain. It features large rock outcroppings and intermittent streams.

This property would be listed as a Priority Parcel if the much larger adjacent Nobscot Boy Scout Reservation (see PP#1 above) was protected. Protection of a much larger portion of the Mountain and the overall wildlife corridor and interconnecting trail system would place the Weisblatt land higher on the Priority list.
Current development plans show a 500-foot buffer in most places around the vernal pools and no disturbance of the streams and the associated bordering vegetated wetland.

(Note: At Town Meeting in April 1998, the Town voted to take this property by eminent domain.)

SP#2: PRITCHETT
Goodnow Road, 69 acres

This property is situated at the top of a hill on a dead-end street. It contains two large ponds, several small depressions that are likely vernal pools, large open meadows, wooded terrain, steep slopes and rock outcroppings. This diversity of features adds to its wildlife value due to the varied habitats.

The area of town where this property is located does not currently have any town-owned conservation land, however several abutting and nearby parcels contain conservation restrictions in perpetuity on wetlands and adjacent uplands.

SP#3: FROST FARM PUBLIC TRAIL AREA
Route 117, 76 acres

This parcel is town-owned, however it is not protected from sale or development at this time. A posted trail network and public parking has been constructed and provides access to fields, woods, wetlands and the town's easement to the south shore of White Pond in Concord.

Protected farm fields are located to the south, the Davis Conservation Land and Davis Park and Recreation Land to the southeast, Concord Conservation Land to the north, the

proposed Freeman Bike and Pedestrian Trail (Sudbury to Lowell) to the west, and town and Sudbury Water District land to the east and southeast.

It is strongly recommended that the town take action to permanently preserve this site for public passive recreational use. Preservation will also maintain the wildlife corridor from White Pond to Pantry Brook.

(Note: At Town Meeting in April 1998, the Town voted to transfer the management of a portion of this property to the Conservation Commission.)

SP#4: CAVICCHIO & SUDBURY REALTY TRUST
Codjer Lane, 168 acres

These parcels are located just north of Route 20 and on the outskirts of the town's business and limited industrial zone. It is currently in active agricultural use with a large flower greenhouse operation. Hop Brook flows along the northern and eastern boundaries of the site. The property abuts both town-owned land and Water District land. Although heavily altered by the active agricultural business, the land remains open and serves as a reminder of the town's heritage.

SP#5: CUTTING
Maynard Rd., 43 acres

Currently a tree and shrub nursery this parcel is the gateway to Sudbury from Route 27. A large pond forms a portion of the north westerly border and Willis Lake forms the southerly boundary. Willis Lake is the only great pond in Sudbury. It currently has limited public access. The Cutting land abuts the former Fort Devens Sudbury Annex to the west. The Annex is to be transferred to the U.S. Fish and Wildlife Service in 1998 as part of the Great Meadows National Wildlife Refuge. Adjacent to the former Annex is State Department of Environmental Management's Sudbury/Marlboro State Forest Land. These lands, along with town and privately held conservation lands form a wildlife corridor of over 3,000 acres in size.

As this land is relatively level, some portion of it could be used for recreational fields.

SP#6: MAHONEY
Old Framingham Road, 70 acres

This parcel is located just east of the Nobscot Boy Scout Reservation off Nobscot Road. It is currently a horse farm with open pasture, fields, streams, ponds and wooded areas abutting the Conrail track to the east. Conrail is now in the process of disposing of the railbed. This parcel would link existing and proposed open space and continue the preservation of the town's agricultural past. As this land is relatively level, some portion of it could be used for recreational fields.

SP#7: ASHLEY
Willis Road, 48 acres

This parcel is located at the intersection of Willis and Maynard Roads. Approximately five acres are open fields, 2 acres contain a house, detached garage and residential landscaped areas. The back 41 acres is a mix of wooded upland, Mineway Brook and its associated riverfront area, and three confirmed vernal pools with at least one of these pools containing the state-listed blue-spotted salamanders. The property abuts the town-owned Mineway Brook Marsh Conservation area.

