

The Town of Middleton

Open Space & Recreation Plan

May 1998

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Section 1—Plan Summary

A rapidly growing population (27% increase from 1990 to 1997), pressure to build on lands close to wetlands, increasing demands on water resources in a vital watershed area, disappearing natural habitat for indigenous wildlife, and the need for recreational areas for human inhabitants—all of these are issues which Middleton's planners for the 21st century must balance.

Clearly, Middleton must set its growth, development and conservation priorities within the context of the foregoing issues. Planning for open space and recreation is an integral part of this process.

This Open Space and Recreation Plan sets four ambitious and essential goals for Middleton during the coming five years:

- 1) Protect the Ipswich River, its tributaries, and associated wetlands (the watershed).
- 2) Preserve Middleton's rural character.
- 3) Provide recreational areas throughout Town.
- 4) Enlarge existing conservation areas, creating corridors between them for wildlife and passive recreation.

This Plan recommends that future development assume a strongly conservational approach. Further, it identifies for purchase, or restrictions, specific lands which are essential to the goals of:

- preserving the Ipswich River, its tributaries, and associated wetlands and the vital watershed function they serve;
- protecting Middleton's rural character;
- promoting recreation, and
- maintaining sanctuaries for wildlife habitat.

Section 2—Introduction

A. Statement of Purpose

In 1987 Middleton submitted an Open Space & Recreation Plan to The Metropolitan Area Planning Council. The Council did not accept the Plan as presented and recommended a few changes. Unfortunately, those changes were not incorporated at that time. Middleton officially renewed its open space planning process in October 1996 when the Town's Conservation Commission formed a new Open Space and Recreation Committee.

Since 1987 unprecedented development has been changing the character of Middleton. That, and concern with water resources, floodplains, and development near wetlands, make planning initiatives imperative.

Middleton's wetlands are protected from development by the Wetlands Protection Act, the Rivers Protection Act, by the zoning bylaw which has Conservancy Districts and a large Reservoir Protection District, and by a Board of Health rule that requires new septic systems be 100 feet from wetlands. Nevertheless, without a Town consensus on open space issues, some of the wetlands are becoming disconnected and isolated. The same is happening to undeveloped uplands. Likewise, the Ipswich River and tributaries are becoming increasingly threatened. The objective is to establish procedures to protect the remaining connections (wildlife corridors) while at the same time preserving some of the rural character of the Town and protecting the Ipswich River.

The Open Space and Recreation Committee ("the Committee") has inventoried and mapped lands targeted for open space conservation. The inventory and map embody the geographical extent of the Town's open space planning efforts and are intended as a primary guide to assist in the implementation of this Open Space & Recreation Plan.

The completion and acceptance of an Open Space and Recreation Plan will qualify Middleton for financial assistance from the Commonwealth of Massachusetts.

Since the Committee's formation in October 1996, the Town voted to allocate \$50,000 to an Open Space Land Acquisition Fund. At the 1998 Town Meeting an additional \$50,000 was requested, \$25,000 was approved by the voters. Middleton also voted to appoint a Master Planning Committee to update a Master Plan for the Town. (Charles Eliot wrote the last Master Plan in 1966.) \$51,500 was appropriated by the Town at its Annual Meeting in May 1998 for professional

planning services. Through these two initiatives the Town hopes to control growth, to protect its water supply, and to obtain and preserve open space for the good of its environment, its residents, and its wildlife.

The Land Acquisition Fund has funded one project since its inception one year ago. \$25,000 has been committed to an 86 acre parcel of land on Mill Street. The developer has allocated 20 acres for four house lots, leaving approximately 86 acres as open space for the Town. The Essex County Greenbelt Association and New England Forestry Foundation have matched the funds the Town has raised for this project and will have conservation restrictions on the land.

Section 2—Introduction

B. Planning Process & Public Participation

The Middleton Open Space & Recreational Committee was formed under the auspices of the Middleton Conservation Commission. The Conservation Commission wrote to each of the Town boards requesting the participation of a representative from each board or of known interested individuals.

The Committee held its first meeting on October 22, 1996. Its 17 members settled into a public meeting schedule of once a month for six months. From the main Committee four sub-committees were formed to research the following topics for the Plan:

- Community Setting
- Environmental Inventory & Analysis
- Inventory of Lands of Conservation & Recreation Interest
- Community Goals/Five Year Planning

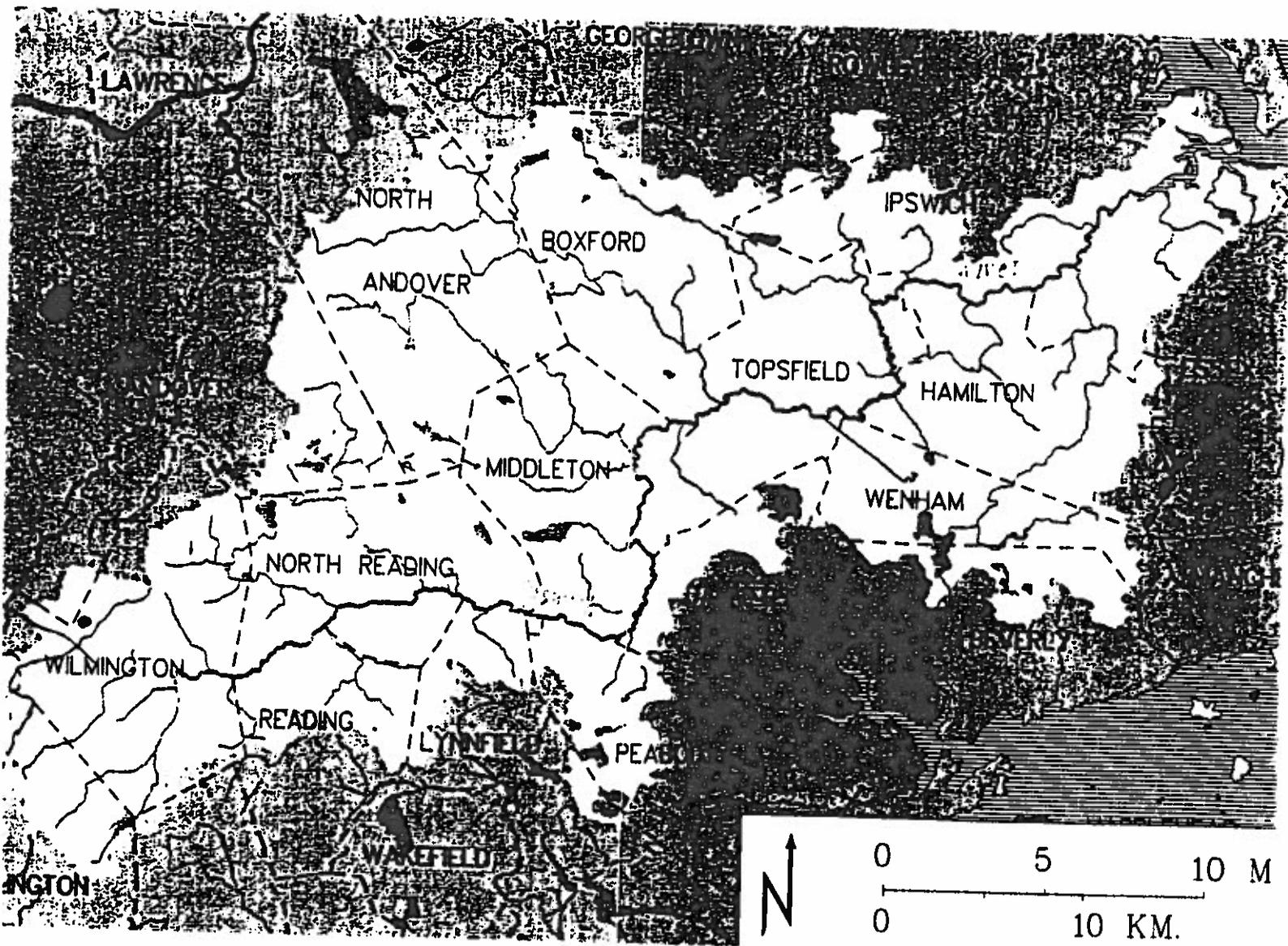
The sub-committees met separately, and by March 1997 most of their findings were available for analysis and incorporation into a skeleton Plan.

Efforts of the sub-committees were complemented by a questionnaire which was distributed to all Town residences prior to Town Meeting scheduled for May 13, 1997. From a mailing of 2,761, the questionnaire elicited 251 responses. Its findings are incorporated as Appendix I of this Plan.

On July 8, 1997 the Committee sent a letter and the questionnaire results to each member of every board in Town for discussion in preparation for a public Committee meeting held on July 28, 1997. At that meeting Committee members had an opportunity to interpret the responses to the questionnaire and to listen to public comments.

Other actions were taken to solicit and encourage interest in the Town's open space planning efforts: (i) The Chairman of the Committee spoke to a number of groups in Middleton to acquire as much in-pu-t as possible; and (ii) in October 1997, the Committee informed the three local newspapers each of which wrote an article on the results of the questionnaire.

Since then the Committee has met many times to discuss drafts of the Plan. At those meetings there was much lively discussion, and many major and minor changes were made.



Ipswich River Watershed

Section 3—Community Setting

A. Regional Context

The Town of Middleton is situated entirely within the Ipswich River Watershed in Essex County. The Ipswich River flows roughly 45 miles from its headwaters in Burlington, Billerica and Wilmington, through Reading, North Reading, Lynnfield, Peabody, Danvers, Middleton, Topsfield, Boxford, Wenham and Hamilton to its mouth in Ipswich, where it empties into Plum Island Sound and Ipswich Bay.

Middleton is downstream from a number of intensely developed towns. Fourteen communities draw their water from the Ipswich River Watershed. Not all of those communities are within the watershed, and consequently water drawn by those communities has no chance of being returned because they are situated outside the watershed. Growing populations have diminished the recharge and filtering capacity of the river, and many communities now experience a rationing of water during summer months.

The U.S. Environmental Protection Agency has listed the Ipswich as "impaired" under the Clean Water Act. According to American Rivers, the nation's leading river conservation group, the Ipswich is among the 20 "most threatened" rivers in the country.

The Ipswich River Watershed Association oversees and coordinates a Conservation Strategy, which is a regional approach to protecting the Ipswich River and adjacent lands. This Strategy was initiated in 1990 by the Riverways Program of the Massachusetts Department of Fisheries, Wildlife & Environmental Law Enforcement.

Historically, Middleton could best be described as a farming community, fairly isolated from the surrounding towns. Recently, with rapid development around Middleton, in Danvers, Andover, North Reading and Peabody, Middleton has become a transit point for commuters and shoppers. Traffic flows on Route 62 (east/west) and Route 114 (north/south) have increased substantially in recent years. Traffic lights and a widening of these roads reflect the burden of increased traffic on the Town. The construction of Interstates 128 and 95 and development along Route 1, all nearby and readily accessible by Routes 114 and 62 through the Town, have increased the traffic burden. In a sense Middleton has become a true "middle town" in relation to its surroundings.

Up until this decade, Middleton's rate of development has been comparatively slower than in surrounding towns. The main reasons for this slower growth are as follows: (a) a small number

of large landowners held onto their open lands, and (b) there is no public sewer system (until recently septic systems could not be installed on land with a high water table), and (c) only a few streets had town water.

The Town, unlike its neighbors, has had no prior policy with regard to the preservation of open space. Middleton has been fortunate in having a number of conservation-minded residents who have protected their open lands through participation in the Essex County Greenbelt Association and New England Forestry Foundation conservation programs.

One of the Town's outstanding natural features is Middleton Pond, which is the source of drinking water for parts of Middleton and neighboring Danvers. Since 1875 Danvers has owned Middleton's water rights and has operated and administered the Town's water system for which Middleton Pond is the reservoir. To the north of the Pond is Emerson Bog which recharges the Pond. It is also administered by Danvers. One of the natural breaks in development along Route 62 is Middleton Pond, as Danvers has bought up undeveloped forested land surrounding the Pond to protect it.

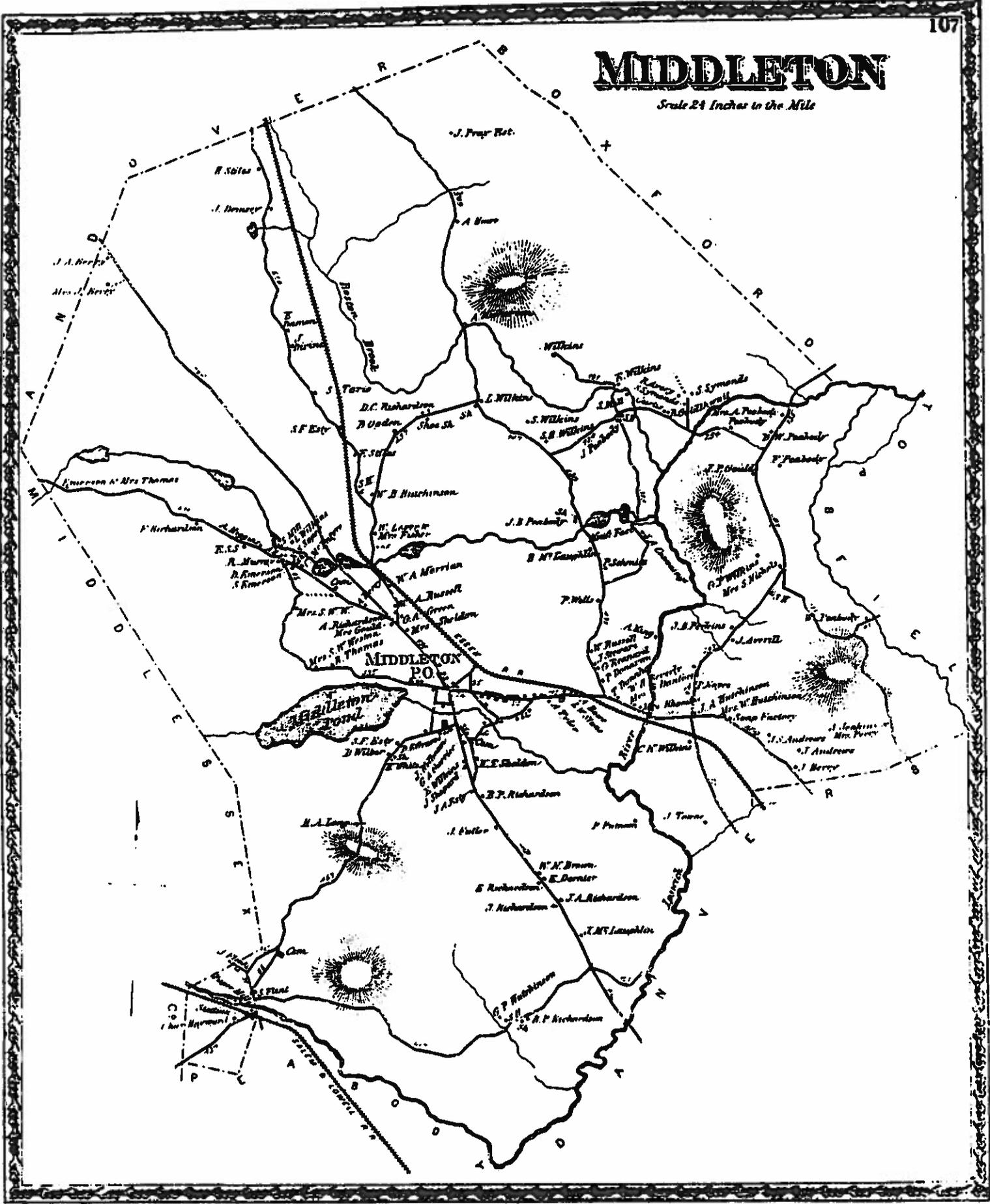
Last year, because of a water shortage due to a long drought, Danvers and Middleton agreed to buy water from the Town of Beverly to carry the two communities through the winter and to allow Emerson Bog and Middleton Pond time to recharge.

Middleton is currently attracting primarily middle to upper income families looking for larger lots and some degree of isolation from their neighbors, as well as a good school system. Middleton is politically and socially tied to its neighbors, Boxford and Topsfield, through the Masconomet School District. All three towns pay for the junior and senior high schools through real estate taxes.

The Town has tried to attract light industry, however, without a sewer system; much of its land is difficult and costly to build upon. Consequently, the Town has turned to retail businesses and to residential development. The residential development is taxing the Town's infrastructure as well as the tax payer. In this regard, the Town has formed a committee to develop a new Master Plan. Its first assignment is to formulate a growth policy for the Town.

MIDDLETON

Scale 24 Inches to the Mile



Middleton, 1884

Section 3—Community Setting

B. History of Community

Before it became Middleton, the area was known as Will's Hill after an Indian who, it is believed, lived below a great hill overlooking Middleton Pond. William Nichols was the first settler to the area in 1651. A brook in the far eastern section of Town still bears his name.

Middleton became a town in 1728, when it was formed from parts of Salem Village (now Danvers), Topsfield, Boxford and Andover. On July 9, 1728 Middleton held its first Town Meeting at Dr. Daniel Felch's house on Maple Street. Jonathan Fuller presented the Charter from the Commonwealth to the Town.

Middleton was predominantly a farming community, although there were always several small industries. One of the most notable was the ironworks, which were established around 1700 and operated for more than 30 years. The works stood on Mill Street, its sluice still in evidence as an outlet of Mill Pond.

Middleton's location between Salem and Andover made it a favorite stop-over for travelers and their horses. The Estey Tavern, built in 1753, was operated continuously until 1892. Gentry and drovers alike found it to their liking. The latter pastured their livestock in a town pound close by.

Colonel Francis Peabody built an important paper mill in the mid 1830s, on the Ipswich River in the southern part of Town. In 1843 the Crane family bought the mill and carried on making paper for another 30 years, until the mill burned down in 1871. Boston Blacking Chemical Company took over the site, which is now occupied by Bostik, Inc., a maker of adhesives. Bostik has greatly expanded in recent years.

The introduction of the Salem/Lawrence railway in 1848 and the Salem/Lowell Railroad in 1850 gave additional impetus to Middleton's economic growth, improving the Town's ability to service growing cottage and light industries. Both lines gave Middleton direct access to Boston. There were three stations in town: Howe Station (at the intersection of Maple and Gregory Streets); South Middleton Station (alongside the Ipswich River at the junction of Boston, River and Russell Streets), and Middleton Square Station where a turn-table was located. A burgeoning cottage shoe industry was particularly benefited as several small factories furnished materials to scores of townspeople, who worked from their homes.

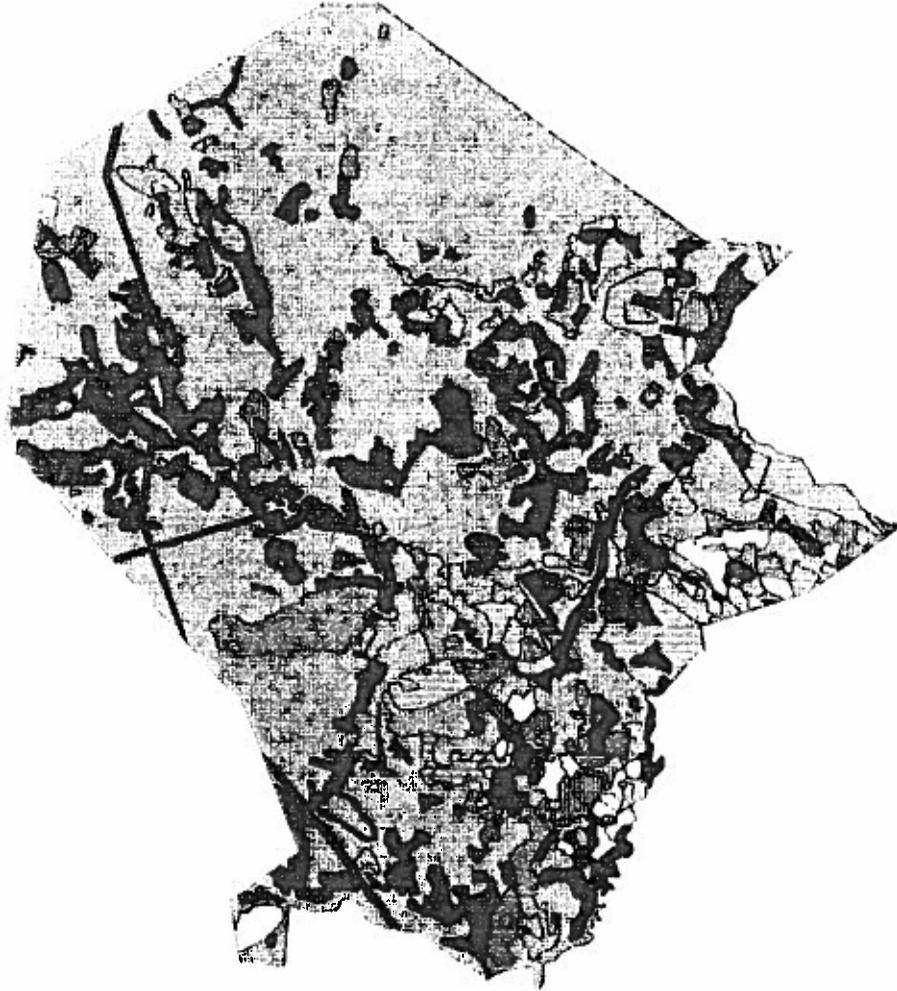
At the turn of the 20th century, Middleton was a favorite summer resort, with small cottages located along the banks of the winding Ipswich River and on ponds throughout the Town. In those days, steam railroad and electric car lines transported commuters and visitors.