The 8+ acres along Willis Road was enrolled in Chapter 61A. The town had first purchase option on this portion of the site which was not exercised. Mr. Ashley decided to gift to rear 41 acres to a local non-profit land conservation organization, Sudbury Valley Trustees. We are currently waiting for a conservation restriction from S.V.T. to be placed on this land. The field area along Willis Road will be developed with four new houses while the ecologically sensitive and diverse part of the site is preserved in perpetuity.

SP#8: MCLAGAN
10.48 acres, Water Row and Plympton Rd.

Although relatively small in size, this sloping meadow abuts the US Fish & Wildlife Great Meadows National Wildlife Refuge. Its importance biologically, aesthetically and historically in the overall landscape of the refuge makes it a priority parcel. Hawks are often seen circling on the air currents above the meadow. Woodcocks and pheasants can be heard at the field edges. Dragonflies, butterflies, and various insects are abundant. Fireflies can be seen on summer evenings.

4. Chapter 61, 61A, and 61B Lands

Many parcels in Town are under special designated tax status to the benefit of both the Town and the owners. Table 3 lists lands that are in Chapter 61 (forestry), 61A (agriculture), and 61B (recreation) programs for Fiscal 1998. In order to maintain program status the owner is usually required to re-apply annually. Properties are taken out of the program if the application is not renewed; the property is being developed; or there is a new owner. Only a few Chapter 61A properties are protected in perpetuity; these are identified in the table.

Table 3 - Chapter 61, 61A, and 61B Properties for Fiscal 1998

OWNER	LOCATION	TYPE	PROGRAM ACRES	STATUS
Rod & Gun Club	Powder Mill Rd.	Forestry	29.40	
Greenwood Club	261 Mossman Rd.	Recreation	6.43	

Table 3 - Chapter 61, 61A, and 61B Properties for Fiscal 1998 (cont.)

Cavooto	338 North Rd.	Recreation	6.46	
Verrill Farms	North Rd.	Agriculture	11.63	Preservation
Verrill Farms	North Rd.	Agriculture	0.57	
Verrill Farms	Off North Rd.	Agriculture	16.90	
Cutting	Off Taintor	Recreation	8.00	
Cutting	Off Taintor	Agriculture	38.00	
Verrill Farms	Concord Rd.	Agriculture	24.10	Preservation
Verrill Farms	North Rd.	Agriculture	86.10	Preservation
Gans	1011 Concord Rd.	Agriculture	19.42	
Churchill	Concord Rd.	Agriculture	17.58	
Nashawtuc Club	Concord Rd.	Recreation	105.06	
Cutting	Maynard Rd.	Agriculture	3.37	
Cutting	Maynard Rd.	Agriculture	38.50	
Arena	Marlboro Rd.	Agriculture	26.17	Preservation
Waite	667 Concord Rd.	Agriculture	46.62	
Waite	652 Concord Rd.	Agriculture	52.61	
Verrill Farms	Haynes Rd.	Agriculture	15.50	Preservation
Gans	Concord Rd.	Agriculture	11.50	
Pritchett	Concord Rd.	Forestry	18.94	
Pritchett	Off Goodnow Rd.	Agriculture	5.00	
Pritchett	Off Goodnow Rd.	Agriculture	5.00	
Pritchett	80 Goodnow Rd.	Forestry	11.35	
Haynes	82 Morse Rd.	Agriculture	23.51	
Haynes	Morse Rd.	Agriculture	9.60	
Hurwitz	Lincoln Rd.	Agriculture	35.68	Preservation
Pritchett	Goodnow Rd.	Forestry	12.50	
Pritchett	Goodnow Rd.	Forestry	14.16	
Hodder	Hudson Rd.	Agriculture	11.86	
Hill	Plympton Rd.	Agriculture	24.16	
Sluder	Plympton Rd.	Agriculture	5.00	
McLagan	Plympton Rd.	Agriculture	2.00	
Piper	Plympton Rd.	Recreation	29.42	
McLagan	Water Rd.	Agriculture	10.48	
Newbridge	10 Newbridge Rd.	Recreation	71.50	
Sudbury Swim	1 Hemlock Rd.	Recreation	13.07	
Weaver	248 Old Lancaster Rd.	Recreation	9.50	
Emmons	233 Concord Rd.	Forestry	7.80	
Emmons	Concord Rd.	Forestry	8.50	
Fairbank	Old Sudbury Rd.	Agriculture	25.88	
Piper	Rice Rd.	Recreation	37.32	

Table 3 - Chapter 61, 61A, and 61B Properties for Fiscal 1998 (cont.)

Wolbach	18 Wolbach Rd.	Recreation	44.39	
Cheren	Dutton Rd.	Recreation	3.90	
Cheren	181 Dutton Rd.	Recreation	5.00	
Cavicchio	Codjer Ln.	Agriculture	21.66	
Cavicchio	Off Codjer Ln	Agriculture	14.00	
Cavicchio	Codjer Ln.	Agriculture	16.00	
Cavicchio	Codjer Ln.	Agriculture	2.50	
Cavicchio	Codjer Ln.	Agriculture	8.68	
Cavicchio	Codjer Ln.	Agriculture	19.80	
Cavicchio	Codjer Ln.	Agriculture	6.05	
Cavicchio	Codjer Ln.	Agriculture	7.01	
Cavicchio	Codjer Ln.	Agriculture	16.79	
Cavicchio	Codjer Ln.	Agriculture	2.13	
Cavicchio	Codjer Ln.	Agriculture	1.87	
Young	804 Boston Post Rd.	Recreation	5.62	
PLM Corp.	Boston Post Rd.	Agriculture	1.66	
PLM Corp.	578 Boston Post Rd.	Agriculture	10.32	
Stone	554 Boston Post Rd.	Agriculture	60.36	Preservation
PLM Corp.	Boston Post Rd.	Agriculture	0.92	
Cavicchio	Codjer Ln.	Agriculture	0.38	
Claxton/Cavicchio	Concord Rd.	Agriculture	1.29	
Claxton/Cavicchio	Concord Rd.	Agriculture	1.79	
Claxton/Cavicchio	Concord Rd.	Agriculture	13.64	
Mercury	Boston Post Rd.	Recreation	5.00	
Shylovsky	192 Boston Post Rd.	Recreation	7.54	
Aronson	137 Brimstone	Recreation	6.06	
Aronson	Brimstone Ln.	Recreation	1.40	
Hawes	23 Highland	Agriculture	3.75	
Hawes	Highland	Agriculture	15.92	
Mahoney	Old Framingham Rd.	Agriculture	1.26	
Mahoney	63 Old Framingham Rd.	Agriculture	10.62	
Hawes	33 Dudley Rd.	Recreation	5.62	
Clark	118 Nobscot Rd.	Agriculture	24.62	
Hawes	Highland	Agriculture	1.35	
Lettery	216 Landham Rd.	Agriculture	26.98	
Mahoney	Old Framingham Rd.	Agriculture	19.76	
Mahoney	Old Framingham Rd.	Agriculture	20.00	
Mahoney	Old Framingham Rd.	Agriculture	16.26	
Newell	42 Old Framingham Rd.	Forestry	28.62	
Wright	155 Woodside Rd.	Agriculture	3.50	

Table 3 - Chapter 61, 61A, and 61B Properties for Fiscal 1998 (cont.)

Wright	Woodside Rd.	Agriculture	5.00	
Lettery	87 Landham Rd.	Agriculture	13.34	

Source: Town of Sudbury, Tax Assessor's Office (11/17/97)

B. Public and Nonprofit Parcels

The Town of Sudbury has substantial areas of open space which are owned by government agencies and private non-profit groups. Not all of this land is protected, however, including some of the areas most popular for passive recreation.