Improved road construction ultimately obviated the need for the rail connections, and in 1935 the last train transited Middleton. The old railway bed is today used by the Danvers Electric Department for their overhead wires. A swath of land, approximately 50 feet in width, the old rail bed runs from North Andover in the northwest through the center of Town and exits south of Maple Street, leading into Danvers. Surrounding communities have developed a trail system using the old rail right-of-way. Danvers is currently pursuing the "rails to trails" idea, and some Middleton residents wish to pursue the idea as well.

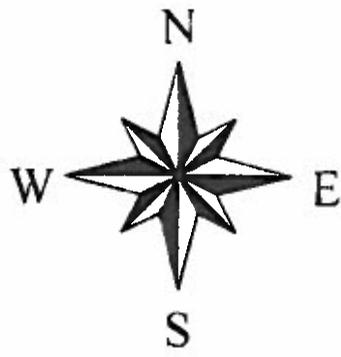
In 1875 the Town of Danvers made a proposal to take water from Middleton Pond. Middleton agreed, provided Danvers supply water to Middleton "on just and reasonable terms". In 1895 Danvers connected Middleton Pond to Swan Pond in North Reading with an iron pipe to supplement the Towns' main reservoir. More recently, Danvers built a water treatment plant beside Middleton Pond. During times of drought, or high-usage, Danvers and Middleton purchase water from Beverly to permit the Middleton Pond system to recharge.

In 1972 the Wetlands Protection Act was enacted. Town Conservation Commissions were formed to administer this Act, which protects swamps, bogs, wet meadows, large ponds, lakes, streams, and rivers. In Middleton this meant that about 2,400 acres, a quarter of the Town, became protected. With the passing of the Rivers Protection Act in 1996, strong additional protections were provided lands situated 200 feet on either side of Middleton's perennial streams and the Ipswich River.

MIDDLETON LAND USE MAP



- | Code | Description |
|------|-------------------------------------|
| 1 | Cropland |
| 2 | Pasture |
| 3 | Forest |
| 4 | Wetland |
| 5 | Mining |
| 6 | Open Land |
| 7 | Participation Recreation |
| 8 | Spectator Recreation |
| 9 | Water Based Recreation |
| 10 | Residential - Multi-family |
| 11 | Residential - Smaller than 1/4 acre |
| 12 | Residential - 1/4-1/2 acre |
| 13 | Residential - Larger than 1/2 acre |
| 14 | Salt Wetland |
| 15 | Commercial |
| 16 | Industrial |
| 17 | Urban Open |
| 18 | Transportation |
| 19 | Waste Disposal |
| 20 | Water |
| 21 | Woody Perennial |



Section 3—Community Setting

C. Population Characteristics

(i) Geographic Distribution/Density

The geographic distribution of Middleton's population is somewhat a function of the Town's three primary residential zoning categories: 20,000, 40,000 and 80,000 square feet. (See zoning map, page 17.)

Middleton's 20,000 square foot parcels are concentrated near the intersections of Routes 114 and 62. They comprise approximately 9% of the Town's zoned residential lots. In this relatively compact area are found the Town Hall, Fire Department, Library, Post Office and Historical Museum. Commercial life near Town Square is constricted by small lots, building restrictions (the Town Square is close to Middleton Pond and wetland areas), pre-existing residential housing, and the absence of parking facilities along Route 114, itself.

Stately old Estey Tavern and fine Victorian Flint Public Library define the primary district of the Town Square. Just behind the Tavern is a new, small-scale commercial plaza with a New England flair which houses a bank, a salon, a pizzeria, a real-estate office, a florist, a bridal salon and a picture framer. The Town's hardware store closed its doors in August 1997; its location remains unoccupied. A gas station, a second beauty salon, a convenience store, and an antique store, all located near Estey Tavern on Route 114, complete the Square.

Middleton Square wrestles with traffic flowing through the Town on two heavily used State highways. It is often difficult for local shoppers to maneuver in and out of retail and municipal establishments with the constant flow of traffic through Town.

Howe Manning School, located very close to Town Square, is a focal point for nearby residents, especially those with children who attend the school. The facility's nearby playground and ballfields also afford valuable open space.

Middleton Pond is, of course, another important feature of Middleton's town center, especially for people living nearby. While the Pond, itself, is not available for water recreation, the path around it is popular with walkers and bikers. The Town of Danvers manages the pond's large watershed land and keeps the access open.

Currently, the library is the only institution in the Town Square area with seating in a park-like setting. Richardson Park, located behind the library, while a welcome area of green, does not offer seating to the public.

40,000 square feet zoning prevails in most of Town. This zoning accounts for 60% of Middleton's residential lots and, to date, contains the greatest residential growth.

There is now a sidewalk for those residents living along the first mile of Boston Street, as it winds southwestward from Route 114. Boston Street residents are within easy walking distance of the Town Square and Middleton Pond. Those living further down Boston Street, on River Street and in some of the new developments that are located along both streets, commute by car to their destinations.

Heading south on South Main Street from the Town's center, one encounters, on the right, a restaurant with a large parking lot, and residences across the street. Further along South Main Street, picturesque pasture land, and a public golf course abut the east and west side of the highway. Continuing on, both sides of the highway become commercial up to the Town line at the Ipswich River. Some major establishments are: Middleton Aerospace, Richardson's Dairy and Ice Cream, a driving range and batting cages, a car wash, Boston Beauty, McDonald's and Dunkin' Donuts, and a shopping center containing DeMoulas Market Basket.

At the 1997 Town Meeting it was voted to allow a 500 foot business strip in the light industry zone along Route 114—South Main Street only. This change is to encourage the growth of small businesses along Route 114, and may bring that district into zoning and usage conformity.

The following table shows Middleton's top employers:

<u>Company</u>	<u>Type of Business</u>	<u>No. of Employees</u>
Bell Atlantic (NYNEX)	Telephone	800
Essex County Jail	Correctional facility	560
Ferncroft Hotel	Hotel, office and country club	300
Bostik, Inc.	Adhesives	270
DeMoulas Market Basket	Food Market	230
Autoroll Machine Corp.	Manufacturing	130
Middleton Aerospace	Technology	114
North Shore Regional Voc. Tech	Vocational school	100
Angelica's Restaurant	Restaurant	100
Bates Linear Accelerator Center	Research facility	100
Bob's Store	Retail outlet	97

Source: Middleton Town Administrator's Office, July 1997

80,000 square feet "Residence Agriculture", or two acre zoning, is located to the north and northeast of the Town Square. (The area is bounded by Essex Street in the west, North Andover in the north, Boxford in the east and Boston Brook in the south—north of School and Peabody Streets.) Two-acre zoning comprises 15% to 20% of total zoned residential area. This area offers the most opportunities for preserving open space. The Essex County Greenbelt Association and New England Forestry Foundation are both very active in this area. There are negotiations at this writing to acquire 86 acres of prime wildlife habitat for the Town in this area. The Bay Circuit Alliance is a partnership of organizations and individuals working to complete the Bay Circuit Trail around Boston. They want to locate land in Middleton which would connect their trail in North Andover to Boxford State Forest, off Sharpener's Pond Road where they currently access the Forest.

There are still large landowners in this part of Town who have their lands in Chapter 61. (Landowners of agricultural lands, forestry lands and private recreation lands can place their lands in a tax-reduced status under Massachusetts General Laws, Chapter 61, 61A or 61B. These lands can be taken out of their special taxation programs at any time. The Town has the first option to purchase such lands.)

(ii) Demographic Dynamics

(a) Population Growth

The rate of growth in Middleton's population has averaged 3.86% yearly since 1990 and the total population increased from 4,926 in 1990 to 6,249 in 1997, a 27% increase in seven years.

<u>Year</u>	<u>Total Population</u>	<u>Rate of Increase From Previous Year</u>
1990	4,926	
1991	5,160	4.9%
1992	5,256	1.9%
1993	5,404	2.8%
1994	5,469	1.2%
1995	5,730	4.8%
1996	6,020	5.1%
1997	6,249	3.8%

Compare the 27% growth rate in the first seven years of the Nineties with the 3.2% growth rate in the Seventies and the 17.9% growth in the Eighties. One can see that growth continues to increase at quite a brisk pace and is, in fact, accelerating in the latter part of the Nineties.

(b) Demographics of Growth

The growth has occurred primarily from the influx of families wishing to build large new homes. A rough indicator of this is the ratio of new housing permits to population growth. The table below shows that, on average, 3.35 people occupied each new dwelling unit built during the seven-year period ending in 1997.

Per Capita Building Permit Analysis

	<u>Population Increase from Previous Year</u>	<u>Building Permits Issued</u>	<u>Per Permit Population Increase</u>
1991	239	15	15.93
1992	96	41	2.34
1993	148	48	3.08
1994	65	71	0.92
1995	261	84	3.11
1996	290	65	4.46
1997	229	72	3.18
Totals	1328	396	
	Average per Dwelling Unit		3.35

The influx of families has caused increases in Middleton's elementary school population. During the eight-year period ending in 1996, the elementary school enrollment increased from 371 students to 600, a 61.7% increase. During 1995, alone, the increase was 9.8%.

(c) Income Demography

As recently as the Nineteen Seventies, Middleton was largely a town of skilled blue collar workers. Newcomers in the 1980s and 1990s tend to be young professionals with higher incomes, an appetite for larger, more expensive homes, and a desire to benefit from an above-average school system:

<u>Year</u>	<u>Market Value Median Single-family House</u>	<u>Median Family Income</u>
1970	\$18,900	\$11,037
1980	\$50,000	\$23,137
1990	\$191,700	\$52,036

Housing in Middleton has been an excellent investment, especially for those who bought homes in 1980. On average, those building in 1980 could have realized an 283% increase in their investment in ten years if they sold in 1990.

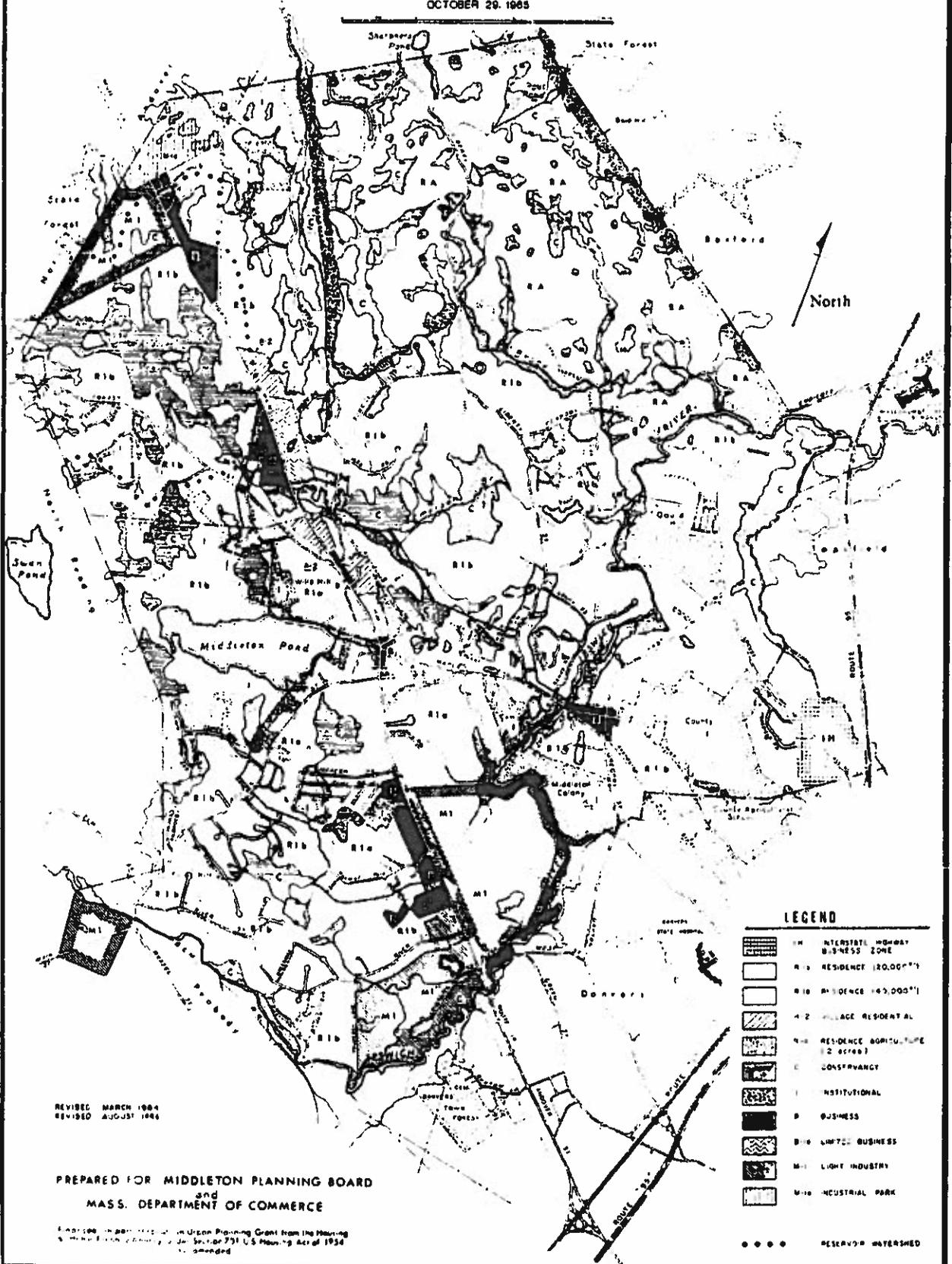
(iii) Middleton's Growing Prison Population

Middleton is home to a 500 cell medium-security County prison which was completed in February 1991 to house 750 inmates. Within approximately three years the jail was at capacity and inmates were double-bunked where possible. The current number of inmates is 1,100. Recently, the General Court of Massachusetts authorized \$22 million to expand jail facilities in Essex County. The City of Lawrence has the only other County correctional facility; it a minimum security prison. The \$22 million authorization allows for 240 additional cells.

The increasing prison population impacts directly on land and water use. The actual water usage of the prison from its two water meters for the year July 1996 through June 1997 was 4,757,000 cubic feet (35,582,360 gallons). One meter is for 1 use, the other for water usage for the prison. Based on the actual figures, each prisoner averages 66.32 gallons per day. At that rate, the additional 480 inmates (if double-bunked) will consume another 11,619,264 gallons of water per year, not factoring in the agricultural use of water for the facility.

TOWN OF MIDDLETON MASSACHUSETTS ZONING MAP

OCTOBER 29, 1965



LEGEND

-  I-95 INTERSTATE HIGHWAY
-  B-1 BUSINESS ZONE
-  R-1 RESIDENCE (20,000'²)
-  R-1B RESIDENCE (45,000'²)
-  R-2 VILLAGE RESIDENTIAL
-  R-4 RESIDENCE AGRICULTURE (2 acres)
-  C CONSERVANCY
-  I INSTITUTIONAL
-  B BUSINESS
-  B-10 LIMITED BUSINESS
-  M-1 LIGHT INDUSTRY
-  M-10 INDUSTRIAL PARK
-  RESERVOIR WATERSHED

REVISED MARCH 1964
REVISED AUGUST 1964

PREPARED FOR MIDDLETON PLANNING BOARD
and
MASS. DEPARTMENT OF COMMERCE

Funded in part by a Housing Planning Grant from the Housing & Home Finance Administration, U.S. Housing Act of 1954 as amended.

Section 3—Community Setting

D. Growth & Development

The Town of Middleton covers 14.58 square miles in Essex County. Its growth has been guided by the 1966 Master Plan written by Charles Eliot. Present zoning reflects many of the recommendations from that Plan.

1. Pattern and Trends

The business districts are seen as strip developments along Route 114 (South Main Street). From the North Shore Shopping Center on Route 114 in Peabody there is an unbroken vista of retail commercial development westward into Danvers. The Ipswich River is the Town line between Danvers and Middleton and provides a peaceful interruption to the commercialization of Route 114. Middleton's zoning, compared to its industrialized neighbors, has encouraged smaller establishments, with less visible store signs. North Main Street from Town Square north takes on a more rural quality as Route 114 heads towards North Andover.

In the past Middleton had been a somewhat "overlooked" community. Not as wealthy as some of its neighbors, the Town's work force had primarily been blue collar, with an emphasis on skilled labor. The major reasons for slower development in an earlier time can be summarized as follows:

- (a) Close to 25% of Middleton is designated as wetlands. It should be noted that the Town of Danvers owns 10% of total land in the Town for its reservoirs and protective areas around them.
- (b) Middleton has been fortunate to have a number of conservationists who have dedicated individual parcels of land to open space, mainly through The Essex County Greenbelt. Currently 5% of Middleton's land is held by land trusts.
- (c) Until recently the majority of development occurred in the south of Town. The two major soil types in this portion of Town are both well-drained, relatively flat and accessible. In other areas many of the glacial soils and terrain have not been profitable to develop. With increasing land values that has changed.
- (d) There are 1,482.80 acres of mostly open land in Chapter 61 status, 16% of the land area in Town. In fact, one major landowner owns 865.47 acres in Chapter 61 status (over 9%).
- (e) Middleton does not have a town-wide sewer system. In the past, residents were on private wells. Today Town water is slowly being extended, as development demands it. See Water Line map on page 21.

With the unending demand for land, the urban sprawl of Boston, and Middleton only being twenty-two miles from the city, the developers have zeroed in, first on the flatter lands, turning them into subdivisions. More recently lands close to wetlands, lands with high water tables and lands with ledge ("marginal" lands) are being bought to develop high-priced housing. High land values permit developers to go to great expense to install technologically advanced septic systems and to change the topography.

The rate of building activity in Middleton over the past three years has been high. The chart below shows the number of permits issued for single-family houses:

1995	1st Quarter	12	Total for 1995 = 68
	2nd Quarter	25	
	3rd Quarter	23	
	4th Quarter	8	
1996	1st Quarter	6	Total for 1996 = 63
	2nd Quarter	22	
	3rd Quarter	13	
	4th Quarter	22	
1997	1st Quarter	18	Total for 1997 = 56
	2nd Quarter	13	
	3rd Quarter	13	
	4th Quarter	12	

Source: Middleton Building Department

The Middleton housing market remains strong. The two factors that appear to be predominantly motivating buyers are (i) regional Junior High and Senior High School systems that are perceived as excellent, and (ii) Middleton is one of the few communities north of Boston in which there is a prevalence of subdivision lots for sale without a builder "tie-in". (This allows homeowners the choice of their own timetables and building plans.)