Great Meadows National Wildlife Refuge is the largest of the public open spaces. Managed by the United States Department of the Interior, the refuge includes 548 acres of wetlands and adjacent upland. The Department of Defense has recently ceased to operate Ft. Devens and the Federal Government has agreed to transfer the Ft. Devens annex (a total of 2947.66 acres, of which 507 are in Sudbury) to the U.S. Fish and Wildlife to be incorporated into the Great Meadows Refuge.

The Commonwealth of Massachusetts owns two large parcels in Town, the Pantry Brook Wildlife Management Area in the east (adjacent to the Wildlife Refuge). This is very popular with duck hunters in the fall. In the western part of Town the United States Natick Labs annex has been transferred to the State.

The Town has eight Conservation Reservations that range in size from 30 acres to over 118 acres. Public use of the reservations varies tremendously: while Hop Brook Marsh is frequently used (and abused, by dirt bikes), Davis Farm is seldom visited. The Lincoln Meadows Reservation also has community gardens available for public use.

The Town's Park and Recreation department administers and oversees the management of four recreation areas that include areas for soccer, lacrosse, baseball, field hockey, ice skating, courts for tennis, basketball, sand volleyball, a skate boarding arena, a golf putting green, and a toddler playground. The Town has one formal park for passive use which is located in the old Town Center along with the historic burying ground. A walking trail is under development to connect the Town's Historic sites.

Sudbury Valley Trustees (SVT), a private land trust, owns several properties in Town which that are popular for hiking and nature study. SVT has some large properties with on-site parking and marked trails; it also owns smaller parcels with no formal access, as do the Conservation Commission and the Park and Recreation Department. In all, SVT owns 356 acres of land in Sudbury.

The Massachusetts Federation of Women's Clubs owns Memorial Forest on the western edge of Sudbury but the Federation was not fully able to manage it. The Forest backs up to open land in the Town of Marlborough with motor vehicle access and has become an area popular for dumping (especially large appliances, cars, and their parts) and for motorcycle riding. The federation has entered into an agreement with SVT whereby public access will be expanded and the forest will be actively managed and patrolled. This arrangement has been in effect for a year and has been working well.

The Boy Scouts of America Knox Trail Council owns a large reservation at Nobscot Mountain. While this is extremely popular for hiking and has regional significance, this land is at present not protected and is our first priority to protect.

In general, the Town is fortunate that many of the protected parcels of open space are adjacent to each other, so that large stretches of land are preserved under multiple ownership. On the eastern border, Great Meadows National Wildlife Refuge, Pantry Brook Wildlife Management Area, Sudbury Valley Trustees' Round Hill Reservation, and the Town's Lincoln Meadows Conservation Land combine to create 681 acres of contiguous protected space. On the western side of Sudbury the Women's Federation Memorial Forest adjoins the Town's Hop Brook Marsh Conservation Land which is next to the Fort Devens Annex. This open space continues outside the Town's borders with the State Forest in Stow, Hudson, and Marlboro, creating 2,400 acres of contiguous protected land and forming the largest area of protected open space in eastern Massachusetts.

Looking at the map of open space in Sudbury (Map 4A), one sees that the majority of the protected land is at the edge of Town, while the center is fully developed or at risk of being developed. One of the priorities of this Plan is to protect, either by ownership or through restriction of development rights, land through the center of Town, to provide connections for wildlife and for people, so that open space is not marginalized.

Table 4 (Agricultural Preservation Restriction Lands) lists the properties whose development rights were purchased by the Town and the Massachusetts Department of Food and Agriculture. Several of the properties identified in the Private Land Inventory would be suitable for protection with an Agricultural Preservation Restriction (APR). Table 5 (Inventory of Public and Nonprofit Lands) presents information about ownership and management of public and non-profit open space.

While all of the properties managed by the Town's Park and Recreation Department are handicapped accessible, none of the Conservation Reservations are. It is our goal to create accessible trails in selected conservation areas and on the Frost Farm property, part of which is planned to be developed for senior housing.

Table 4 - Agricultural Preservation Restriction Lands

NAME	NO. OF ACRES	STATE SUPPORT	SUDBURY COST
Barton I	26.0	$ 60,350	$ 10,350
Barton II	17.0	$140,000	$ 86,050
Caruso	23.6	$205,000	$ 11,800
Sperry Rand	12.0	$ 57,750	$ 0
Garber	84.0	$134,000	$ 42,135
MFCLT	39.0	$101,000	$ 18,600
Stone Tavern Farm	56.0	$279,050	$332,950
TOTAL	257.6	$977,150	$501,885

Table 5 - Inventory of Public and Nonprofit Lands

NAME	OWNER/ MANAGER	USE	PUBLIC ACCESS	CONDITION	PROTECTION	FUNDS USED	ZONED
Barton Farm	Town/Con Com	Trails	Poor	Fair	Agriculture Preservation Restriction	State/ Town	Residential
Brues Woods	Sudbury Valley Trustees	Trails	Excellent	Good	Perpetuity	Private	Residential
Davis Farm	Town/Con Com	Trails	Good	Good	Perpetuity	Town	Residential
	Town/Park & Rec	Playing fields	Full	Good	None	Town	Residential
Fairbank Community Center	Town/Park & Rec	Playing fields/courts	Full	Excellent	None	Town	Residential
Fay Fields	Sudbury Valley Trustees	Trails	Fair	Good	Perpetuity	Private	Residential
Featherland Park	Town/Park & Rec	Playing fields, tennis, skating	Full	Excellent	None	Town	Residential
Frank Feeley Field	Town/Park & Rec	Playing fields	Full	Excellent	None	Town	Residential
Frost Farm	Town/Con Com	Trails	Good	Fair	None	Town	Research\ Industrial
Ft. Devens Annex	Dept. of Defense; transfer to U.S. Dept. of the Interior, GMNWR	Nature study, trails	None at present	Military waste clean-up; final phase	Federal	Federal	Open space
Gray Reservation	Sudbury Valley Trustees	Trails	Excellent	Excellent	Perpetuity	Private	Residential

Table 5 - Inventory of Public and Nonprofit Lands (cont.)

NAME	OWNER/ MANAGER	USE	PUBLIC ACCESS	CONDITION	PROTECTION	FUNDS USED	ZONED
Great Meadows National Wildlife Refuge	U.S. Dept. of the Interior	Nature study, trails, boating, fishing	Partial to excellent	Excellent	Federal	Federal	Open space
Grist Mill Pond	Sudbury Valley Trustees	Trails	Fair	Good	Perpetuity	Private	Residential
Haynes Meadow	Town/Con Com	Trails	Excellent	Good	Perpetuity	State/ Town	Residential
Haskell Recreation Area	Town/Park & Rec	Playing fields, tennis, toddler area	Excellent	Excellent	Federal	Federal/ Town	Residential
Hop Brook Marsh	Town/Con Com	Trails	Excellent	Good	Perpetuity	Town	Residential
King Philip Woods	Town/Con Com	Trails	Excellent	Good	Perpetuity	State/ Town	Residential
Lincoln Meadows	Town/Con Com	Trails, community gardens	Excellent	Good	Perpetuity	Town	Residential
Lyons/Cutler	Sudbury Valley Trustees	Trails	Fair	Good	Perpetuity	Private	Residential
MA Federation of Women's Clubs Memorial Forest	Federation/ Sudbury Valley Trustees	Trails	Good	Good and improving	None	Private	Residential
Moran Circle	Sudbury Valley Trustees	Trails	Limited	Good	Perpetuity	Private	Residential

Table 5 - Inventory of Public and Nonprofit Lands (cont.)