The following lists recent subdivisions and the number of house lots within each. Most lots have been sold:

Bayberry Place, Lt. Cabral Dr., off Boston Street	20
Bayberry Woods, DeRosier St., off Lt. Cabral Drive.....	7
Blueberry Hill, Thornton Circle, off Boston Street	9
Brookstone, Old Haswell Park Rd., off Boston Street	8
Cedar Acres, Averill Rd., off School Street	8
Eddington Place, Bishop Ln. & Eddington St., off Essex Street	14
Evergreen Estates, Maytum Way & Nelson Cir., off North Main Street	22
Ferncroft Heights, Nichols Ln. & Mansfield Rd., off Locust Street	31
Fieldstone Place, James Ave., off Boston Street	41
Fieldstone Place Extension, Erin Way, off James Avenue	8

Flint Farms, Flint Farm Rd., off River Street	13
Jersey Lane, off River Street	3
Kelley Lane, off Boston Street	7*
Leary Lane, off East Street	3
Liberty Hills I, Watkins Way, off N. Liberty Street	26
Liberty Hills II, Watkins Way, off Sharpener's Pond Road	13
Middleton Heights, Campbell Road, Kenney Road	21
Sugar Hills, Vera Road, off Essex Street	23
Tiffany Acres, Currier Road, off Forest Street	12
Woodstone Estates, Old Haswell Park Road, off Boston Street	25
Total Lots (Since about 1988)	314

*Two existing houses, five new houses

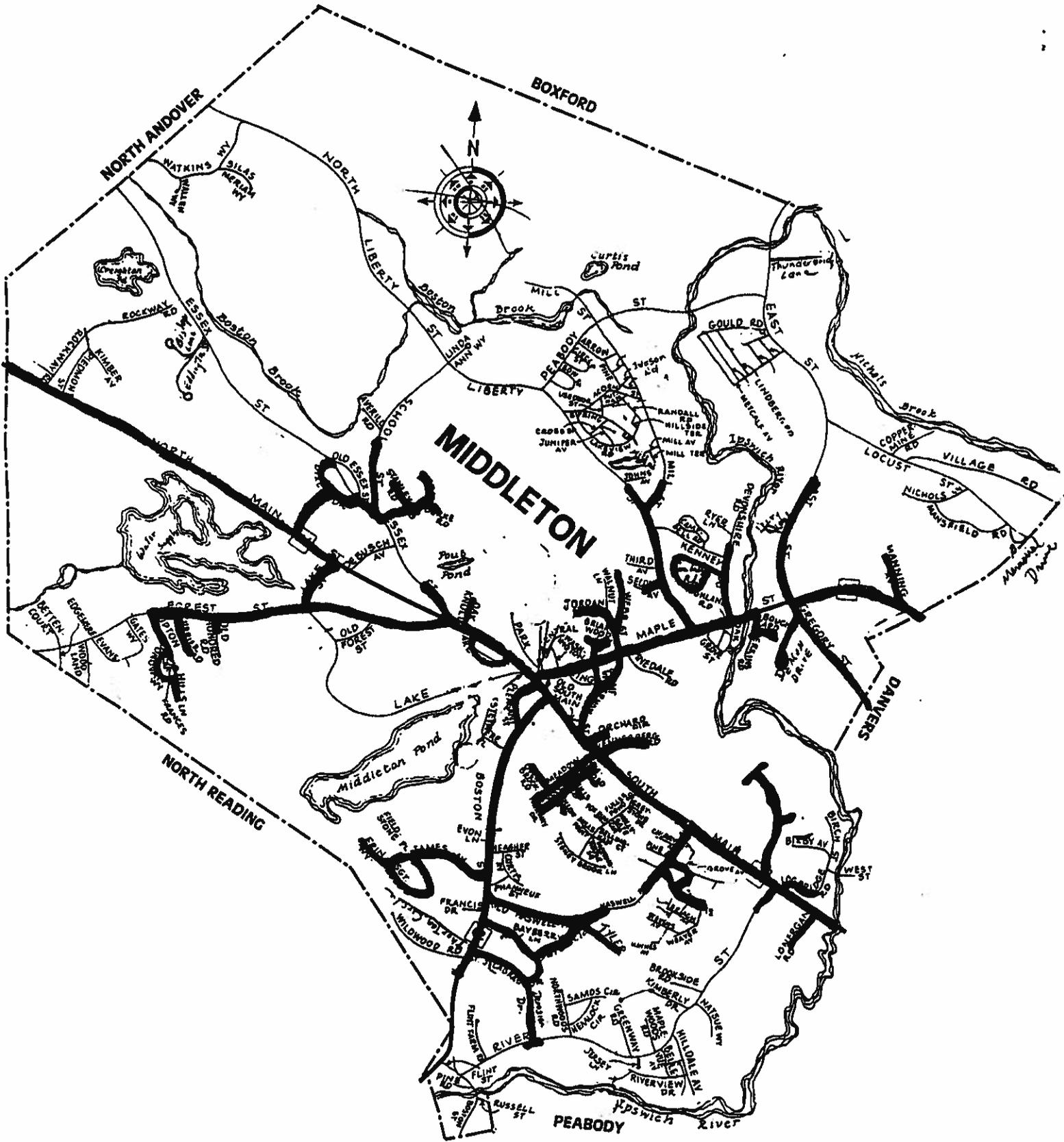
All this development activity has left the infrastructure in Middleton under some stress. Schools are having to expand, the supply of water is being rationed, each of the Town's boards is meeting more frequently and the main roads are often congested.

2. Infrastructure

(a) Water Supply

Danvers has two well fields along the Ipswich River. One is in Middleton along Route 114 where there is a covered well head. During the winter months it is usual to pump water from this site to reduce the amount taken from Middleton Pond and to allow the Pond time to recharge. However, recently this 60 foot well has reduced its pumping capacity from 300 to 400 gallons per minute to 60 to 80 gallons per minute. Even after a thorough cleaning and overhaul, that rate has only been increased by 10% to 20% to approximately 120 gallons per minute. One other problem with this well is that it is high in a pollutant called carbon tetrachloride, which comes from metal cutting and/or cleaning. This necessitates the treatment of the water and thus increases the cost to the consumer. The other well field Danvers has along the Ipswich has been closed down because of pollutants. It is located at The Jewish Cemetery off Route 114 on the Danvers side of the river.

Ten years ago, the Town of Danvers bought land surrounding Emerson Bog, between Route 114 and Forest Street. It was their intention to flood additional land thus expanding the Reservoir to a total of 320 acres. (The area presently covered by water is approximately 170 acres.) That project was recently rejected by the Army Corps of Engineers. Danvers Water Department assures Middleton they are holding onto the land that they purchased to protect the watershed. Emerson Bog is in a Reservoir Watershed District and is also protected by Title V, which prohibits septic systems within 400 feet of public water supply areas.



Town Water Line Map

The indisputable fact is that there is a water supply problem in the region. The river is pumped dry upstream in the summer months. Kerry Mackin, Executive Director of The Ipswich River Watershed Association (IRWA), says: "The Ipswich River Watershed does not have the capacity to extend the water supply to further development since it is already over-allocated". The Association is committed to promoting ways for each community to save water. (In 1997, there was a comprehensive three-part series in the *Salem Daily News* summarizing the ongoing debate between the IRWA and area water supply departments. The series is available at the Conservation Commission office.)

(b) Sewer

Most of Middleton is not on a public sewer system. There are exceptions on the southern and eastern edges which are served by the South Essex Sewer District. The lack of a sewer system necessitates septic systems on each lot throughout the Town. This restricts use of the land since a number of commercial enterprises are prohibited from discharging to an on-site wastewater treatment system. Commercial industries that wish to locate in Middleton would have to discharge wastewater from its processes into a tight tank at considerable pumping expense.

(c) Transportation

The Town's lack of a public transportation system results in increased vehicular traffic. In order to take public transportation to Boston, one has to catch a train from either Beverly, Reading or North Andover. The traffic congestion is shown by lines of rush hour traffic on Main, Boston and Maple Streets and by new traffic lights that have been appearing in Town over the last five years. A major contribution to increased traffic has been development in neighboring towns, as well as in Middleton.

Traffic lights are scheduled to be installed at the intersection of Maple, East, and Gregory Streets, and at the intersection of North Main, Essex, and Forest Streets.

3. Long-term development patterns

As of this writing, there are no subdivisions in the planning stages with Middleton's Planning Board. However, some of the Town boards have been notified of three preliminary plans, one for four house lots on Mill Street, another much larger one south of School and Liberty Streets (perhaps 20 lots), and still another for eight lots, off Forest Street.

Zoning is one of the means used to protect open space and preserve the rural character of a community. The majority of land use in Middleton is residential. While one acre zoning covers the larger area, approximately 15% to 20% of land in the north and northeast part of Town is zoned for two acre lots (Residential Agriculture). It is in this area that the Essex County Greenbelt Association and New England Forestry Foundation have been particularly active.

With new businesses being encouraged by the Town along Route 114, the increasing volume of pass-through and local traffic, and the current high pace of residential development, the Town is proceeding towards greater traffic congestion, greater air pollution, and more runoff from impervious surfaces.

Current zoning does not encourage developers to design for playgrounds, or to set aside areas for parks, trails or open spaces. There is a Planning Board bylaw in effect which allows one acre to be set aside in new developments for open space. However, the Town has to pay full fair market value for the acre.

Section 4—Environmental Inventory & Analysis

A. The Geology of Middleton

More than three hundred million years ago, the land that is now Middleton was molten rock, three miles deep in a great mountain range. That liquid rock slowly, slowly cooled to become the granites, diorites, and syenites we see on the surface today. In time unimaginable, the mountains imperceptibly eroded away, until in the last few million years the action of the continental ice sheets expanding and retreating during the age of the glaciers, sped up that erosion to create the basis for the landscape we see today.

The last great period of glaciation happened here just 10,000 to 12,000 years ago. Globally, we are still very much in an ice age. Those ice sheets, perhaps a half-mile thick here, moved slowly but with tremendous weight and force on and between outcroppings of granite, mostly Salem diorite which is the bedrock in our area. On bare ledges around Town one can still see the gouges and striations caused by debris embedded in plastic ice at the glacier's base. These scratches run northwest to southeast, as do oval hills such as Will's Hill, Bald Hill, just over the line in Boxford, and Flint Hill, all of which are drumlins of glacial deposits.

The glaciers scooped, tore, plowed, gouged, and ground the underlying substrate producing massive amounts of movable clay, silt, gravel, and boulders that washed out from under the ice or were carried along by it. On retreat, the melting ice left these materials and great buried blocks of ice behind in a seemingly random hodgepodge. Mini-valleys between bedrock heights were filled or dammed. The ice blocks melted leaving isolated ponds. Higher hard ledge scraped bare in the expansion was washed clean or again buried upon retreat. And great hunks of rock, some torn from ledges many miles northwest, were scattered about. These boulders can be seen almost anywhere in a casual walk through our woods.

The terrain left behind was briefly barren, devoid of vegetation and top soil. Dig a hole almost anywhere in Town today, 8,000 to 10,000 years later, and you'll quickly pass through a thin six to eight inch layer of largely unformed topsoil into the sand and gravel so recently deposited. At two feet or before you'll encounter large stones, the once raw material for our many miles of stone walls. Our field-clearing ancestors didn't have to dig for them, frost heaved up new batches yearly much to their dismay.

Glacial deposits blocked the flow of water; many lower poorly drained areas became bogs and swamps. In them, thick vegetation grew, and organic matter accumulated to become thick peats

and mucks. Roughly one fourth of the land area of Middleton falls under the category of "wetlands". Wetlands are invaluable groundwater recharge areas, filters of water, wildlife habitat, and they are protected by State and Federal laws.

How can one characterize in a word such a mix of soils, exposed bedrock, recent wetlands, streams, and a river. It is, of course, impossible, but if time is added to the mix the word "changing" comes to mind.

There are, in a 1905 geology book of Essex County by John Sears, many photographs of County scenes, several taken in the Middleton area. One is from a hill, perhaps the one now capped by a new development called Ferncroft Heights. It shows Topsfield as an apparent sea of gentle swells extending to the north and east. Upon a closer more thoughtful look the swells become low hills almost devoid of trees and marked only by stonewalls, a few buildings here and there, cows, and rare small patches of woods. The scene is pastoral, reminding one of an English countryside. Just a century ago our land was bald, kept so by cattle, horses, sheep, hogs, chickens, and wood cutters. We read that charcoal makers of an earlier time clear-cut even the swamps and steepest slopes!

Today if you go up in an airplane or climb a hill, (Flint Hill in South Middleton is a good choice, because there is a high-tension line right-of-way that allows you to see north across the Town), you'll see forests and little else. The trees have returned probably more so than at any time since the period between the last glacier and the arrival of the Indians, who are said to have cleared land by burning. Three hundred and fifty years ago the English brought cattle, horses, and hogs. They and their masters finished the clearing begun by the Indians. Now we are again in a time of forests characterized by oaks on the uplands, red maples in the low.

However, as of this writing humans are assuming the roles formerly played by grazing cattle. Roads, lawns, and large houses are again opening up the land, and not just the surface as the cows and earlier men had done, but deeper into the till. The glacier's work is being re-enacted on a lesser scale by chain saws, dynamite, bulldozers, and trucks.

In the 1940's, 1950's, and 1960's, good glacial deposits—whole hills of it—were trucked out of Town for the building of Logan Airport and other projects requiring fill. One account reports of "500 truck loads a day" leaving the pits east of River Street. There are areas in the southeast quarter of Town where old timers remember hills that are now flat or pitted areas, reduced to floodplain elevations. Despite the lack of topsoil these areas are now covered with robust stands

of bushes and saplings of considerable diversity. How quickly recovery progresses here in New England! Perhaps this is not so surprising among plant species, ancestors of which had retreated and returned after several glaciers.

In summary, Middleton's topography has largely been shaped by the glaciers, the last one being the Wisconsin, and more recently by men and their powerful and efficient machines. Parking lots, paved driveways, and roads have resulted in hundreds of acres that are impermeable to runoff. Land, once pastures, is now lawn. Since much of the Town is without public water, people have drilled wells as deep as 1,200 feet into aquifers. Last year alone there were forty-four such deep wells drilled. As of this writing more manmade projects are on the drawing boards. Good long-range planning becomes more and more important.

B. The Soils of Middleton

Middleton's soils, so recently formed from glacial and alluvial drift, are, not surprisingly, quite varied. A thoughtful look at the Soil Conservation Service's (SCS) maps of the County's soils give some sense of the complexity of the soils found in this area of ancient bedrock and very young, geologically speaking, topography. Middleton's landscape has been shaped and reshaped in the last half million years by the waxing and waning continental glaciers. The last, the Wisconsin, retreated recently just 10,000 years ago. It left behind till, erratics, iceblocks, drumlins, kames, eskers, and outwash plains, all seemingly strewn at random over a rough base of bedrock. Old watercourses were dammed, new ones were formed. Low areas were elevated with glacial debris, others were scoured clean to expose basal Salem diorite (a darker finer member of the hard granite family, our "ledges"). The finer materials, clays, silts, sands, and gravels, often mixed, make up our still young soils. Is it then surprising that soils formed from these many sources, some coming from as far away as Concord, New Hampshire, are so varied?

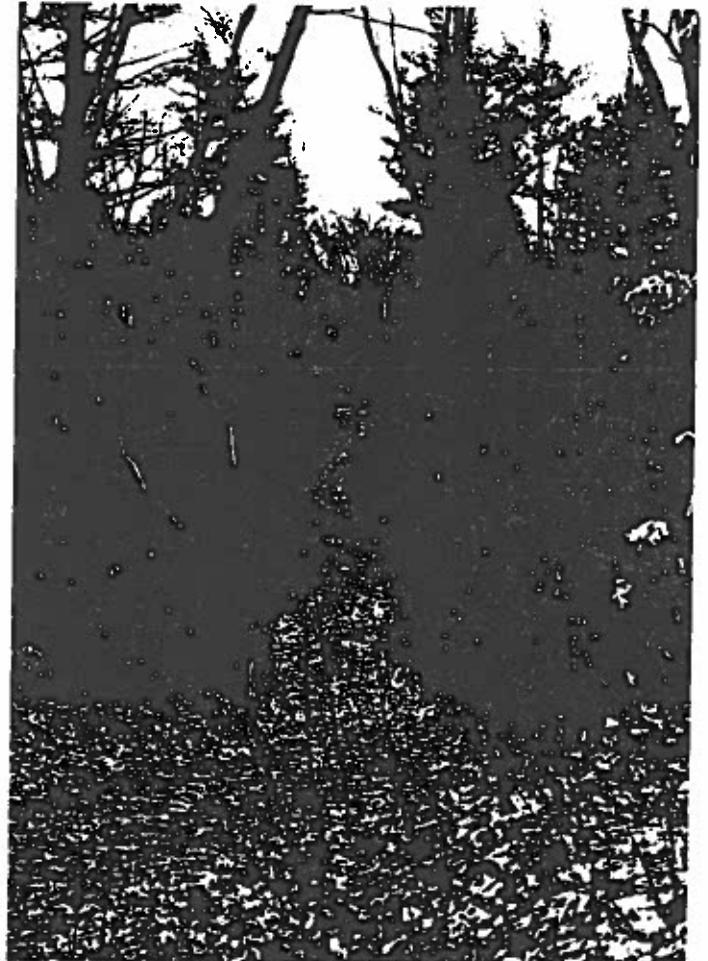
Perhaps those soils encountered on a cross-country walk from Middleton Square, one and one-half miles east to the Danvers line, will illustrate. If on our walk, we stop every few yards to dig a test hole, the SCS map tells us that we will find 19 patches of soils ranging from one-half to 20 acres. Each patch falls into one of nine different soil types, each with its own name and distinctive characteristics. On this imaginary half-hour walk, if one discounts the digging and examination times, we will cross two streams, a river, wet areas, and a couple of ledges, in addition to the soils walked on. According to the soil map, many variations of the nine named soil types would be found. Each has its own vertical profile and "percolation" times.



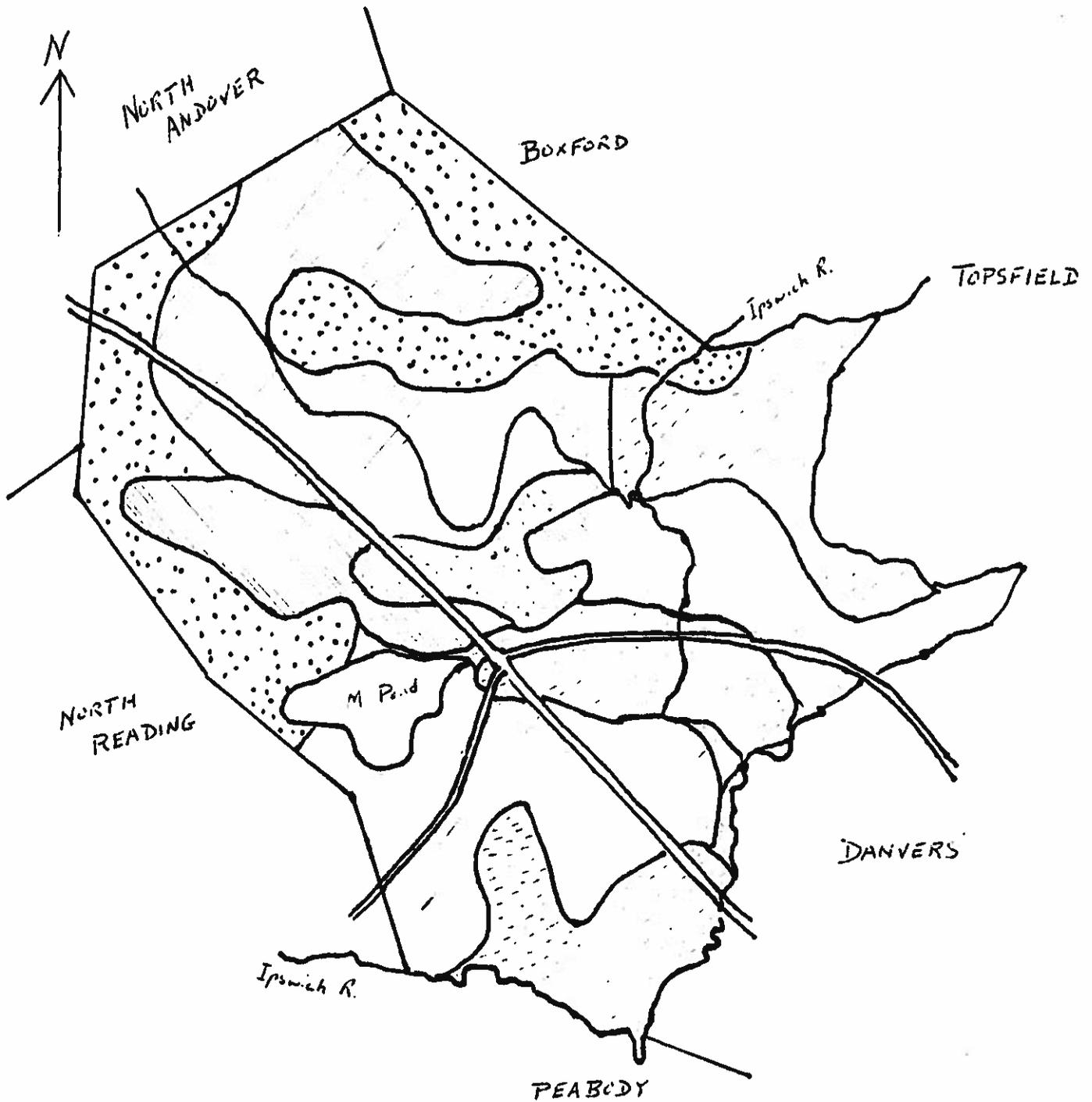
The Curtis Oak, Peabody Street



**County Land, off Peabody Street
Maintained by Warren Evans**



**Woodland Path north of Mill Street
The Town will soon own this parcel for passive recreation**



- | | |
|---|------|
| Merrimac-Hinckley-Urban land association | //// |
| Paxton-Montauk-Urban land association | //// |
| Canton-Woodbridge-Freetown association | //// |
| Chatfield-Hollis-Rock outcrop association | •••• |
| Freetown-Fluvaquents association | •••• |

General Soil Map

An even longer "soil walk" from the North Andover line in the northwest to Danvers in the southeast would give a broader view. In the rugged north, where high outcroppings of bedrock flanked by poorly drained areas abound, the dominant soils are in two soil associations, the Canton-Woodbridge-Freetown association (#4 on the soil map) and the Chatfield-Hollis-Rock association (#6 on map). The SCS describes them as follows:

Canton-Woodbridge-Freetown association: Deep, nearly level to steep, well drained or moderately well drained, loamy soils formed in deep glacial till; deep, nearly level, very poorly drained, mucky soils formed from organic deposits

Chatfield-Hollis-Rock outcrop association: Moderately deep or shallow, gently sloping to steep, well drained or somewhat excessively drained loamy soils formed in glacial till; areas of exposed bedrock

Half or more of the Town is characterized by these two associations, including almost three-fourths of the area in the north and west quadrants. The descriptions, "nearly level, well drained", might lead one to believe that much of this land would be suitable for building. However, such suitable soils are often found in areas surrounded by ledge or wetland, "areas of exposed bedrock", "very poorly drained". Add to the numerous ledges and low areas of muck where septic systems are not possible or not allowed, the factors of access, steepness, and the Board of Health rule that new septic systems must be no closer than 100 feet from wetlands, and you can understand that not much land is readily developable.

The gentler topography of the northeast, east and south portions of Town are characterized by extensive Merrimac-Hinckley-Urban land (#2 on map) and Paxton-Montauk-Urban land associations.(#3 on map).