NAME	OWNER/ MANAGER	USE	PUBLIC ACCESS	CONDITION	PROTECTION	FUNDS USED	ZONED
Nobscot	Town/Con Com	Trails	Excellent	Fair	Perpetuity	Town	Residential
Nobscot Scout Reservation	Boy Scout's of America	Trails, scouting	Excellent	Good	None	Private	Residential
Pantry Brook Wildlife Management Area	State Fisheries & Game	Hunting, fishing	Good	Excellent	Perpetuity	State	Residential
Round Hill	Sudbury Valley Trustees	Trails	Excellent	Good	Perpetuity	Private	Residential
Water District Lands	Sudbury Water District	Trails	Partial	Excellent	Perpetuity	Town	Residential

Section 6 - Community Goals

The Conservation Commission used both previous Open Space & Recreation Plans and current community input to develop the goals for this plan.

In the Spring of 1995 the Conservation Commission distributed surveys at Town Meeting to attempt to understand the town's concerns and priorities regarding open space and recreation needs. In addition to Town Meeting nights, the surveys were available at the Town Clerk's office, the Atkinson Pool, and the Goodnow Library during April 1995.

One hundred twenty-seven completed surveys were received. (This represents about 1% of the Town's voters.) The results of the survey are included in Appendix A. In addition to the survey, the Open Space Subcommittee of the Conservation Commission held a public hearing on June 20, 1996 and there was active community participation in many of the subcommittee's meetings.

This process lead to the formulation of our present goals, which include protection of the town's water supply, protection of wildlife habitat, trail linkage, recreation facilities for both active and passive recreation, and preservation of the town's historic character.

Ask residents what they like about the Town, they invariably say its scenic beauty, history, open space, good schools and its proximity to the city and major highways. With a significant eastern natural buffer area provided by the Great Meadows National Wildlife Refuge, and a significant western buffer comprised of the former Fort Devens Annex, State Forest, Women's Club Federation and other local conservation land, Sudbury appears to have the best of both worlds. At the same time, development pressures are strong because of these qualities. We have lost many important open spaces since our last plan was done in 1988; though we have saved some, too. Many of the townspeople despair because of the astronomical land prices this development pressure has created.

What then, is our vision for Sudbury's future?

We want to work hard, now, for the future of Sudbury. The stakes are high, and time is of the essence. In our view, we see an ideal town where development is phased in over time to keep pace with our ability to maintain services and schools, and with a finite limit on the build-out capacity for Sudbury. We to see a town that is pedestrian friendly, with sidewalks and greenway recreation trails converted from old railroad lines, linking the north, south, east and west. We envision a town that has a rich abundance of healthy functioning ecosystems on either border, linked together through existing and future conservation land. We see a town that has ample open space for active and passive recreation, that keeps a significant percentage of its land in active cultivation, in forest use, and provides ample watershed and natural resource protection. A place where one can be proud of its rich history, and celebrate its role in the founding of this country. And finally, a vibrant commercial center where strip malls and thoroughfares are altered to accommodate foot and bicycle traffic. A town where we all work together to achieve a healthy,

sustainable balance of industrial, commerce, residential, natural, agricultural, educational, historical and other values we all want for our town.

To achieve these objectives, Sudbury must initiate a proactive, rather than reactive role. Citizens, municipal officials, and business leaders need to be educated about the vital role that the natural ecological systems provide to our town. Residents abutting conservation land should learn about the lifestyle choices they make every day that can either degrade or help sustain our water quality and ensure an adequate water supply both now and for the future. Managers of agricultural lands should explore integrated pest management and other viable, more sustainable options. Ecological baseline inventories and documentation of our conservation land must be done to understand the resources we have and to develop management plans for them to insure their future integrity. Restoration of the severely degraded Hop Brook watershed, for example, is critical from historical, cultural, ecological, and public health perspectives. We need to build public/private partnerships with state agencies, local land trusts and others; to use land protection tools available - whether through conservation, preservation, agricultural, watershed, forest use restrictions, fee acquisition, and/or zoning changes. Finally, we must develop and implement creative funding strategies to achieve these objectives.

Section 7 - Analysis of Needs

Based on the information drawn from the community meetings and survey, as well as the assessment of resource protection needs, the single most pressing issue for the Town is the pace of development. Since the last Open Space Plan was written in 1988 the number of key parcels remaining undeveloped has dropped from more than a dozen to only five. During the development of this plan, one of those five has come on the market and been sold for housing development.

The Town as a whole is grappling with the issue of its future, beyond the context of its open space and recreation needs. The Selectmen have recently convened the Strategic Planning Committee to address the issue of what Sudbury wishes to become. There are financial pressures the Town faces because its tax base is primarily on single family homes, yet there is substantial opposition to alternate forms of housing. Much of the citizen response to proposals which affect the Town's future are of the "not in my backyard" variety, without considering the larger context.

Despite the overall uncertainty regarding the goals of the Town, the needs for resource protection and recreation were not difficult to define.

Section 8 - Goals and Objectives

Using information gathered at public meetings and from the Open Space surveys we were able to define the following goals and objectives. Some of them are carried over from past Open Space Plans, and some are newly defined to meet new challenges.

A. Goals

* Maintain town character through preservation of natural features, historic sites, agriculture and land use diversity.

* Protect wildlife habitat and critical land areas through zoning and non-zoning methods.

* Create trail linkages including new trails, bike paths, walkways, and greenways.

* Provide opportunities for active recreation.

* Protect the quality and quantity of the Town's water supply through aquifer protection and through education.

* Provide education and outreach to increase access to and use of the Town's open spaces.

B. Objectives

* Create trail linkages:
  1. Identify gaps in the present trail network (including regional Bay Circuit connections).
  2. Develop a master walkway plan.
  3. Transform unused railroad beds to bike and pedestrian paths.

* Protect critical land and habitat areas:
  1. Identify critical parcels.
  2. Inventory parcels for environmental sensitivity and wildlife habitat gaps.
  3. Obtain Conservation Restrictions and Agricultural Preservation Restrictions.
  4. Support a Town Growth Management Plan.
  5. Create stewardship programs for conservation land.
  6. Protect locally significant habitats.
  7. Work with other groups to protect natural areas.

* Enhance active/passive recreation:
  1. Complete a needs assessment.
  2. Locate additional recreational fields.
  3. Develop a diverse constellation of parks.
  4. Identify and develop natural outdoor skating and swimming areas.
  5. Develop skateboard area and walking track.
  6. Develop handicapped-accessible conservation land trails.
  7. Combine suitable recreation and conservation uses.
  8. Develop reuse plans for the former landfill site (e.g., driving range, park, etc.).
  9. Improve and maintain conservation/recreation land for maximum use and enjoyment.

* Maintain town character:
  1. Identify critical sites and features.
  2. Obtain Agricultural Preservation Restrictions.
  3. Work for zoning changes.

* Protect water supply:
  1. Assess present level of protection.
  2. Work with Sudbury Water District to structure rates to encourage water conservation.

* Education:
  1. Provide maps of trails and conservation lands.
  2. Organize workdays.
  3. Publicize recreational opportunities.

Section 9 - Action Plan

Having developed our goals and objectives for Sudbury, the next, more difficult phase is to realize them. This Action Plan is a blueprint for achieving our goals. It is unlikely that all of them will be accomplished in five years, but having them made explicit will enable us to assess our progress and focus our efforts.

One of the central aspects of the Action plan is the establishment of an executive group drawing from various town bodies such as the Planning Board, Park and Recreation, Conservation Commission, and Finance Committee. As this plan was being developed, it became clear that there is tremendous overlap in interest in and authority for many of the projects outlined. Also, the objectives of the Open Space Plan need in some way to be protected from the day-to-day activities of the various boards involved, so that they are not continually being put off to some future day.

Part of the effort to make the various boards accountable for the Open Space Plan is to assign responsibility centers for each of the parts of the Plan. These are the initials in parentheses after different action items. (There is a key at the end of the plan).