Merrimac-Hinckley-Urban land association: Deep, nearly level to steep, somewhat excessively drained, loamy sandy soils formed in outwash deposits; areas where soils have been altered or obscured by urban works or structures

Paxton-Montauk-Urban land association: Deep, nearly level to steep, well drained, loamy soils formed in glacial till; areas where soils have been altered or obscured by urban works or structures

These are the associations on which most of the Town's residents have lived and on which many of them used to farm. Several hundred acres are still farmed or used as pasture. Much of the Ipswich River floodplain is characterized by soils in these associations. In neighboring Danvers, large areas of some of the best cropland in all New England have been covered by asphalt and concrete. Middleton has requested a floodplain re-study by FEMA (see geology topography section) in an effort to protect flood storage. If a re-study is done an additional 50 to 150 acres, some prime agricultural bottomland, may be reclassified as protected floodplain.

Like most of Massachusetts, Middleton's land was once almost all pasture despite its thin rocky or wet soils. Miles of stone walls attest to this. A few thousand years ago the glaciers shaped the land and left a patchwork of soils, wetlands and uplands. The true character of Middleton's landscape is best seen from the many old cattle runs and logging roads which wind through its second growth forests. There, raw cliffs of granite, boulders dumped by the retreating ice, numerous pools and small bogs, are found. It is not uncommon to see partridges, deer and turkeys, as well as many less obvious creatures.

D. Water resources

Almost 100% of the residents of the Town of Danvers are on town water, the same applies to the sewer system, whereas only 60% of the residents of Middleton are on Town water—and almost every household has its own septic system.

Today, rather than rivers of ice, Middleton has the Ipswich River and its tributaries. Middleton is entirely within the river's basin and is bounded to the south and east by it. About 2,400 acres of wetlands (swamps, bogs, ponds, lakes, and wet meadows) are directly or indirectly connected to these streams and river. Since August 6, 1996, when the Massachusetts Rivers Protection Act was enacted, continuously running streams are defined as "rivers" now protected, in part, by 200 foot buffers on either side.

E. Vegetation

Native Americans, we have reason to believe, were here in great numbers. There were several tribes in the area we now call the North Shore. There is evidence that they cleared land for agriculture and periodically burned large areas to provide browsing for deer and other game, to enhance berry production, and to kill smaller trees so firewood could be more easily gathered. There are rare accounts by the first English settlers of large clearings and open forests that one could ride a horse through at a gallop.

It did not take long for the strange newcomers with their axes, fires, and livestock to clear the remaining forests. Shipbuilders sought the large trees, charcoal burners took anything left. By the end of the 17th century there was probably much more cleared land than forested. By the Revolution the trees were largely gone. There are 19th Century accounts of peat mining here for fuel and of the importation of firewood from Maine. Even the steep slopes of the Berkshires to the west were 70% to 80% pasture by the time of the Civil War. Thereafter, with the explosion in the textile and shoe industries in the region, there was a gradual decline in grazing. By World War II forests once again covered much of the land, with the exception of the good bottomland

along East and Peabody Streets. These bottomlands, bounded by the Essex Agricultural School to the east, Maple Street to the north, and South Main Street to the west, with their gentle uplands, are still largely cultivated or pastured today. Almost the entire northern and western parts of Town, except for the roads and land immediately around houses, are again forested. The great square formed by South Main, River and Boston Streets is again largely shrub and woodland. Development in this area in the past two decades has been intense, and the forest within this square is now fragmented. The last two years have seen five new side streets carved out through second and third growth forests off Boston Street alone.

All in all, plant life abounds and is found on every un-asphalted unbuilt surface of our thin glacial soils. Within a year or two it springs forth, even from exposed gravel where the soil had been stripped or disturbed. On higher ground, oaks (red, black, and white) predominate. Scattered among them are white pines, which in some places can be found in pure stands. Sprinkled throughout the oaks and pines are white ash, hickory, cherry, and other hardwood species. Around the few remaining pastures and abandoned areas are red cedars, gray birch, black locust, barberry bushes, multiflora rose, and a great mix of other sapling trees and shrubs. On the shadier cooler north facing slopes, especially at higher elevations, are beeches, yellow, black and white birches, and thick stands of hemlocks.

At lower elevations are extensive wetlands of many kinds, ones typical of glacier sculpted land. Of the trees, red maple dominates, but there are also elm, black ash, swamp white oak, and now and then patches of Atlantic white cedar. The latter grow in thick dark stands in perennially flooded bogs. Aunt Beck's Pond is surrounded by several acres of these rare dark woods. One must wait for a sustained drought, or thick ice to explore them. Other wetlands, such as Emerson Bog (a very large impoundment) are covered with water from which grow vast shrub thickets of buttonbush and smaller patches of swamp and red osier dogwoods. Along the Ipswich River and its main tributaries are swamps and marshes characterized by swamp dogwood, buttonbush, river birch, willows, silver maple and numerous other wetland species. Some wetlands, such as those along Lonergan Road and Birch Street, comprise several hundred acres, which flood yearly and are always wet. Then there are large and small shaded woodland swamps where red maple and high bush blueberry dominate, the latter often forming impenetrable thickets.

It is also worthwhile to note, a 5.4 mile, 200 foot wide, right-of-way for high voltage electric lines. With no regard for topography, it cuts through the Town from Peabody in the south to North Andover. Under the great wires are shrubs, young trees that will never get very old, wild flowers, several berries, and almost all the species of plants found in Town. Within this band,

kept short by periodic applications of herbicide to individual hardwoods and by the cutting of young evergreens, is a great mix of plant and animal life. Along this repressed way of undulating highs and lows can be found thickets of sweet fern, huckleberries, raspberries, low bush blueberries, hazelnut, high bush blueberry, buttonbush, cattails, sphagnum moss, and cranberries. The high tension line forms a long corridor, broken by only four roads, for wildlife, such as deer, hunting hawks, numerous foraging song birds and dirt bike riders.

Now, while this is being written, housing developments in upland areas are isolating forests. Along Boston Street alone there are several hundreds of acres characterized by large homes on one acre lots with good sized lawns where neither grazing nor cultivation takes place. Ironically, the grass is coming back, bounded not by stonewalls, but rather asphalt. How will these mini-fields within drives and roads affect wildlife habitat? They have certainly interrupted natural woodland wildlife corridors and yet they have let light into understory and groundcover plants. There is no legal hunting within 500 feet of these dwellings. If herbicides and pesticides were not allowed or severely restricted and the irrigation of lawns was banned, then these acres of thick grass surrounded by woods might bring people, other animals, and plants together in novel ways. And isn't this one of the purposes of an Open Space Plan?

The Appendices list some of the many plants and animals found in Middleton's 14.5 square miles. The comments with the list give some sense of their habitats and relative abundance. An effort was made to describe the Town's plants and the larger animals as they were and as they are, now. Most of the organisms listed here have been seen in the past year. Alas, the organisms not mentioned—ones of which we are most unaware—may be the most important in the long run. They are the microorganisms of our living soils and waters which decompose pollutants and natural organic debris, filter water, release nutrients, and generally recycle. In the thicker soils of the 2,400 acres of wetlands, good bacteria, fungi and the myriad small creatures that feed on them abound.

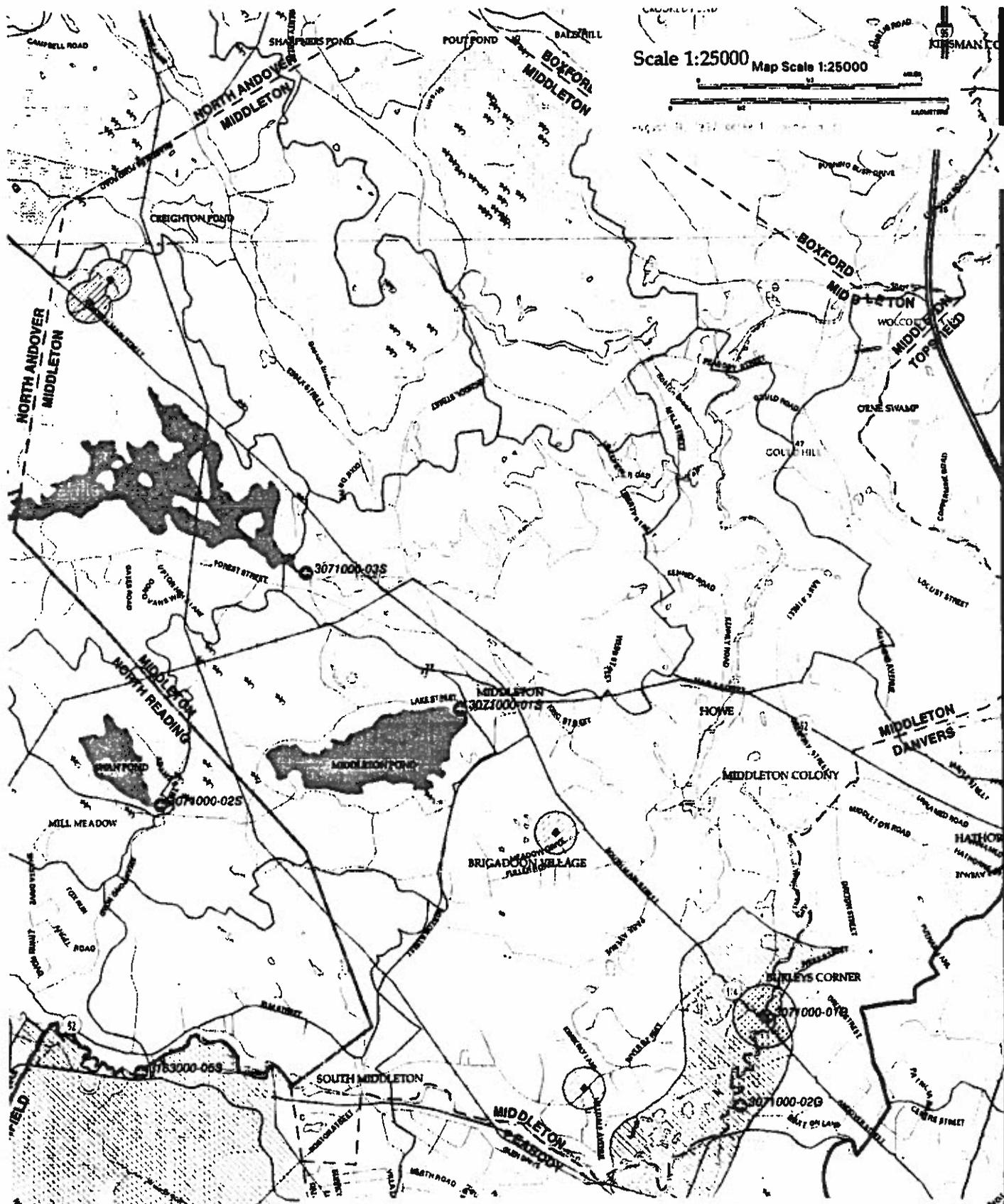
Please see Appendix II (page 82) for a listing of plant species.

F. Fisheries and Wildlife

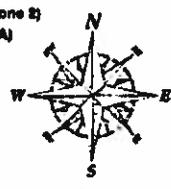
Please see Appendix III for a listing and brief comment on the species found in Middleton (and in most of the Ipswich River Basin) of the following vertebrate classes:

Mammals/Fish/Amphibians/Reptiles/Birds /Rare, Threatened, and Endangered Species

Scale 1:25000 Map Scale 1:25000



- Non Potential Drinking Water Source Area: Medium Yield
- Non Potential Drinking Water Source Area: High Yield
- Potentially Productive Medium Yield Aquifer
- Potentially Productive High Yield Aquifer
- EPA Designated Sole Source Aquifer
- DEP Approved Wellhead Protection Area (Zone 2)
- DEP Interim Wellhead Protection Area (WPA)
- Public Surface Water Supply
- Water Features
- Fresh Water Non-Forested Wetland
- Salt Water Wetland
- Protected and Recreational Open Space
- Areas of Critical Environmental Concern
- DEP Permitted Solid Waste Facility
- NHESP 1998 Estimated Habitats for Rare Wetlands Wildlife: Use with Wetlands Protection Act



- State, U.S., Interstate Route markers
- Interstate Highway
- U.S. Route
- State Highway
- Other Road
- Municipal Boundary
- County Boundary
- Train
- Powerline
- Pipeline
- Aqueduct
- Major Drainage Basin
- Sub Drainage Basin
- Zone 2 or WPA Boundary
- Streams: Perennial, Intermittent
- Public Water Supply - Surface Water
- Public Water Supply - Ground Water



ANR GIS
 Vermont Agency of Natural Resources
 100 State Street, Montpelier, VT 05602
 Phone: 802-241-3000
 Fax: 802-241-3001
 Website: www.vermont.gov/anr

G. Scenic Resources & Unique Environments

1. Scenic Landscapes

(a) The Ipswich River

While Middleton has no volcanic peaks, waterfalls or other dramatic views that would draw tourists, it does have a lovely river meandering through and along its borders. Much of this eight-mile stretch of river passes through marsh, swamp, and woods, where human activities seem remote. On a three-mile canoe trip from Boston Street to South Main Street one can experience more than a mile of uninterrupted shade from high maples and swamp oaks. Houses are not seen, and when the leaves are on and the birds are singing, the hum of vehicles beyond the wide river corridor is not noticed. This woodland stretch of river widens out into a vast swamp of shrubs and herbaceous emergent plants. Here the narrow channel wanders in great loops through a low floodplain, a quarter mile or more wide. On such trips mink, wood ducks, painted turtles, hawks, and many other animals may be seen.

From South Main to Maple Street shrub marsh of a similar nature predominates, only the background vistas are very different. Gently rolling up from the floodplain are Richardsons' pastures, still open as much of the Town was less than a century ago. Just before Maple Street the lovely pastoral land falls behind as the river, its floodplain still fairly wide, enters higher land. There are stretches from Maple Street to Thunder Bridge where the paddler looks to the right and left up the sides of heavily wooded hills. The roads flanking the river are out of sight and hearing range.

In May 1987 and again in October 1996, the river kicked up its heels and became dramatic, even exciting. In places it rose two to three feet over its usually gentle banks and spread out over vast areas of red and silver maple swamp, fields, and even roads. Portions of Peabody and East Streets were flooded for several days. The Conservation Commission has asked FEMA to do a restudy of the Town's floodplains. The observed floodwater depths are one to two feet higher than FEMA's maps and graphs show; upper floodplains are unprotected in places.

(b) Named Streams

Thirteen or so miles of the Ipswich's major tributaries (also protected as "rivers" by the River Protection Act) also offer many fine views for those willing to brave the thickets along the rough terrain of their banks.

Punchard's Brook is largely wooded and shaded. Its water is relatively cool until it emerges into the marsh just east of River Street and it becomes part of the larger river. Its basin includes much of the area encompassed by South Main and Boston Streets.

Middleton Brook flows from Middleton Pond and passes through the Town's center. There has been talk of a Town Common along it between Main and King Streets. From King Street it passes into the bottom land of Richardsons' pastures. It, like Punchards, terminates in the floodplain of the Ipswich.

Emerson Brook flows from a large shallow impoundment of buttonbush and drowned white cedar swamp called Emerson Bog. The Bog collects water from North Reading, North Andover, and Middleton. It is a vast haven for many fish and the herons and osprey that prey on them. You can ice skate for several miles among the bushes of this shrub swamp without re-crossing your trail. To this observer Emerson Bog is truly scenic whether on a cold clear winter's night or in the summer, when the lush green is dotted with blazing white egrets and great blue herons. From the Danvers Water Company dam off Lake Street, Emerson Brook meanders on through large shrub swamps, a small white cedar swamp, two quiet ponds (Pout and Mill), and then drops to the river through the woods.

Boston Brook is the longest of Middleton's Ipswich tributaries. It begins in North Andover and in the wetter months flows strongly south in a wide floodplain flanking the old railroad right-of-way, a fine long level walk with water running all around. It then swings east through unspoiled wooded hills and finally falls turbulently to quiet Prichard's Pond. This short stretch of "white water", bounding over rocks and under mature trees, is an uplifting sight, especially in the winter when the snow contrasts sharply with the dark stream. Boston Brook in its last quarter mile passes by hay fields. (These fields are cared for and mowed by Warren Evans, long-time resident, amateur historian and a frequent contributor to *The Tri-Town Transcript*.)

Finally, making up much of the Topsfield/Middleton line, is *Nichols Brook*. Its headwaters are in Danvers and the Ferncroft Heights area of Middleton. It flows about a mile north through a wide floodplain rich in wildlife. Just to the west, as it nears the Ipswich River, looms the Rubchinuk Landfill, an illegal landfill presently being capped with fill from the Boston Central Artery. The capped landfill will rise to almost 100 feet, giving climbers a good view of the Nichols Brook basin and Topsfield to the east. How ironic that debris from the great Lynn and Chelsea fires and urban renewal and now the added cap of "slightly contaminated fill" from the bowels of Boston will soon uplift citizens and provide truly open space for wildlife. Some flood storage loss will

result from the capping, that loss pales in comparison to the loss of the five or so acres of wetland destroyed by the illegal landfill.

(c) Hills of Note

The Town's high drumlins, offer fine views in all directions. From a cleared electric company right-of-way over Flint Hill, (187 feet), there are broad vistas to the northwest and southeast. Will's Hill, (246 feet), which rises above nearby Middleton Square, was, until fairly recently, pasture. Without cows it has gone over to barberry, red cedar, and black locust. Perched on top is a large concrete reservoir, no longer used. Its walls are adorned with graffiti, its turbid water is home to turtles and goldfish. From its rim are some fine views. Other drumlins in the Town or close to its border with neighboring towns are Bare Hill (County Jail site, 217 feet), and Bald Hill, (236 feet), just to the northeast in Boxford.

(d) In the Woods

Most of Middleton's land lies between the aforementioned waterways and drumlins. There are miles of woodland trails, remnants of cow paths and logging roads kept barely discernible by hikers, hunters, and deer. These provide access to rough glacier sculpted mini-valleys, knolls, and raw ledge. In the course of a mere half mile some trails provide the hiker with a cool beech-hemlock grove, high dry ledges of slow growing oaks, impassable swamps of button bush or high bush blueberry, red maple swamps, a dark white cedar bog, a stand of large red oaks and white pines, and knolls of cracked ledge and boulders. In much of the Town, particularly the western and northern parts, a walker must of necessity continuously climb up and down, around, and through now forested piles of rubble excavated and transported by recent glaciers. A jaunt up old Thomas Road, and then west from Bald Hill to Sharpeners Pond and back south between Essex and North Liberty Streets, is very different from season to season. This six-mile loop can be completed in forest without crossing a paved road and with only rare glimpses of buildings.

These are the natural scenes of Middleton, ones neither seen nor hardly even suspected on a drive through Town. One must leave the car to experience them.

2. Geologic Features

Middleton's 14.5 square miles makes up a major portion of the center of the Ipswich River Basin. The Town's topography to a large degree was shaped by the glaciers that covered the area periodically for the last 100,000,000 years. Scoured ledge, drumlins, boulders, gravel and sand

deposits, erratics, and thin poorly developed soils all testify to the origin of Middleton's patchwork of hills, exposed ledge, and poorly drained wetlands.

The major visible features are an important river and several large drumlins. See section 4.G.1.

3. Cultural, Archeological and Historic

Close to the summit of Will's Hill is a large stone that is believed to be a grinding stone used by Native Americans. An Indian is reported to have lived at the base of Will's Hill, and it is possible that the stone was his. The stone is oblong in shape and is in two sections. The larger bottom portion has a cavity—a saucer shaped indentation—which is where corn would have been placed. The smaller curved stone was then placed on top and stood on to create a side-to-side motion that ground the corn to a meal.

The Middleton Historical Society is being asked to verify the importance and authenticity of the stone which, if confirmed, should be protected as an artifact. It would be especially significant to protect the stone where it is located since that is where it would have been used. However, it may be necessary to remove the stone to the Historical Society's museum, since the stone is currently situated on privately-owned land.

There are a number of older homes in Middleton—some built prior to the incorporation of the Town in 1728. However, the creation of an historic district is not feasible as the homes are not close to one another. A few years ago the Middleton Historic Commission nominated four houses in Middleton for the National Register of Historic Homes. The following are those homes, all of which have a plaque to identify them:

Lieut. Thomas Fuller, c.1680, Old South Main Street
Deacon Edward Putnam, Jr., c.1705, Gregory Street
Joseph Fuller House, before 1714, Essex Street
Estey Tavern, built by Samuel Bradford, 1753

Other notable antique houses in Middleton:

Bray Wilkins, c.1701, Mill Street
The Abigail Bradstreet House, c.1711, Maple and Washington Streets
Ebenezer Stiles Homestead, c.1733, Essex Street
Edward Putnam, 1714, East Street
Jacob Fuller, c.1714, South Main Street
Timothy Perkins House, c.1721, Essex Street
Peabody-Wilkins, c.1740, East Street—North Shore Jewish Community Center
Samuel Flint, 1746, Corner of River and Boston Streets
Capt. Andrew Fuller, 1750, King Street

Lieut. John Flint, 1782, East Street
Joseph Symonds, 1792, Thomas Road

The Joseph Fuller House on Essex Street was where Middleton Minutemen chose to meet in 1775 to organize in the fight against the British. It is here that eight of them made the decision to march to Lexington and Concord to fight. They arrived a day late and were unable to help the Minutemen.