5 -YEAR ACTION PLAN

Objective	Year One	Year Two	Year Three	Year Four	Year Five
Executive Function	Establish "Executive Committee"		Review progress of Plan; re-evaluate goals (EC, CC)	Rewrite Plan (CC, PR)	
	Zoning Changes- incentive for cluster, conservation zoning, increase lot size (PB, EC)	TM articles for zoning (EC)			
	Land Bank-transfer title tax, tithe taxes (EC, CLF)				
		Support Growth Management Plan (CC, EC, PB) ---------->			
Protect Habitat	Complete habitat survey (CC)	Inform potential owners of options (CC)	Purchase Parcel X		
	Give landowners copy of Plan, offer guidance re: protection options (CC, EC)				

5 -YEAR ACTION PLAN (cont.)

Objective	Year One	Year Two	Year Three	Year Four	Year Five
Protect Habitat (cont.)		Map Conservation Restrictions (CC, SVT) Annual Mailing (CC) Site Visits (CC, SVT) If corridor potential (trail or wildlife), approach land owners for additional C.R. (CC)			
		Work with SVT and SuAsCo Coalition to develop protected greenways ------>			
	TM article-Frost Farm to Cons (CC)				
Trails	Master walkway plan (PB) TM article to fund	Map trails and review linkage (CC,SVT)			
	Trail workdays (CC, SVT) ---------->				
	Support efforts to establish Wayside Rail Trail and Lowell-Sudbury Rail Trail ---------->				
Conservation Land Management	Inventory Cons. Lands (CC)	Develop Management Plans (CC)	Implement ----------> Plans (CC)		
Outreach/ Education	Develop/distribute Cons. Land maps				
	Tours of Cons. Land (CC) ---------->				

5 -YEAR ACTION PLAN (cont.)

Objective	Year One	Year Two	Year Three	Year Four	Year Five
Outreach/ Education (cont.)	Include Cons. Lands in PR info packets	Develop brochures- CR, landscaping, wetlands	Solicit funds to print		
Water	Assess current level of protection (WD, CC)	Act to protect land needed for recharge areas (CC, WD)			
		Educate re: conservation (CC, WD)			
	Water restriction bylaw (WD,CC)				
	Structure rates to increase conservation (WD)				
Agriculture	Identify potential APR lands	Purchase development rights			
		Small garden plots on PR lands			
		Restore Lincoln Meadow Vineyard			

5 -YEAR ACTION PLAN (cont.)

Objective	Year One	Year Two	Year Three	Year Four	Year Five
Town Character	Identify critical elements (EC, SPC)		Work to protect (includes scenic roads)		
Recreation	Needs assessment of facilities, areas, and programs (PR)	Acquire additional open space for active recreation (PR)	Develop Accessible Cons. Land (CC, PR)	Develop outdoor walking track, trails, x-c skiing (PR)	Develop diverse system of parks (PR)
					Reassess needs (PR)
		Assess reuse of landfill (CC, DPW, PR)	Develop outdoor skating (CC, PR, DPW)	Develop diverse system of parks (PR)	Upgrade Atkinson & Fairbank Facility (PR)
		Improve existing areas (PR) ---------->			

Key to responsibility centers:

CC - Conservation Commission
CLF - Conservation Law Foundation
DPW - Dept. of Public Works
EC - Executive Committee
PB - Planning Board
PR - Park and Recreation Dept.
SPC - Strategic Planning Committee
SVT - Sudbury Valley Trustees
TM - Town Meeting
WD - Water District

Section 10 - Public Comments

Draft copies of the Town of Sudbury Open Space and Recreation Plan, 1997 - 2002 were distributed for review and comment. The distribution list is found Attachment 10-1. Copies of the Draft Plan and reference maps were also made available to the public at three locations: the Conservation Office (Flynn Building), Goodnow Library (Town Hall), and the Park and Recreation Office in the Fairbanks Center. The latter two locations being fully accessible.

The duration of the comment period was forty days exclusive mail time. A number of parties submitted comments which were reviewed and considered for incorporation. Copies of the comments that were submitted are included in Attachment 10-2. The final document is a consensus plan of the Townspeople of Sudbury.

Section 11 - References

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