H Environmental Problems

1. Hazardous Waste Sites under Chapter 21 E

a. American Glue and Resin Company, Inc., 40 School Street, Map 11, Lot 6

The company is no longer in operation. It was operating up until the late 1980s when the water in a neighbor's well was found to be contaminated. The neighbor's house was ruled "uninhabitable" by the Department of Environmental Protection. Test wells were installed near the company building. Volatile organic compounds (VOCs) including several carcinogens in amounts that exceeded drinking water standards were found. The Department of Environmental Protection is still trying to work out a clean up arrangement. Tests of other wells on School Street were made and their water was found safe. Last year, Town water was piped from Essex Street up School Street to a point just beyond the contaminated site. Health Department and Conservation Commission files have much information on this site.

b. Pump 'N Pantry, 265 South Main Street, Map 33, Lot 2

This site is in the inner riparian of a riverfront area.

In 1990 the DEP declared this a "priority site, Tier 1A", because in 1987 petroleum hydrocarbons (one was benzene) had been found in groundwater moving out from the site. Since then periodic testing has been done showing a fairly steady decrease in concentrations. Testing continues. Health Department files on this site include monthly test results since 1991.

c. Bostik, Inc., 211 Boston Street, Map 30, Lot 2

This site on the Ipswich River has been an industrial area for over one and-a-half centuries (paper company in the 19th Century; Boston Blacking Chemical Company, and Bostik, maker of adhesives, in this century).

Three sites with contaminated soils have been found on Bostik's 23 acres. Two areas, one to the south on the Lynnfield side containing several potentially dangerous chemicals including low

levels of PCBs, and another to the northeast with heating oil contaminants have been cleaned up. A third area near the river, a "tank farm" built in the 19th Century, is being cleaned up now. Bostik and its environmental chemist, Dan Welch, have recently been praised by the Ipswich River Watershed Association for their clean up efforts.

2. Landfills

The landfills listed below all date from the 20th Century. They may contain some hazardous waste. The Town Landfill and the Rubchinuk Landfill are to be monitored for the next three decades.

a. Municipal

Between 1976 and 1996, Middleton operated an unlined landfill within 500 feet of the Ipswich River, at the end of Natsue Way, off River Street. There is a levee-like berm and an artificial wetland between it and the river (Map 32, Lot 10). The site was acquired with the understanding that when it could no longer be used as a landfill, it would be turned into a recreation area. The landfill was closed to trash on July 1, 1996 and the ten acres where trash was buried were capped according to the latest Massachusetts Department of Environmental Protection (DEP) standards. The capping was completed in November 1996. The site will be monitored according to DEP standards for the next 30 years. Because of the 5% slope on the cap, and the presence of numerous gas venting pipes, the capped area is unsuitable for recreational fields.

A Transfer Station and Recycling Center were built between the old landfill site and the Ipswich River. A very small amount of wetland filling and appropriate replication was necessary to accommodate the Transfer Station. Enough acreage remains in this area to build two soccer fields.

The Town landfill during the period 1950 to 1970, north of the last Town landfill on Natsue Way, was located on private land, Map 32, now Lots 6A and 6B. The area comprised roughly six acres and was filled to a depth of five to twelve feet with municipal waste. It has now grown over into a field of mixed weeds and shrubs.

A Town landfill used prior to 1950 was located on private land. See (v) below.

b. Private

- (i) Rubchinuk's Landfill between Nichols Brook and East Street, Map 8, Lot 25. This illegal landfill, 800 feet south of the Ipswich River, and 500 feet west of Nichols Brook, is now

being capped with "low level contaminated fill" from "The Big Dig" Third Harbor Tunnel in Boston. The DEP, who initiated the closure plan, classifies the material as suitable for disposal at an existing unlined landfill. A Receiver is being paid \$1,816,000 to take the fill. This money is being used to cap the landfill and will be used to monitor it for the next 30 years. It is not known whether funds received for taking the fill will be sufficient to meet monitoring expenses.

The potential problem lies in its proximity to the river and the absence of knowledge as to its contents. Part of this dump is resting on five-or-so acres of buried wetland, once part of the Nichols Brook floodplain. There is a 600 foot man-made pond that runs east from it to the high waters of the brook. This landfill has test wells around it from which water samples are periodically taken and tested for heavy metals, volatile organic compounds, and other substances.

- (ii) Muzichuk's Landfill, North Main Street, east side 200 feet south of Piedmont Street, Map 9, Lot 64. Much of this two acre site was once wetland. The filled area can be clearly seen in a 1991 aerial photograph. The landfill contains shredded tires, municipal waste, white metal, and other materials. Since it was an auto junk yard for many years there are probably oils and other chemicals in its "soils". It still has cars on it. It is in a Reservoir Watershed Protection District.
- (iii) Muzichuk's Landfill on the west side of North Main Street, Map 9, Lot 19B. In the 1970s, municipal waste from Cambridge was brought onto this lot. As much as five acres were filled with it and other material until the once undulating area was level. Later tires were shredded and stored here. It is in a Reservoir Watershed Protection District.
- (iv) Johnson's Landfill, between North Main and Essex Streets, behind what is now the DPW, on Map 16, Lot 80 and Map 10, Lot 9G. In the 1960s and 1970s out-of-town municipal waste and other materials were dumped here, in some places to a depth of twenty-two feet. Test results from groundwater samples showed silver, chromium, lead, and arsenic in amounts "of concern". This landfill was capped in 1987. It is now covered with grass and other herbaceous plants. Leachate seen coming from it recently was high in iron. Water from it flows into a wetland just to the north.
- (v) Town Landfill on Essex Street, Map 17, Lots 87, 88 and 89. This landfill was active until the early 1950s. It is located in the triangle between the old railroad line (now Electric

Company ROW) and Essex Street. About one and one-half acres were filled with trash to a depth of between two and twenty feet. This landfill is not capped, and trash can still be seen on its back slope. There are now houses and thirty-to forty-year-old trees on each of the three lots. There have been no reports of undesirable leachate or odors emanating from the fill on this site.

- (vi) Danvers State Hospital Landfill, off Gregory Street, Map 20, Lot 5. An old Danvers State Hospital landfill is located just east of the Community Gardens near the Danvers line. There are two shallow landfills, side-by-side, each covering about three quarters of an acre, surrounded by a hay field. The Massachusetts Department of Food and Agriculture filed with the Conservation Commission in 1997 for a permit to clean up these two sites. Permission was granted. The Department will test for hazardous waste. Test results have not yet been received.

3. Erosion

Erosion is not now a serious problem in Middleton because of the coarse nature of most of its soils and the rapid growth of ground cover over disturbed areas. In the past there was probably much more erosion due to over-grazed pastures and periodically cultivated fields and to the absence of environmental regulations. When subdivisions are developed large areas are sometimes clear-cut and stumped. This is soon followed by excavating, filling, and stockpiling. During such periods, there is high potential for erosion. There were problems after heavy rains fell in 1996 on the large cleared areas of the Ferncroft Heights development. The silts and clays, and even some sands started to move, the former long distances. Now that vegetation has been established, much of it as lawns, the potential for serious erosion at Ferncroft has greatly diminished.

The Conservation Commission and Planning Board might reduce potential further erosion from development by minimizing clear cutting or dividing large developments, particularly in sensitive areas, into sections, permitting clearing and development in only one section at a time.

The heavy soils being used to cap Rubchinuk's landfill present a serious potential erosion problem. There are high percentages of clay and silt in the "slightly contaminated" fill coming from Boston. The slopes above the vulnerable wetlands are steep. However, good erosion control measures have been taken to date.

4. Periodic Flooding

There are a number of areas in Town which are liable to flooding at fairly regular intervals. In the past decade (October 1996 and May 1987) major floods have covered and closed streets in the lower parts of Peabody Street, East Street and Thunder Bridge Lane and in the South Main, Lonergan Road and Log Bridge Road areas. On average, about every ten years there have been floods that have exceeded 100-year flood elevations. 100-year floodplains as mapped by The Federal Emergency Management Agency (FEMA) are protected. The higher floodplains are not.

- (i) One of the oldest high-density developments in Middleton—Brigadoon—is located off South Main Street. The lower part of Brigadoon has a history of flooding. There is no sewer service to this development and the impact of the sewage in soils with a high water table is of major concern.
- (ii) The low areas of Peabody and East Streets flood with major rains and cause damage to residences abutting these roads. FEMA maps, dated 1980, do not indicate these areas as floodplains, however, it is well documented that they are floodplains. The FEMA 100-year floodplain elevations—the ones Town officials and developers must abide by—were exceeded. The Conservation Commission has asked FEMA to do a re-study in light of observations made during the great floods of 1987 and 1996. These upper floodplains, unprotected until a re-study is done, are now being built upon. Such building reduces flood water storage.
- (iii) The area which was once known as Paradise Park, between River and South Main Streets, and Lonergan Road has been, and is being, heavily developed along South Main. In the flood of October 1996, eleven to twelve inches of rain fell over a period of two days on already saturated soils. The river rose up over its official floodplains, to crest at record levels, at least since regular records were started in 1938. Water covered the golf driving range and areas directly behind Dailey's Restaurant. Several feet of water covered much of Lonergan Road. There has been some loss of flood storage in this area.

5. Sedimentation

Since there is not much erosion there is not much sedimentation. The Ipswich River and its tributaries were very low this year (1997) due to a prolonged drought, so there were many chances of seeing sediments in their lowest parts. However, no major cases were seen or reported. There is always the potential of sedimentation when clearing is done on uplands near

wetlands. At this writing there are about 30 acres in Town that have been cleared for building. They will be loamed and seeded this spring.

At times, ponds near excavations and temporary stockpiles become cloudy with suspended silt and clay. This has not been a serious problem due to effective erosion control measures.

It should be noted that not all sedimentation is undesirable. In natural floodplains there are healthy doses of enriching sediments during periodic floods.

6. Development Impact

Middleton can perhaps be better understood by its surroundings. To the south are the suburbs of Boston; to the east are the commercial centers of Danvers and Salem; to the northeast, the gentle once-fair agricultural lands of the North Shore; and to the west and north the prosperous suburbs of the Merrimack's old textile cities. Middleton, formerly just a crossroad, has been discovered. The commercial strip on Route 114 in Danvers creeps north west and has spilled into Middleton. Commuters to and from the Northeast's technology highway, Route 128, are building large homes on the Town's remaining uplands.

Middleton is one of the few areas that is convenient to Route 128 and to Boston and still has land available for development. However, now that prospective homeowners are willing to pay \$120,000 to \$160,000 for a building lot, the pressure is on to turn marginal land into building lots. This is done primarily by bringing in fill to build the land up to give it the required four foot separation from ground water needed to install a septic system under the State's Title V code. The effects of such fill on potential flood storage areas can only be surmised. The October 1996 storm, with 12 inches of rainfall, showed that a number of developed areas are subject to extensive flooding, even in a fifty-year flood event.

In this decade, 391 new homes have been built in Middleton. Thanks in part to the Wetlands Protection Act (WPA) they have not been built in wetlands. Almost all of the new houses have been built with septic systems. While these systems are at least 100 feet from the wetlands, they are built at higher elevations and may in time adversely affect the groundwater that feeds the wetlands. Many of the Town's homes—both old and new—are near wetlands and some are in floodplains. As land values have risen, developers are putting ever-increasing pressure on the wetlands as they try to squeeze in lots.

Of great concern to the Ipswich River Watershed Association are the excessive water withdrawals from the river. The ongoing debate between area water companies and the Association erupted this past summer during a severe drought that ran from June through October. All of Middleton's streams went dry. Portions of the river bed were without flowing water for weeks. Up river there were large fish kills. Some towns continued pumping from surface wells right through the worst of the drought. Water bans were mostly partial and some were late in being ordered. There is funding for a major study of the Ipswich River Basin's hydrology. The study will start in 1998. Middleton, in the midst of a building boom, is in the geologic center of this watershed. River, stream, pond, and wetland protection is more vital than ever.

Many of the Town's households get water from private wells. These wells range in depth from groundwater near the surface to 1,200 feet. Many see no problem because most of the wells, especially the newer ones, go deep into aquifers in the bedrock which obtain their water from great distances over time. How much connection is there between groundwater and that in the deeper aquifers? A USGS geologist when asked this question recently said that not a great deal was known for this area but that there are connections and that withdrawals from aquifers might in time affect groundwater and vice versa. There are cracks in the bedrock. As the number of deep wells increases what will be the effect on surface and groundwater?

The breakup of wildlife corridors due to development, especially in the areas southwest of South Main Street and southeast of Boston Street, is of concern. In the past twelve years seven new streets have been built off Boston Street.

One problem well known to all residents is the greatly increased traffic, especially at certain times on State Routes 62 and 114. Will there be increased air pollution problems? Are there already? What of noise pollution? Certainly the potential for pollutants (salt, tire and brake residues, oils, gasoline) in surface runoff from roads has increased.

7. Ground & Surface Water Pollution

Point and Non point Source

Other problems that will occur with development are point and non point sources of pollution. As the asphalt and concrete acreage increases, the groundwater recharge areas decrease, and runoff of road salt and oil increases. The Ipswich River is especially vulnerable because the upstream towns, where much of the water originates, are densely populated and industrialized, while the lower towns are not. This is the reverse of the situation for most rivers.

Middleton's environmental problems relate to not having enough water for its wetland plants and animals as well as for its people. A healthy and diverse flora and fauna greatly enhances the health and welfare of all the watershed's people.

Detention Ponds

Middleton has approximately 40 man-made ponds called retention or detention ponds. Most were built in this decade. They were designed to catch surface runoff during intense periods of rain or thawing. The water is retained or detained to be released slowly into wetlands and streams so erosion, sedimentation, and flood damage are reduced or eliminated. Since they soon become thickly vegetated, they further function as living filters of pollutants and sediments. The former are broken down, the latter held in place.

Communities of plants and animals become established rather quickly within them. One at Ferncroft Heights was built in early spring and had plants growing in it by early fall. A detention pond below Campbell Road, off Liberty Street, had a population of crayfish a year after completion. A green heron was seen perched over its thick stand of cattails. Frogs, insects, small crustaceans, and birds thrive in and around them as they do in most ponds. Lakes and ponds are transitory geologic formations. What will be the fate of these interesting man-made ponds? Will people fill them in more quickly than will natural processes? Who will maintain them? Will lawn herbicides, pesticides, and fertilizers in runoff affect the communities that form in these relatively new ecosystems?



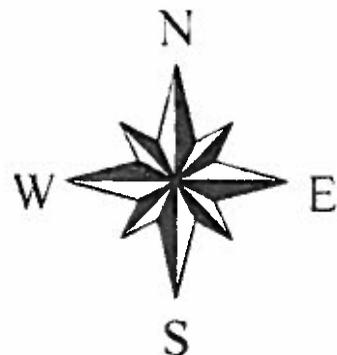
Low water level, Middleton Pond, October 1997

MIDDLETON OPEN SPACE -1998



Osp

-  COUNTY
-  CH61
-  CH61A
-  CH61B
-  DEM
-  INHOLDING
-  MUNICIPAL
-  PRIVATE NON-PROFIT
-  PRIVATE FOR PROFIT
-  TOWN BOUNDARY
-  ROADS



Section 5—Inventory of Lands of Conservation & Recreation Interest

The protected and unprotected lands categories listed in the following table are derived from the inventory of land listed in Appendix IV. (Please turn to Appendix IV for complete list.)

Town of Middleton
Owners of Protected and Unprotected Lands

<u>Organization</u>	<u>Acres</u>	<u>% of Total Land</u>
<i>Protected Lands</i>		
Commonwealth of Mass/State Forests	68.00	under 1%
Commonwealth of Massachusetts*	163.20	2%
Essex County	219.31	2%
Town of Danvers	931.50	10%
Non-profit Land Trusts	<u>522.40</u>	<u>6%</u>
Total protected lands	1,904.41	20%

*Protected in part by the Massachusetts Constitution Article 97 which requires a two-thirds vote of both the House and Senate to change its present use.

Unprotected Lands:

Chapter 61 lands	1,482.80	16%
Colleges/Schools	104.19	1%
Non-profit organizations	201.56	2%
Town of Middleton	204.54	2%
Vacant residential land, developable	406.38	4%
Vacant residential land, potentially developable	92.33	1%
Vacant residential land, undevelopable	<u>553.31</u>	<u>6%</u>
Total open unprotected lands	3,045.11	33%

The Town is comprised of 9,331.2 acres, of which approximately 25% (roughly 2,400 acres) are wetland. Portions of the acreage described in the above tables are included in this wetland total.

Those lands listed above total 4,949 acres (53% of total land area of Town). However, only 20% are protected lands, thus leaving approximately 3,045 acres, 33% of total land area in Town, undeveloped and susceptible to development (portions of which are wetland).

The Middleton Recreation Committee

The Middleton Recreation Committee consists of five regular members and two alternates who meet once a month. The Recreation Committee's purpose is to provide, supervise and maintain all recreational facilities in Town. They organize the following activities for residents: trips to Water Country; children's summer playground programs; the Town picnic; roller skating at Roller Palace in Beverly; visits with Santa at the Howe Manning School, and free swimming lessons for children at the YMCA in Danvers.

The Recreation Committee schedules each of the following teams:

<u>Type of Program</u>	<u>Age of Participants</u>	<u>No. of Participants</u>		<u>Increase in Participants</u>	<u>% of Change</u>
		1996	1997		
Softball/Baseball	5-15	424	528	104	24.5%
Soccer	5-15	420	450	30	7%

Handicapped Access:

The Town has made great efforts to assure compliance with the Americans with Disabilities Act (ADA) throughout the Town. Playground areas and public buildings currently all have handicapped access. The proposed Town Common will be designed in compliance with the *ADA Design Guide*.

Historically, the Town has not owned large tracts of recreation land. The land it does own comprises mainly of the Town Beach, canoe access and wetlands. The Town is currently negotiating to purchase, with Essex County Greenbelt Association and New England Forestry Foundation, an 86 acre parcel of open space for passive recreation. Efforts will be made to provide handicapped access to this parcel and to any future Town-owned recreation lands.

Town-owned Recreational Facilities:

Howe Manning School, Park Street

Indoor Basketball, Playground, Baseball, Athletic Field, Aerobics, Gymnastics for pre-schoolers. ADA accessible.

Fuller Meadow School, off South Main Street

Baseball (two diamonds), Indoor Basketball. ADA accessible.

Town Hall, at South Main and Mt. Vernon

Soccer. ADA accessible.

Town Landfill (capped)/Transfer Station, Natsue Way
Soccer (two fields). ADA accessible. Skating Rink (detention pond), Tennis and Basketball courts are planned

Thunder Bridge, East Street
Swimming/Town Beach, not ADA accessible.

North Shore Vocational Technical School, Log Bridge Road
Gymnasium, Basketball, Athletic Field. ADA accessible. (Although no handicapped restroom in Gymnasium)

Non-Town-owned Recreation Facilities:

Middleton Pond (754 acres) Trail, access from Boston and Lake Streets
Bicycling, Hiking, Nature Walks

Prichard Family Lot (135 acres), North Liberty Street (Essex County Greenbelt Association)
Camping, Nature Walks

Creighton Pond Camp (123 acres), Essex Street (Private)
Baseball/Softball, Basketball, Non-Motor Boating, Fresh Water Fishing, Hiking, Nature Walks, Picnicking, Swimming Pool, Jogging

Prichard Woodlot (118 acres), North Liberty Street (Essex County Greenbelt Association)
Hiking, Horseback Riding, Hunting, Nature Walks

Danvers Fish & Game Club (89 acres), Log Bridge Road (Private)
Non-Motor Boating, Fresh Water Fishing, Hiking, Nature Walks, Picnicking, Target Archery

Barett Reservation (80 acres), North Liberty Street (Essex County Greenbelt Association)
Camping, Hiking, Nature Walks

Camp Simca/The North Shore Jewish Community Center of Marblehead (76 acres), East Street (Private)
Bicycling, Non-Motor Boating, Camping, Cross Country Skiing, Fresh Water Fishing, Hiking, Horseback Riding, Nature Walks, Picnicking

Middleton Golf Course (50 acres), South Main Street (Private)
18 Hole, Par 54 Executive Golf Course

Ferncroft Country Club, Locust Street (Private)
Par 9 Golf Course, Swimming, Exercise Equipment, Tennis

Richardson Golf Country, South Main Street (Private)
Golf Range and Batting Cages

Extra Innings, South Main Street (Private)
Indoor Baseball

Paradise Golf, off South Main Street (Private)
Golf Range

Yellow Jackets, South Main Street (Private) (Anticipated)
Gymnastics

Section 6—Community Goals

A. Description of Process

The first public meeting of the Open Space and Recreation Committee was held on October 22, 1996. There are seventeen committee members, many of whom represent other boards in Town. Four sub-committees were formed to research different aspects of this Plan. The whole Committee met about once a month until the Open Space Survey was mailed out in the spring of 1997. Of 2,761 surveys mailed out, the Committee received 251 replies. The final results, as well as a copy of the survey, are included in Appendix I.

In order to obtain more public input into the work of the Committee, the chairman and other members of the Committee participated in presenting the Committee's ideas to, and answering questions at, Middleton Historical Society; Middleton Garden Club, and Master Planning Committee.

In late October 1997 three local newspapers were contacted with the survey results. Each of the newspapers, *The Tri-Town Transcript*, *The Village Reporter* and *The Salem Evening News*, wrote an article on the survey results.

B. Statement of Open Space & Recreation Goals

Middleton is one of the last towns in close proximity to Boston to experience the housing boom. As land has run out in surrounding communities, developers have discovered Middleton's undeveloped lands. The result has been soaring land values, making it increasingly attractive for owners to sell or develop their land. Assessments and taxes on land have increased, placing a burden on landowners, some of whom are reducing tax liabilities by placing their land in a lower tax category, such as Chapter 61, or by offering to give wetlands to the Town.

In the fast-paced world in which most of us live, it is a welcome treat to view and experience the natural world, the great out-of-doors. Middleton has a lot to offer in this regard. The Town is in close proximity to Boston. As the Town is affected by Boston's continued economic development, it becomes more important than ever to protect the Town's natural environment.

It is our intention to maintain a rural, semi-agricultural community. The goal is not to stop development, but rather to safeguard the quality of the environment and associated recreational activities, which are often responsible for drawing the development to Town in the first place.

Four general goals have been established during this open space and recreation planning process. These goals reflect the concerns of people as land is developed.

- (a) Protect the Ipswich River, its watershed and wildlife habitat. The quality and quantity of water is a basic requirement for the health of the community.
- (b) Preserve the rural character of the landscape and lessen the impact of new development.
- (c) Locate areas for passive and active recreation throughout Town.
- (d) Preserve wildlife habitat and increase acreage devoted to conservation.

Section 7—Analysis of Needs

A. Summary of Resource Protection Needs

Middleton's desire to retain its rural character was strongly indicated by the respondents to the May 1997 Open Space questionnaire. An overwhelming 93% of the respondents think the Town should purchase land abutting the Ipswich River. The loss of wildlife habitat and of woodlands is of great concern. 86% of respondents would like to limit residential development. 73% think the Town should purchase desirable parcels, or at least the development rights to those parcels.

As of this writing Middleton land values are such that landowners go to great expense to develop lots in and around ledges and wetlands, the obstacles to access. The Wetlands Protection Act, The River Protection Act, Middleton's Conservancy zones, Middleton's Reservoir Protection District, The Department of Environmental Protection's Title V septic system setback rules, and the Middleton Board of Health's rule that new septic systems can be no closer than 100 feet (the State requires only 50 feet) from "resource areas" (i.e. swamps, river, streams, etc.), all go a long way to control these efforts.

In the 1960s when the Town was zoned, Conservancy Districts were included in the Zoning Bylaw. These are defined by contour lines taken from U.S. Geodetic Survey maps. The Conservancy District bounds, with specific elevations, are shown on the Town Zoning Map. These elevations tend, by and large, to be "more conservative" of wetlands than are those defined by the Wetlands Protection Act, however, unlike the latter, alterations and some activities are allowed within them if approved by the Conservation Commission and the Zoning Board of Appeals.

The Conservation Commission and Zoning Board of Appeals have been strict in their interpretation of the zoning regulations for Conservancy Districts. Recently the Commission voted unanimously not to allow buildings or portions thereof within a Conservancy District. In the past they have allowed driveway and road crossings in places. In the past few years the Commissioners have in their Order of Conditions issued (permits) specified "no-disturbance" zones between Conservancy District contours and Bodering Vegetated Wetland bounds when the former is up slope from the latter.

Very approximately, 2,000 acres of Middleton land falls in this district and has some degree of protection. Please refer to Sections 4.8 and 5.7 of the *Zoning Bylaw of the Town of Middleton, May 13, 1997*, and the Town zoning map.

While the Water Department of the Town of Danvers has done an excellent job preserving undeveloped land surrounding Emerson Bog and Middleton Pond, the Ipswich River and its tributaries do not enjoy the same level of protection. The Rivers Protection Act allows a 200 foot buffer either side of the river and its major tributaries. However, because of exceptions and the constant monitoring needed, the best solution for managing a healthy river and other water sources is for the Town to buy abutting land.

In looking at the following water bodies and wetlands that have a top priority for protection, it is natural to target areas used as wildlife corridors and to concentrate on acquiring open lands abutting them when prioritizing acquisition properties.

Emerson Bog (water holding area between Main and Forest Streets)

In general the Bog is very well protected. The aquifer recharge area for the Bog includes much of Harold Parker State Park, situated to the west of Emerson Bog in North Andover. There are a couple of environmental concerns for the quality of water in this area. There are two uncapped landfills nearby (both within a Reservoir Watershed District), and the area is zoned in parts for four different uses, namely: Residential (40,000 square feet), Business, Light Industry and Industrial Park. However, an overlay Watershed Reservoir District has been adopted for the whole area, and it has a very restrictive bylaw. This, in effect, precludes very much disturbance of the land in this area, even though it is zoned for various activities.

Middleton Pond

Middleton Pond is well protected. There are small areas off Boston and Lake Streets that abut the Pond and are not under Danvers Water Department control. Since the Pond is connected by a pipe to Swan Pond in North Reading, it is believed that extra protection around Swan Pond would be advantageous to Danvers and Middleton residents.

Creighton Pond

Currently all the land surrounding Creighton Pond (122 acres) is owned by the Boys & Girls Club of Lynn, a non-profit organization. Creighton Pond is connected to Boston Brook and eventually to the Ipswich River by a stream which crosses Essex Street. (This stream is protected as a "river" under the River Protection Act.) It is one of the goals of this planning process for the Town to be awarded a "first refusal" on land with tax exempt status.

Boston Brook

Boston Brook runs through undeveloped areas along much of its length and remains in reasonably "pristine" condition. Boston Brook was once dammed although today its widened areas behind eroding dams may not be considered impoundments. It, too, is protected as a "river" under the River Protection Act. Most lands surrounding this body of water are in Chapter 61 and zoned Residential Agriculture, almost two acres. Since this is a major tributary to the Ipswich River it is of great importance to ensure its protection.

Emerson Brook Watershed

Route 114, Essex, School and Liberty Streets, and Route 62 form an elongated circle to the north of Town Square. This area is zoned for 40,000 square foot lots. There is a major wetland running through the center of this area from Emerson Bog to the Ipswich River in the east. It is of great importance to the river to keep this wetland functioning efficiently. The acquisition of this wetland and an extra buffer area would provide a protected corridor between the Bog and the river. It is presently protected by the Wetlands Protection Act and the River Protection Act.

Ipswich River

The river itself is, of course, of critical importance as a source of water, for wildlife habitat and for recreation. Of primary importance is the need for clean water to drink. Of secondary importance to the quality of water is recreation. One of the objectives of our Committee is to establish a balance between providing public access to the river for recreation and providing safe habitat areas for wildlife to flourish. As a community grows, open lands disappear and resources eventually become over-burdened. It is, therefore, important to protect open space along this much-exploited river.

Important Parcels along the Ipswich River which provide connections, recreation opportunities, special features or diverse habitat:

Entering Middleton along Route 114 from Danvers, the Ipswich River is the boundary line. At this point on the west side of the road, on the north bank, is a small parcel (Map 33, Lot 1) that had once been paved and is now abandoned. This site would be useful to the Town as a canoe launching area and could be made ready without much disturbance. Recently a letter was sent to the owner asking if they would donate this three-quarter acre to the Town. It cannot be built upon or otherwise altered since it is entirely in a riverfront area and thus protected.

Richardson's pastures along the east side of South Main Street were frequently mentioned in the responses to the questionnaire as being of great scenic interest. The outcropping of boulders and

the rolling pastures provide a glimpse of the pastoral landscape that characterized much of Massachusetts in the 18th and 19th centuries. A way should be found to compensate the owner to keep the area in agriculture, or the Town should try to purchase it. This property borders the river, thus greatly increasing the river wildlife corridor.

Richardson's pastures along River Street were also mentioned in the responses as being of scenic value. These fields give a quiet respite before entering the transfer station and recycling center.

The North Shore Jewish Community Center of Marblehead owns 76 acres off East Street that abut the Ipswich River. This is another property on a "watch list", much like the Lynn Boys & Girls Club around Creighton Pond. It is important for the Town to gain "first refusal" on this tax-exempt property. Additional conservation restrictions might be negotiated to protect it.

The Danvers State Hospital, known as "The Colony" lands (Massachusetts Departments of Mental Health and Food & Agriculture) abut Gregory Street. A land use study done for the whole area shows a public park planned for the floodplain on the town line with Danvers. Deer are often seen in this location. However, the impact of continued development of the woodland along Dayton Street in Danvers is reducing their cover. The scenic quality of the prime agricultural fields behind the Danvers Agricultural School and up to the river is of great importance. Gardeners place a high value on the community gardens on the east side of Gregory Street.

B. Summary of Community's Needs

Respondents to the survey and others are concerned that development is happening too fast. People state that the increase in the volume of traffic and congestion is an inconvenience. It should be noted that a great deal of pass-through traffic is generated from surrounding communities.

Respondents suggested the Town compensate farmers for keeping their lands in agriculture. Others suggested an ongoing effort to protect the undeveloped areas of the Town, especially brooks, the river and wetlands.

Residents are interested in passive recreation. A number commented on the lack of a Town Common. Others are interested in having activities for their young children, such as tot lots and more play areas. Some people wish the Town had better swimming facilities. Currently, the



Looking East from South Main Street across Richardson pastures

swimming area along East Street at Thunder Bridge on the Ipswich River is the Town beach. The closest public swimming pool to Middleton is the YMCA in Danvers.

1. The following are identified general recreation needs:
 - A Town Common near the center of Town.
 - A Trail System linking up with the Bay Circuit trail. Middleton would coordinate with neighboring towns to connect to existing trails.
 - Bicycle Path—a committee should be formed to analyze the feasibility of a bicycle path that could connect to existing pedestrian ways.

2. The following are identified by the Recreation Committee and respondents as active recreational needs:
 - Baseball field—the Town is undertaking a feasibility study of nine acres of Town-owned land known as Hocter Park for potential use as a baseball field. This land is in a Conservancy District and much of it is designated wetland.
 - Soccer field, skating pond, picnic area, tennis court, and a basketball court have been suggested by the Middleton Recreation Committee as future projects for the Town.

3. From public input it is clear that recreational areas should be set aside close to where people live. A number of respondents emphasized the need to set aside areas to walk, jog and bike and others mentioned the need for more small playgrounds. A future project should be to map all existing recreational land and facilities since many respondents stated they did not know where the open spaces and recreational areas were in Town.

C. Management Needs, Potential Change of Use

If the Town is committed to purchasing open space for recreation, it will have to have a management plan for the upkeep of those areas. Currently, the Department of Public Works has an annual budget for upkeep and improvements of active recreational facilities only.

The Conservation Commission is initiating a management plan for approximately 86 acres of land that the Town is acquiring on the north end of Mill Street. The Town will own and manage the land but two other organizations will help in purchasing the property, namely, The Essex County Greenbelt Association and The New England Forestry Foundation.

Along with vigorous development comes added work and responsibility for the Town. The Conservation Commission administers the Wetlands Protection Act and the Rivers Protection Act in Middleton. The Board of Health has one full-time health agent who is also the Conservation Administrator. He has a part-time Assistant Conservation Administrator. In 1997 the Town doubled the number of hours of the part-time Administrator from four to eight hours a week. More professional help is needed for these two departments.

There is one full-time secretary working for the Board of Health, the Planning Board, the Conservation Commission and the Zoning Board of Appeals. Recently, part-time help has been available, shared with the Building Inspector's office. The Department of Public Works and the Building Inspector share one full-time support office person, plus the previously-mentioned part-time person. The Building Inspector has a part-time assistant to help in the field.

The Town does not have a joint schedule of meetings of all the Town boards or their agents prior to large projects. Communication is usually in writing. Some neighboring towns have a technical review by all department heads prior to large projects that will have a significant impact on the environment. In Middleton, better communication among town boards is needed on larger projects.

Section 8—Goals & Objectives

This list of goals and objectives was developed on the basis of the responses to the Open Space & Recreation Survey and broad public input received during many meetings of the Open Space & Recreation Committee. Those goals can be narrowed into four major items:

- I Protect the Ipswich River and its Watershed
- II Preserve the rural character of the Town
- III Provide recreational areas throughout the Town
- IV Enlarge and connect existing conservation areas to provide wildlife corridors

Goal I—Protect the Ipswich River & its Watershed

Middleton's topography has been created by glacial action and the landscape reflects those dynamics. Roughly one-fourth of the land area of Middleton is wetlands. Nine miles of the Ipswich River meander through the Town and about thirteen miles of streams wend their way to the river. These streams and their tributaries tie roughly 2,400 acres of wetlands to the river.

Objectives & Actions Relating to Goal I—Protect the Ipswich River and its Watershed

It is important for landowners to understand the functions of wetlands and how best to maintain them. The wetlands were often seen as useless land on which taxes are paid. However, more people are becoming aware of their importance. An educated citizenry which understands the benefits of wetlands to our environment is essential to maintaining healthy, functioning wetlands.

Objective 1 Protect River and its Watershed

Actions: (a) Protect Physical Environment:

- Prepare a list of properties abutting the river and contact the owners to make them aware of the new Rivers Protection Act (310 CMR 10.58).
- Enter into an agreement with Danvers to give Middleton "first refusal" on land they hold along the river.
- Prepare a Primary Resource Map which identifies all the wetlands, floodplains, prime agricultural lands and rare and endangered species habitats.
- Establish "low salt" areas on roads close to water bodies.

(b) Education:

- Distribute to new home and land buyers a leaflet about wetlands functions and maintenance.

- Go to schools with a slide show and EPA videos. Have students go on nature walks so they may be more aware of their environment and the wildlife they share it with. Middleton has several readily accessible areas where children can experience upland forests, bogs and swamps.

Objective 2 Conserve water

- Actions:**
- Publish an information leaflet on how to conserve water. Suggest water-conserving plumbing fixtures. As an alternative to lawns offer a native species landscape mix. Give the information to new home and land buyers and to all existing home and land owners. Have native species and conservation seed mix information available at the Conservation Commission office.
 - Have the Selectmen, with help from the Conservation Commission, the Danvers Water Department, and the Ipswich River Watershed Association, determine when the water system is under stress and initiate an enforced Town-wide water use ban.
 - Present conservation ideas in schools. Have students go on site walks of environmentally sound properties and have them inspect their own homes to see where water might be saved.

Objective 3 Enforce Wetlands Protection Act (with its new Riverfront Areas) and the zoning bylaws for Conservancy Districts and Reservoir Watershed District to ensure a healthy Watershed with clean water.

- Actions:**
- Have Conservation Commission set up a fund to be used for the enforcement of WPA regulations. These funds would be used when needed to proceed against incorrigible violators.
 - Work with the Middleton Board of Health and the Ipswich River Watershed Association to identify and monitor the amount and severity of pollution to the Town's surface and underground water supplies.
 - The Reservoir Watershed District was enacted to protect Emerson Bog. The Town boards should be alert to enforce the restrictions of the Reservoir Watershed District.

Objective 4 Identify areas subject to flooding and avert flooding.

- Actions**
- Have Conservation Commission follow up on a restudy request submitted to FEMA in the fall of 1996. Land is now being developed that might be reclassified as floodplain.
 - Create a two foot contour map of the entire Town to be used for planning purposes by all Town departments. (Neighboring Topsfield recently completed theirs.)

Goal II—Preserve the Rural Character of the Town

"Existing conventional approaches to subdivision development ultimately produce nothing more than houselots and streets. This process eventually 'checkerboards' rural and suburbanizing areas into a seamless blanket of 'wall-to-wall subdivisions' with no open space, except for perhaps a few remnant areas that are too wet, steep or floodprone to build on." *Growing Greener, A Conservation Planning Workbook for Municipal Officials in Pennsylvania*, Prepared by The Natural Lands Trust.

When looking at ways the Town can continue to have growth and still retain a good proportion of open space, the Committee took into account the merits of conservation subdivision design.

Despite its close proximity to Boston and its 1990s building boom, Middleton has retained much of its rural character, especially in the northern sections of Town where there is not so much development. It manages to keep that image in the north because (i) the Reservoir Watershed District is there; (ii) much of the north section of Town contains wetlands; (iii) a few large landowners keep their lands in tax-reduced status; (iv) Essex County Greenbelt Association and New England Forestry Foundation own and protect large parcels, and (v) 80,000 square foot zoning prevents more intensive development.

The few remaining unforested fields provide some of the most scenic and valued views in the Town, as evidenced in the responses to the questionnaire. The most frequently mentioned parcels include the Richardson fields on River Street and to the east of South Main Street, as well as the rolling State lands behind the Essex Agricultural School along Gregory Street.

The rural quality of the Town is being jeopardized, due to the many new subdivisions that have and are being built. Emphasis should be placed on requiring developers to preserve as much of the natural landscape as possible.

Objectives & Actions Relating to Goal II—Preserve the Rural Character of the Town

Objective 1 **Preserve the "roots" of Middleton as a farming and forestry community.**

Actions:

- Identify and protect the best agricultural soils.
- Set aside wooded areas in large developments to intermingle with houses, as well as wooded areas between large parcels, thus keeping connections open.
- Have the Town consider a State program for buying the development rights of farmland or forestry to keep the land in agriculture. (An Agricultural Preservation Restriction.)

- Support local farmers through purchase of their produce.
- Consider Conservation Design (see below for explanation) when developing large parcels of land.

Objective 2 Preserve the inherited landscape of rock outcroppings, stone walls, rolling fields, wetlands and forests.

- Actions:**
- Reinforce the sense of open land in the approach to Town Square by preserving rolling pasture views.
 - Preserve a forested buffer along roads, where possible, especially along North Main Street.

Goal III—Provide Recreational Areas throughout Town

A member of the Recreational Committee has been the liaison for communicating that Committee's requirements to this Plan. That information source was complemented by the Survey, which established that people want a variety of different types of recreation.

A priority is to have a Common or small park near the center of Town. This had been suggested in the Town's Master Plan by Charles Eliot in 1966, however, the Town did not adopt the recommendation at that time.

One of the needs recognized by Survey respondents is a marked walking trail system. The Town has many open space lands with old logging roads that people use, however, some of the trails used are on private lands. A Town trail system would need to be worked out with the landowners consent and negotiated through purchase or easement. Neighboring towns have had trail systems for some years. If Middleton chooses to adopt a trail, it makes sense to connect

Note: Conservation Subdivision Design, sometimes called Open Space Residential Development, is an approach which, when used for developing larger parcels of land, promotes an efficient use of land, conserving more open space than is usually possible under conventional zoning. The density of one dwelling per one or two acres remains the same, depending upon the existing zoning. However, in Conservation Subdivision Design the houses can be set closer together in order to protect sizable areas of open space. Approval by Special Permit reduces yard and area requirements:

"Although every municipal Comprehensive Plan should contain at least a basic resource inventory, it is likely that some communities will not have yet completed such a document by the time they first consider implementing the conservation measure described in this workbook. However, there are some short-term alternatives available to municipalities whose comprehensive plan does not yet include a proper resource inventory. Such communities should in the meantime include specific language in their existing Plan requiring that, in all future development proposals, 'the community's special resources shall be protected through the conservation subdivision design process, in which applicants shall prepare detailed site inventory maps (*Existing Resources/Site Analysis Plans*) that pinpoint the exact locations of environmental, cultural, historic and scenic features on their properties.' The Plan should add that when these features are linear or are part of larger systems (such as stream valleys, ridgelines, blocks of mature woodland, areas of wildlife habitat, prime farmland, etc.), the conservation areas within any proposed subdivision should be laid out so that they can eventually be joined together to form an interconnected network of protected open space with similar lands on the next parcel to be subdivided. The Plan might also mention that the preparation of a township-wide inventory is a long-range goal, but that such a map would in any event be superseded by the more detailed analyses provided by individual subdivision applicants (much in the same way that site-specific information concerning soil conditions, wetlands, and floodplain

boundaries supersede the official area-wide published maps covering those resources)." Natural Lands Trust, Growing Greener: A conservation Planning Workbook for Municipal Officials in Pennsylvania, (Chapter 3.4, pp 3-4).

networks where possible. The Bay Circuit Alliance in Andover is anxious to take their trail through the northern part of Middleton and into the Boxford State Forest.

Middleton Pond is the most popular place to walk in Town. This land, consisting of 754 acres, is managed by the Town of Danvers, which keeps the trail open and occasionally selectively cuts mature trees. Nearby, the Boxford State Forest is also accessible for those who want a change of scenery or more of a hike. Unpaved Thomas Road provides a fair woodland hike from Peabody Street to Bald Hill and beyond.

The old railroad bed from Danvers to North Andover bisects the Town and makes for a pleasant five-mile walk over flat terrain. Horseback riders use the Pond and the edges of fields or the old railroad bed for their trails.

Objectives & Actions Relating to Goal III—Provide recreational areas throughout the Town

Objective 1 Develop a Town Common

Action • Develop plans to create a Town Common (with handicap accessibility) adjacent to Memorial Hall.

Objective 2 Locate a trail network

Actions: • Set up a trail committee to study the feasibility of a trail network on publicly owned lands. That committee should work with the Bay Circuit Alliance, the Boxford Trails Association, and Danvers' Bike & Trails Committees to try to connect to their existing trail networks.

 • Determine what type of trail usage landowners would accept on their land. Offer to post their land stating preferred usage.

 • Encourage developers to leave open space for recreation needs in individual developments that could connect to a trail system.

Objective 3 Provide Ballfields

Actions • Complete one more new ballfields at the Town Landfill with handicap parking facilities.

 • Upgrade playground and fields at Howe-Manning School.

 • Add a new field and upgrade existing fields at Fuller Meadow School.

 • Acquire additional open land adjacent to Fuller Meadow School (currently zoned residential) for recreation purposes.

- If feasible, add a small new neighborhood ballfield without buildings or parking on the high ground between Phaneuf Street and Brigadoon.

Objective 4 Create and provide other recreational opportunities.

- Actions**
- Look into a canoe launch site on the Ipswich River on west side of South Main Street.
 - Provide one or two outdoor tennis and basketball courts at the Town Landfill, or possibly on the Memorial Hall Field location.

Objective 5 Make Middleton's recreational facilities known to Town's inhabitants.

- Action**
- Publish a brochure describing the various recreational facilities available in Town with a location map.

Goal IV—Enlarge existing conservation areas, creating corridors between them for wildlife.

Wildlife is an important factor to the overall well-being of people and Middleton is fortunate in having an abundance. Whether it is to hunt the animals or to enjoy their sightings, it is a goal to maintain the wildlife diversity that exists today. Development is impacting wildlife habitat, however, it should also be noted that there are once-abundant species being sighted in this region, such as fishers, turkeys and coyotes.

Objectives & Actions Relating to Goal IV—Enlarge existing conservation areas, creating corridors between them for wildlife and passive recreation

Objective 1 Provide means by which the Town could acquire open space.

- Actions:**
- Continue to add to Land Acquisition Fund in order to provide sufficient funds to purchase property that becomes available.
 - Qualify for the Massachusetts Self-Help Program (G.L. Ch. 132A, S.2) by State acceptance of this Open Space & Recreation Plan. The Program is administered by the Division of Conservation Services in the State's Department of Environmental Management. This year, 1998, the Program offers Middleton matching funds of 56% reimbursement cost of land purchased for conservation or passive outdoor recreation.
 - Encourage donations of land to the Town, or to nonprofit land trusts. A fine six acre parcel was given to the Town as a "Gift in Trust" in 1997.
 - Encourage Agricultural Preservation Restrictions (Ch. 780, Acts of 1977). This is a type of conservation restriction under which a land owner signs a covenant promising the State that the land will not be developed for non-agricultural purposes. The State will pay the landowner a sum not exceeding the difference

between the value of the land before it was restricted and its value for farming purposes after restriction.

- Transferring title to land with restrictions is another technique for an owner to preserve land. The owner may choose to attach restrictions to the deed prior to the sale, such as limiting the activities that can take place on the land in the future.
- Support limited development which involves the sale of a portion of a parcel of land for development to subsidize the protection of the rest.
- Support conservation restrictions. The owner can restrict the right to develop or sub-divide property. Usually such restrictions obtain a lower assessed value, thus reducing taxes.
- Regularly review tax title lands upon which the Town has initiated foreclosure proceedings to determine their potential for open space and recreation.

Objective 2

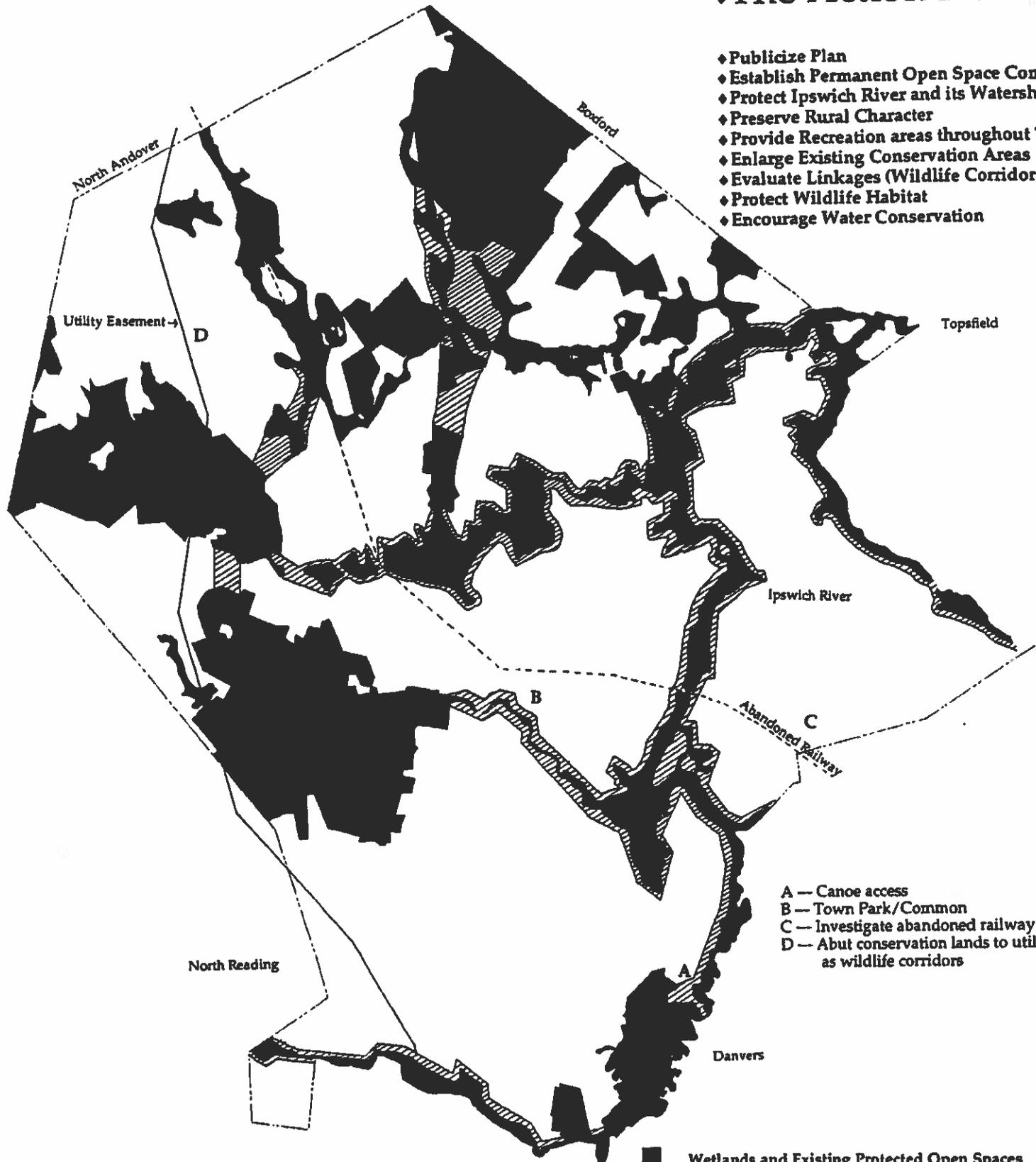
Preserve wildlife habitat

Actions

- Target for preservation, large tracts of land that connect existing protected areas.
- Encourage habitat diversity by preserving different types of topography and vegetation.
- Keep lines of communication open with the Essex County Greenbelt Association, New England Forestry Foundation and Trustees for Reservations, as well as neighboring towns, for the purpose of pooling resources in purchasing and protecting land.
- Keep this Plan up-to-date with the inventory of all protected lands, as well as large unprotected parcels such as those in Chapter 61 programs.

•The Action Plan

- ◆ Publicize Plan
- ◆ Establish Permanent Open Space Committee
- ◆ Protect Ipswich River and its Watershed
- ◆ Preserve Rural Character
- ◆ Provide Recreation areas throughout Town
- ◆ Enlarge Existing Conservation Areas
- ◆ Evaluate Linkages (Wildlife Corridors)
- ◆ Protect Wildlife Habitat
- ◆ Encourage Water Conservation



- A — Canoe access
- B — Town Park/Common
- C — Investigate abandoned railway use
- D — Abut conservation lands to utility easements as wildlife corridors

- Wetlands and Existing Protected Open Spaces
- ▨ Extra Protection Needed for the Ipswich River and Its Tributaries
- ▧ Connect Existing Protected Open Space, Create Corridor

Section 9—Five Year Plan

<u>Objectives</u>	<u>Actions</u>	<u>Schedule</u>
Provide means to acquire Open Space	Add monies to Land Acquisition Fund.	Year 1-5
	Annually at Town Meeting:	Year 2-5
	Periodic Fund Raising:	
	Review Policy relative to the sale of Tax Title.	Year 1
	Encourage gifts to Town.	Year 1-5
	Submit article to Selectmen for Petition to Legislature for "first refusal" from tax exempt entities.	Year 1, 2 & 3
1 Protect Ipswich River and its Watershed	Maintain liaison with state, county and private parties who can assist in acquiring open space.	Year 1-5
	Distribute to new home and landowners a leaflet about wetlands functions/maintenance.	Year 1-5
	Educate school children with slides, videos, nature walks.	Year 1-5
	Contact landowners whose property abuts the Ipswich River regarding the Rivers Protection Act and to notify them the Town is interested in their land for conservation or recreation.	Year 1
	Enter into agreement with Danvers for a "first refusal" on land in Middleton.	Year 1
	Have areas of Town classified as "Low Salt" areas.	Year 2
	Prepare Primary Resource map identifying wetlands, floodplains, prime agriculture and rare and endangered species.	Year 1
	Support Conservation Commission in its enforcement of the Wetlands Protection Act by setting up a Fund.	Year 1
	Identify and monitor the amount and severity of pollution to the Town's surface and underground water supplies.	Year 1-5
	Prevent Flooding	Follow up on restudy by FEMA

Conserve Water	Distribute leaflet on how to conserve water.	Year 1-5
	Educate school children in conservation of water.	Year 1-5
II. Preserve Rural Character	Consider Conservation Design—obtain Greenbelt's video on it for Planning Board & Master Planning Committee.	Year 1
	Town to buy identified parcels of open space.	Year 1-5
	Be prepared to purchase Chapter 61 lands when they become available.	Year 1-5
	Promote purchase of locally grown products.	Year 1-5
III Provide Recreation areas throughout Town	Set up a Trails Committee	Year 1
	Identify site and develop plans for a Town Common with various activities:	Year 1
	Land acquisition:	Year 2-4
	Implementation:	Year 2-4
	Feasibility Study for Hocter Park.	Year 1
	New ballfields at Dellea Field.	Year 1
	Upgrade playground and fields at Howe-Manning School.	Year 4-5
	Determine location of additional boat/canoe launching sites along the Ipswich River, and acquire site.	Year 1-2
	Upgrade Maple Street canoe launching site on Ipswich River, including additional parking.	Year 3
	Acquire additional open lands adjacent to Fuller Meadow School.	Year 1-2
Identify parcels that have potential land for future municipal/school uses.	Year 1-3	
IV Enlarge existing conservation areas	Provide means by which the Town can acquire open space.	Year 1-5
	Monitor publicly owned land for disposition.	Year 1-5
	Publicize importance of protection of	Year 1-5

desirable areas.

Identify land parcels contiguous to existing open space land. Year 1-5

Protect Wildlife Habitat Preserve and protect rare and endangered species habitats. Year 1-5

Preserve different types of topography and vegetation to protect habitat diversity. Year 1-5

Connect wildlife corridors through acquisition of open space. Year 1-5

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THE TOWN OF MIDDLETON
Open Space & Recreation Plan Survey

Would you please participate in this survey of Middleton's recreational, open space and conservation needs?

The following survey will help us gauge the importance you attach to a number of issues our Town is facing. Your cooperation is needed to ensure we obtain a representative sampling of opinions. Please spare the time to help us complete Middleton's Open Space & Recreation Plan.

The Open Space Plan will include a complete inventory of publicly owned lands. It will describe the current uses of those lands and plans for their future management. It will recommend those areas of Middleton which should be purchased or permanently protected. Acceptance by the State of Middleton's Open Space and Recreation Plan will qualify Middleton for State reimbursement funding for the acquisition and protection of important Town resources. The State requires that cities and towns revise their open space plans every five years to qualify for self-help funds.

The goals of your Open Space & Recreation Committee are to: (i) preserve the rural character of the Town; (ii) provide recreational areas throughout the Town; (iii) enlarge existing conservation areas, creating corridors between them; and (iv) protect the Ipswich Watershed to maintain the quality of our drinking water.

Open Space in this survey means public and privately-owned, undeveloped lands, which can be used for recreation, agriculture, forestry, natural resource preservation or simply to enhance the overall character of the Town. Faced with significant growth now and in the future, Middleton's residents need to determine the future balance between open space and development.

We appreciate the time you spend completing this survey and are very interested in any additional comments you may have. Please make use of any available space on this questionnaire for your thoughts and comments. Thank you for your help!

FACTS ABOUT MIDDLETON

- During the six-year period ending December 31, 1996, Middleton's population increased almost 20% to 6,020.
- In 1991 new building permits numbered under 20. By 1995, that number had increased to 80. In 1996 Middleton issued 60 new permits and thus far in 1997, the Town has issued 76.
- Middleton is directly responsible for nine miles of the Ipswich River, plus 13 miles of major tributaries flowing into it. Middleton comprises a vital watershed area, the continuing integrity of which is essential to ensure both safe and sufficient water.
- The Ipswich River has been designated as one of the 20 most threatened rivers in North America. Fourteen towns and cities draw water from the Ipswich River. In the summer of 1995 portions of it dried up.
- Middleton has had no identified source of funding to acquire open space and recreation land. An article is on this year's Town Warrant asking for \$50,000 for a land acquisition fund.

WHAT MIDDLETON'S NEIGHBORS ARE DOING

- Andover, at a special town meeting in 1996, approved \$1.5 million to purchase open space.
- Roxford's Conservation Committee are requesting this year a special \$5 million fund for the purchase of open space.
- Danvers authorized \$10 million for their Open Space needs ten years ago. Last year, they went to a special town meeting to acquire \$365,000 for the development rights of the Clark Farm; the State raised another \$100,000 for that project.
- North Andover, in 1994, voted to override Proposition 2 1/2 to fund the purchase of Osgood Hill for \$4.5 million.
- North Reading last year purchased a large tract of land for a town park. The town raised \$3.5 million, with State help, plus a further \$1 million to construct recreation facilities.
- Topsfield's 1997 open space budget was \$3,200. In 1998 their Conservation Commission is requesting \$1,800.

Please complete this survey and hand it in at the Town Meeting on May 13, 1997, or mail your reply to: Middleton Open Space Committee, 195 North Main Street, Middleton, MA 01949. You may also drop it off at the Library or Post Office prior to Saturday, May 17, 1997.

1. How long have you lived in Middleton? _____ years
 How many adult members are in your family/household? _____
 How many children under 5 years are in your family/household? _____

How many children 5-12 years are in your family/household? _____
 How many young adult 13-18 years are in your family/household? _____

2. Please indicate the zoning of your home:
 _____ one-half acre _____ one acre _____ two acres _____ village residential

3. Do you consider Middleton: (Please circle an answer for each)

• a rural Town?	yes	no
• a suburb of Greater Boston?	yes	no
• a bedroom community?	yes	no
• a Town in transition?	yes	no

4. Please indicate how you feel about living in Middleton. (Please answer as many as possible)

	Like	Dislike	Neutral
• it has forests and farmlands	_____	_____	_____
• it has water and wetlands	_____	_____	_____
• it has land still to develop	_____	_____	_____
• it is in close proximity to Boston	_____	_____	_____
• the school system	_____	_____	_____
• it enables many outdoor activities	_____	_____	_____
• it's zoning allows diversity, promoting various businesses it's not just a bedroom community	_____	_____	_____
• tax rate (presently \$13.98 per \$1,000)	_____	_____	_____
• lack of public transportation	_____	_____	_____

5. How important is it to you to preserve: (Please circle the number corresponding to your choice:
 5 = Very Important; 4 = Important; 3 = Neutral; 2 = Less Important; 1 = Not At All Important)

• buildings of historical or architectural interest	5	4	3	2	1
• farmlands and/or forests	5	4	3	2	1
• open spaces to meet our water and conservation needs	5	4	3	2	1
• open spaces to meet our recreation needs	5	4	3	2	1
• wetlands and floodplains	5	4	3	2	1
• open space to preserve the scenic character of Town	5	4	3	2	1
• open space to preserve wildlife habitat	5	4	3	2	1
• open space for hunting	5	4	3	2	1
• rivers and streams	5	4	3	2	1
• open space to preserve real estate value	5	4	3	2	1

6. Evaluate how strong your commitment is to open space. Which of the following specific actions would you undertake, personally:

• contribute land to the Town	yes	no
• donate money to a land acquisition fund	yes	no
• if you say yes to donating money, how much?	\$..... one time	
	\$..... annually	
• rewrite your deed to limit future use of your land	yes	no
• sell land to the Town at a "bargain price"	yes	no
• sell or contribute a conservation restriction to protect your land from future development	yes	no
• sell some land to the Town at fair market value	yes	no

7. What actions do you favor the Town to take to preserve open space?

• enforce existing conservation restrictions	yes	no
• adopt zoning for open space conservation, for example, cluster zoning (the construction of multiple dwelling units which maximize the availability of open space)	yes	no
• have the Town purchase development rights to desirable parcels	yes	no

8. What actions do you favor the Town take for the purchase of open space?

• have the Town purchase land using the General Fund	yes	no
• purchase land using a combination of Town, State and private (e.g. Essex County Greenbelt) monies. (If State funds are used, State restrictions will apply to the property.)	yes	no
• establish a land acquisition fund to be augmented annually for the purchase of desirable parcels	yes	no
• become a supporter of landbank regulation (where a percent of every real estate transaction is contributed to the Town's land purchase fund)	yes	no
• give the Town the right of first refusal relative to the sale of non-taxable lands (churches & camps)	yes	no
• increase your annual tax rate by: (Please check off one)		

zero 10 cents 20 cents 30 cents 40 cents 50 cents
 60 cents 70 cents 80 cents 90 cents \$1
 (note: using \$200,000 average home, a 50 cent increase amounts to \$100)

9. How satisfied are you with Middleton's existing recreation facilities? (Please check one for each)

for children and youth:
 very satisfied
 satisfied
 neutral
 dissatisfied
 very dissatisfied

for adults:
 very satisfied
 satisfied
 neutral
 dissatisfied
 very dissatisfied

10. Please indicate the number of times you have visited each (or any) of the following open space areas in the last twelve months:

- | | |
|--|--|
| <input type="checkbox"/> Middleton Pond | <input type="checkbox"/> Thunder Bridge |
| <input type="checkbox"/> Essex County Greenbelt lands | <input type="checkbox"/> Middleton Golf Course |
| <input type="checkbox"/> Dellea Field | <input type="checkbox"/> Fuller Meadow School |
| <input type="checkbox"/> Howe Manning School | <input type="checkbox"/> Hoctor Park |
| <input type="checkbox"/> Essex County: Peabody St Reservation | <input type="checkbox"/> Essex County: Curtis Farm Reservation |
| <input type="checkbox"/> Essex County: John Fuller Reservation | <input type="checkbox"/> Essex County: Richardson Meadow |
| <input type="checkbox"/> Boxford State Forest | <input type="checkbox"/> Harold Parker State Forest |
| <input type="checkbox"/> Danvers State Hospital (Community Gdns) | <input type="checkbox"/> Middleton Colony |
| <input type="checkbox"/> New England Forestry Foundation | other |

11. Please prioritize the recreational facilities you feel are needed most in Middleton: (Please circle the number corresponding to your choice: 5 = Very Important; 4 = Important; 3 = Neutral; 2 = Less important; 1 = Not At All Important)

areas for walking/bird watching	5	4	3	2	1	outdoor ice skating	5	4	3	2	1
basketball courts	5	4	3	2	1	large park with facilities	5	4	3	2	1
bicycle trails	5	4	3	2	1	local neighborhood parks	5	4	3	2	1
children's play areas	5	4	3	2	1	outdoor amphitheater	5	4	3	2	1
dirt bike trail (motorcycles)	5	4	3	2	1	public access areas to water					
family picnic areas	5	4	3	2	1	bodies for boating & fishing	5	4	3	2	1
field for soccer	5	4	3	2	1	recreation center building	5	4	3	2	1
field for softball/baseball	5	4	3	2	1	skateboard ramp	5	4	3	2	1
golf course	5	4	3	2	1	swimming pool	5	4	3	2	1
hiking/skiing/horseback trails	5	4	3	2	1	Tennis courts	5	4	3	2	1
hunting/shooting	5	4	3	2	1	Town Common improvement	5	4	3	2	1

12. Please prioritize the following alternatives, numbering them from 1 to 4, 1 being most important and 4 being the least important:

- maintain current recreation areas and facilities
 acquire additional conservation land
 acquire additional recreation land
 place equal emphasis on both maintenance and acquisition

13. Which of the following do you believe should be undertaken?

- | | | |
|---|-----|----|
| • acquisition of wetlands by the Town | yes | no |
| • acquisition of land immediately abutting the Ipswich River & its main tributaries | yes | no |
| • extending Town water | yes | no |
| • develop Town sewer system | yes | no |

14. What residential growth policy do you favor for the Town?

- | | | |
|--|-----|----|
| • no further new residential construction/growth | yes | no |
| • permit residential construction where possible throughout Town | yes | no |
| • set a limit to residential construction permits issued annually | yes | no |
| • cluster zoning (the construction of multiple dwelling units which maximize the availability of open space) | yes | no |
| • allow high-rise development (over 35 feet) | yes | no |

15. What business and industrial growth policy do you favor for the Town?

- | | | |
|--|-----|----|
| • increase existing zoned areas for business districts | yes | no |
| • increase commercial business development | yes | no |
| • increase industrial development (manufacturing) | yes | no |
| • allow high-rise development (over 35 feet) | yes | no |

16. Do you know that Middleton's last Master Plan was

completed in 1962?	yes	no
Should the Town update its Master Plan to guide future growth?	yes	no

Is there anything else you would like to tell us about open space or recreation planning in Middleton as we plan for the future? If so, please use the space on the back of this sheet for that purpose. Thank you very much for your effort. Results will be made available at Town Hall, and highlights will be shared with the local newspapers. *This survey is anonymous, however, if you would like to identify yourself, please do so here.*

Name: _____ Phone Number: _____

The Open Space & Recreation Committee is made up of the following volunteers.

Glenn Bambury
Leonard Cupreance
Scott Hamilton
Mary Jane Morrin
Henry Tragen

Joe Conceison
Gertrude Dearborn
Robert Kelley
Priscilla Neal

Leo Cormier
George Dow, Sr.
Sally Macdonald
Robert Porteous

Anne Cote
Warren Haas
Pike Messenger
Paul Richardson

TOWN OF MIDDLETON
Open Space Committee
195 North Main Street
Middleton, MA 01949

Permit 52
Middleton
MA 01949

Summary of Open Space Survey Results

Question 1

	Average (not median)
How long have you lived in Middleton?	17.8
How many adult members are in your family/household?	2.0
How many children under 5 years are in your family/household?	0.20
How many children 5-12 years are in your family/household?	0.25
How many young adult 13-18 years are in your family/household?	0.18

Question 2

Please indicate the zoning of your home:

Zoning:	2 acre Total	1 acre	1/2 acre	Village	Misc.
Number of respondents: 251	33	97	68	46	7

Question 3

Do you consider Middleton:

	Yes	No	No Response
• a rural Town?	169	47	35
• a suburb of Boston?	86	104	61
• a bedroom community?	79	106	66
• a Town in transition?	187	25	39

Question 4

Please indicate how you feel about living in Middleton.

	Like	Dislike	Neutral	No
•it has forests and farmlands	242	1	6	2
•it has water and wetlands	217	6	21	7
•it has land still to develop	103	84	54	10
•it is in close proximity to Boston	188	18	39	6
•the school system	155	10	80	6
•it enables many outdoor activities	181	4	55	11
•it's zoning allows diversity, promoting various businesses, it's not just a bedroom community	117	53	69	12
•tax rate (presently \$13.98 per \$1,000)	76	83	82	10
•lack of public transportation	90	82	74	5

Question 5

How important is it to you to preserve (5=very important; 4=important; 3=neutral; 2=less important; 1=not at all important):

	5	4	3	2	1	N/R
•buildings of historical or architectural interest	142	66	19	12	7	5
•farmlands and/or forests	188	40	12	1	3	7
•open spaces to meet our water and conservation needs	192	42	5	3	4	5
•open spaces to meet our recreation needs	154	49	29	7	6	6
•wetlands and floodplains	162	46	25	7	6	5
•open space to preserve the scenic character of Town	175	45	17	4	2	8
•open space to preserve wildlife habitat	170	45	22	6	2	6
•open space for hunting	38	16	40	39	118	-
•rivers and streams	181	46	10	5	2	7
•open space to preserve real estate value	146	52	32	9	6	6

Question 6

Evaluate how strong your commitment is to open space. Which of the following specific actions would you undertake, personally:

	Yes	No	No Response
•contribute land to the Town	39	170	42
•donate money to a land acquisition fund	98	110	43
•if you say yes to donating money, how much?	75 replied: 24 total \$4,275 one-time only 51 total \$6,825. annually		
•rewrite your deed to limit future use of your land	64	132	55
•sell land to the Town at a "bargain price"	31	156	64
•sell or contribute a conservation restriction to protect your land from future development	103	94	54
•sell some land to the Town at fair market value	87	106	58

Question 7

What actions do you favor the Town to take to preserve open space?

	Yes	No	No Response
•enforce existing conservation restrictions	230	11	10
•adopt zoning for open space conservation, for example, cluster zoning	134	99	18
•have the Town purchase development rights to desirable parcels	184	48	19

Question 8

What actions to you favor the Town take for the purchase of open space?

	Yes	No	No Response
•have the Town purchase land using the General Fund	128	86	37
•purchase land using a combination of Town, State and private monies	187	39	25
•establish a land acquisition fund to be augmented annually for the purchase of desirable parcels	187	34	30
•become a supporter of landbank regulation	160	65	26
•give the Town the right of first refusal relative to the sale of non-taxable lands	207	29	15
•increase your annual tax rate by: 0 = 76; 10c = 22; 20c = 27; 30c = 16; 40c = 7; 50c = 61; 60c = 1; 70c = 4; \$1 = 14			

Question 9

How satisfied are you with Middleton's existing recreation facilities?

	Satisfied	Neutral	Dissatisfied	Very dissatisfied
<i>For children and youth</i>				
Very satisfied	67	97	33	5
33				
<i>For adults</i>				
Very satisfied	49	108	46	8
29				

Question 10

Please indicate the *number of times* you have visited each (or any) of the following open space areas in the last twelve months:

2355	Middleton Pond	604	Thunder Bridge
350	Essex County Greenbelt lands	753	Middleton Golf Course
174	Dellea Field	1088	Fuller Meadow School
2224	Howe Manning School	153	Hector Park
57	Essex County: Peabody St Res	96	Essex County: Curtis Farm Res
52	Essex County: John Fuller Res	93	Essex County: Richardson Meadow
295	Boxford State Forest	729	Harold Parker State Forest
461	Danvers State Hosp (Community Gdns)	181	Middleton Colony
14	New England Forestry Foundation	other: Old Railway; Bradley Palmer; Mem Hall Playground; Ipswich River	

Question 11

Please prioritize the recreational facilities you feel are needed most in Middleton (5=Very Important; 4=Important; 3=Neutral; 2=Less Important; 1=Not at all important):

	5	4	3	2	1		5	4	3	2	1
areas for walking/bird	121	61	31	13	15	outdoor ice skating	67	78	54	13	24
basketball courts	28	66	80	28	27	large park with facilities	68	61	48	21	34
bicycle trails	86	77	47	10	13	local neighborhood parks	57	73	64	15	24
children's play areas	81	79	54	10	14	outdoor amphitheater	23	21	67	40	78
dirt bike trail (motorcycles)	6	11	34	35	146	public access areas to water					
family picnic areas	68	70	67	14	20	bodies, boating/fishing	53	56	65	26	33
field for soccer	56	77	71	13	21	recreation center bldg	27	40	73	38	49
field for softball/baseball	67	76	67	9	17	skateboard ramp	5	22	53	40	109
golf course	33	55	56	24	61	swimming pool	26	35	50	38	81
hiking/skiing/horse trails	70	73	48	18	27	Tennis courts	33	58	63	33	45
hunting/shooting	19	13	29	28	147	Town Common impvmt	61	57	67	20	26

Question 12

Please prioritize the following alternatives, numbering them from 1 to 4, 1 being most important and 4 being the least important:

	1	2	3	4
•maintain current recreation areas and facilities	87	49	34	60
•acquire additional conservation land	75	47	57	57
•acquire additional recreation land	58	66	56	53
•place equal emphasis on both maintenance and acquisition	94	51	49	42

Question 13

Which of the following do you believe should be undertaken

	Yes	No	No Response
•acquisition of wetlands by the Town	161	69	21
•acquisition of land immediately abutting the Ipswich River & its main tributaries	185	49	17
•extending Town water	136	89	26
•develop Town sewer system	116	113	22

Question 14

What residential growth policy do you favor for the Town?

	Yes	No	No Response
•no further new residential construction/growth	88	136	27
•permit residential construction where possible throughout Town	68	153	30
•set a limit to residential construction permits issued annually	215	27	9
•cluster zoning	93	146	12
•allow high-rise development (over 35 feet)	6	233	9

Question 15

What business and industrial growth policy do you favor for the Town?

	Yes	No	No Response
•increase existing zoned areas for business districts	96	139	16
•increase commercial business development	108	125	18
•increase industrial development (manufacturing)	99	135	17
•allow high-rise development (over 35 feet)	15	228	8

Question 16

	Yes	No	No Response
Do you know that Middleton's last Master Plan was completed in 1962?	59	174	18
Should the Town update its Master Plan to guide future growth?	225	16	10

The Open Space Survey was distributed during the first week of May 1997. Final results were compiled and summarized by The Open Space Committee during July 1997.

Glenn Bambury
Gertrude Dearborn
Robert Kelley
Mary Jane Morrin
Henry Tragert

Joe Concelson
George Dow, Sr.
Leonard Kupreance
Priscilla Neal

Leo Cormier
Warren Haas
Sally Macdonald, Chairperson
Robert Porteous

Anne Cote
Scott Hamilton
Pike Messenger
Paul Richardson

Appendix II

Section 4—Environmental Inventory & Analysis

E. Vegetation

There are several hundred species of plants in our town ranging from the great Middleton oak on Peabody Street, that venerable resident may be 400 years old, to the almost microscopic duckweed that covers enriched late summer ponds. The following are some of the most noticeable that the reader might encounter on a walk from our uplands down to the river passing over wetlands and floodplain en route.

Major Upland Plants (About two-thirds of the town is forest or scrub upland.)

Trees—Upland Species

Red and Black Oaks	Very common here, these closely related species are believed to hybridize.
White Oak	Common, in earlier centuries important in shipbuilding.
Eastern White Pine	Wide range of habitat from wet to dry, very common, roughly 10% of our forest trees, there are several fairly pure stands in town.
Red Pine	There is a large almost pure stand that was planted about 40 years ago just south of Middleton Pond. Not a common tree here except in areas where planted.
Scotch Pine	There are a few of this import to be found here and there.
Pitch Pine	Found scattered here and there on poorer soils, not common here.
Red Cedar (Juniper)	A common successional tree in abandoned pastures, lives to be quite old.
Northern White Cedar (Arborvitae)	Not in the wild here, many are found where planted near houses.
Eastern Hemlock	Not uncommon in cooler, shadier areas, often found in moist spots, sometimes in thick stands.
Norway Maple	Not native, however, common alongside our roads where planted.
Sugar/Rock Maple	Fairly common throughout town, many were probably planted for their fine appearance, sap, and dense firewood. They come into their glory in October when they glow orange and yellow.
White Birch	There are many in town, but it is not the major tree species it is in the forests a hundred miles north of here.
Gray Birch	Smaller and less noticeable than white. An important tree in succession, commonly found around abandoned fields. It is short-lived.
Yellow & Black Birches	Common in cool moist areas, rich soils; crushed stems give off aromatic oil of wintergreen.
Black Locust	These are found in abandoned fields and clearings. They are a fast-growing successional tree.
White Ash	Very common especially around houses and disturbed areas generally.
Hickory	Found generally on richer soils.
Shagbark Hickory	Scattered throughout our woods and along roadsides, nuts are edible.
Pignut Hickory	Smoother bark than shagbark, nuts bitter.
Black Cherry	Trees are found here and there throughout town, not a major forest tree but certainly an important one.
Choke Cherry	Smaller tree found in disturbed areas and those in succession.
American Beech	Found in richer soils in shady areas, not uncommon.

Shrubs, some common upland species

Huckleberries	Common understory shrub, many on dry areas of electric right-of-way.
Low bush Blueberries	Patches are found in electric right-of-way at higher elevations.
Witch hazel	Common in moist woods, blossoms in October and November.
Blackberries/Wild Raspberries	Common in disturbed areas.
Elderberry	Not widespread or abundant, found in good moist soils.
Gray-stemmed Dogwood	Not very common, but thick stands in some places.
Sweet Fern (not a fern)	Found in open dryer areas, common.
Barberry	Common in abandoned pastures and at the edges of clearings.
Honeysuckle	Many varieties, wide range of habitats, common.
Glossy Buckthorn	Ever more common invasive species, wide range of habitats.
Multiflora Rose	Very common on edges of roads and in clearings.
Oriental Bittersweet	Common invasive species of vine, replacing native species.
Greenbriar	Common thorned briar.
Poison Ivy	Very common, wide range of habitats.
Staghorn Sumac	Common in disturbed areas, a successional species.

Ground cover non-woody plants, a few upland species

Canada Mayflower	Common in shaded woods
Lycopods (e.g. Ground Pine, Princess Pine)	Common in shady woods, ancient, non-flowering plant.
Sarsaparilla	Common in shady woods.
Partridgeberry	Common in shady woods, important animal food source.
Bracken Fern	Common in more sunny open woods, especially after fire.
Ladyslipper	No longer uncommon, found in shaded moist woods.

Plants that are noticeable around the edges of wetlands (upland—wetland transition)

Trees

American Elm	Common but not abundant.
Red Maple	Very common in wetland and on edges.
White Pine	Usually not in wetland but often in wet areas on edges.
Tupelo	A few scattered around town, common in South.
Poplars	Several species, fairly common in disturbed areas.
Willows	There are several species, common.
Eastern Hemlock	Fairly common.

Shrubs

Sweet Pepperbush	Very common around town's forested wetlands, good indicator of upper edge of wetland.
Spicebush	Common in shady moist areas, twigs and buds aromatic.
Arrow-wood (common wetland Viburnum)	Straight new stems with ridges.
Highbush Blueberry	Often in swamps as well as around edges, common.
Sheep laurel	Common, near wetland but usually above pepperbush.

Ground cover, most herbaceous.

Cinnamon Fern	Common.
Purple Loosestrife	Common invasive species in wetland and around edges.
Meadowsweet	Common.
Hard Hack / Steeplebush	Fairly common especially in disturbed areas.

Wetland plants

About one-quarter of Middleton's land area consists of swamps, marshes, bogs, wet meadows, streams, river, ponds, and a lake. These areas cannot be filled or otherwise altered as they come under the jurisdiction of the Wetland Protection Act and are additionally protected as Conservancy Districts under the Town's Zoning Bylaw.

Trees, wetland species

Red Maple	Very common, also called swamp maple, there are hundreds of acres of red maple swamp in town.
Silver Maple	Found along rivers edge, and in moist areas along the river's floodplain and in other wet areas.
Atlantic White Cedar	There are several perennially wet bogs around town where there are thick stands of these slow growing trees, the largest is probably around Aunt Beck's Pond where there are several acres. There are other fair sized stands in the north part of town.

Shrubs, wetland species

Speckled Alder	Very common successional plant in once-disturbed areas, fixes nitrogen from the air thus enriching the soil.
Buttonbush	Very common where there is shallow water most of the year, hundreds of acres can be seen in Emerson Bog. Along the river there are great stands also.
Swamp Azalea	A native rhododendron that graces our shady woodland swamps, its beautiful trumpet-like white blossoms can be smelled in early summer, common.
Swamp or Silky Dogwood	Very common in wet areas throughout town.
Red Osier Dogwood	Fairly common, stems bright red in spring.
High-bush Blueberry	Common in shaded woods both in and around wetlands.
Winterberry	Tall shrub that grows in thick clusters in continuously wet areas, female plants have bright red fruit that persist throughout winter, fairly common.
Leatherleaf	A short pretty shrub found commonly in bogs; cranberry and other bog plants are often found nearby.

Sweet Gail Not very common but patches here and there. This aromatic plant can be seen along Lonergan Road in the floodplain.

Ground cover and emergent plants—a few of many found in wet areas

Purple Loosestrife Very common invasive species, found in damp to very wet areas.

Skunk Cabbage Very common harbinger of spring, good wetland indicator.

Broad-leafed Cattail Very common especially in recently disturbed areas. Many new detention ponds in town are dominated by cattails, area must be wet all year.

Water and Swamp Smartweeds

Very common successional plants.

Sedges

There are many species, the best known are those that form clusters called tussocks, the stepping stones of many swamps.

Pickerel Weed

Very common emergent plant in the shallows of our streams, river, and ponds.

Arrow Arum

Common, habitat similar to that of pickerel weed.

Arrow Head

Common, often found with pickerel weed and arrow arum.

Common Reed Grass/Phragmites

An invasive species of much concern, it forms dense monocultures, perhaps a 100 patches can be found, especially in disturbed wetlands, around town, each year these patches get larger.

Burr-reed

Fairly common in river, fruit develops under water.

Ouch-me-not/Jewelweed

Very common in wet, somewhat shady areas.

Joe Pyeweed

Common around the edges of wet clearings and fields.

Sensitive Fern

Very common, good indicator of wetland.

Royal Fern

Very common.

Sphagnum Moss

Very common in areas continuously wet, major species of our acid bogs.

Exhibit III

Section 4—Environmental Inventory & Analysis F Fisheries and Wildlife

Vertebrate Animals of Middleton

The following listed have been sighted or their signs seen in Middleton, or just over the lines in Boxford, North Andover, or Topsfield. Thanks to Francis Masse, lifelong hunter and fisherman in Middleton; James MacDougall, Essex County Greenbelt Association; Bob Speare, Massachusetts Audubon Society, Ipswich River Wildlife Sanctuary; Mike Abel, Topsfield Conservation Agent and naturalist; and David Taylor, naturalist and teacher, Tri-town Regional School, for their help with these lists.

(i) Mammals

Bats	The three species listed below are mapped as inhabiting eastern Massachusetts. They are nocturnal for the most part. They are right up there with swallows as prodigious insect eaters. <ul style="list-style-type: none">• Little Brown Bat, common• Big Brown Bat• Red Bat, a forest species
Beaver	No residents known at this writing. However, within memory one family busily cut poplars just up river from Thunder Bridge. They were trapped before damming the river. Some must still roam south from Boxford and North Andover now and then looking for suitable streams.
Coyote	There have been frequent sightings here the past few years.
Eastern Chipmunk	Very common.
White-tailed Deer	Very common throughout town, even in developed areas tracks and animals are frequently seen.
Field Mouse	
Fisher	In the past decade or so there have been more and more sightings. Their tracks were recently seen in fresh snow in the north part of town. Many think they are now fairly common.
Red Fox	Fairly common, there are fairly frequent sightings.
Gray Fox	Sightings reported.
White-footed Mouse	Common
Meadow Jumping Mouse	Common
Eastern Mole	
Star-nose Mole	Moles are not uncommon but sighting them is because of their tunneling lifestyle.
Norway Rat	Our common rat, yet is probably much less so than in the days of agriculture and open dumps.
Muskrat	Common along our waterways.
Mink	Are fairly frequently spotted along our waterways.
Moose	Tracks and scat are sometimes seen in the north part of town. One wandered onto North Main Street a few years ago and was seen by several people. They don't breed here but sometimes wander through.
Virginia Opossum	Common and not adverse to living near humans and their garbage despite our tendency to run them over, or theirs to get hit. A couple of decades or so ago opossum were rarely seen this far north.
Porcupine	Have been sighted in the north of town. These sightings are not confirmed. Rare here.
Eastern Cottontail Rabbit	Fairly common but their population fluctuates greatly year-to-year depending upon that of their predators.
Raccoon	Fairly common but not often seen since they are nocturnal. Many tracks were seen this summer along the river bottom where they had access to fresh water mussels usually covered with water. At this writing they are suffering a rabies epidemic.
River Otter	Their signs are often seen in the snow in the north part of town near streams. Now and then they are seen. MacDougall says they are common.
Shrews	These are smallest of our mammals and despite being common are not often seen. Marked shrews and short-tailed shrews are found here.
Striped Skunk	Common nocturnal animal, smelled after car accidents more than seen.
Gray Squirrel	Very common.
Red Squirrel	Very common.
Flying Squirrel	Common but rarely seen, nocturnal.

Voies Common but not often seen, when the snow melts you can often see their extensive network of tunnels. We have red voles, pine voles, and meadow voles.

Short-tailed Weasel and Long-tailed Weasel In area but not often seen.

Homo sapiens Over 6,000 live here by last count and this isn't counting the increased number passing through on our crowded roads.

(ii) Fish of the Ipswich River Basin

The following listed species are found in the waters of the basin. This is from a list compiled by Karsten Hartel, Museum of Comparative Zoology, Harvard University. Comments are from various sources and this writer's observations. Francis Masse, 60-year resident and fisherman of Middleton waters, was very helpful.

1. Native fish

Brook Trout There are probably no longer any breeding populations in town. Stocks of mature brook trout are annually put in the Ipswich River. In the 1940s and 1950s fertilized eggs were put in Punchard's, Pond Meadow Pond, and Middleton Brooks with some success.

Redfin Pickerel Found in sluggish clear waters among vegetation.

Chain Pickerel Common in quiet waters of swamps, creeks, and pools that are well vegetated. In a recent accidental fish kill below the Emerson Bog dam at Lake Street many dead chain pickerel were found, they had come from Emerson Bog.

Golden Shiners Common in many kinds of water habitats here.

Bridle Shiner Small fish that were very common up until the early '60s, it is now found in only a fraction of its former sites.

White Sucker Large fish found in virtually all of Massachusetts drainage basins.

Creek Chubsucker An even larger sucker, fairly common in eastern Massachusetts.

Brown Bullhead/Hornpout Hundreds, perhaps thousands, were accidentally released in September 1997 from the Lake Street dam into a dry stream bed where they suffocated. They had come down from Emerson Bog. This catfish is common in our sluggish waters with soft substrates.

Banded Sunfish This small fish is common in our sluggish heavily vegetated waters.

Redbreast Sunfish Not so common any more but reported in this decade.

Pumpkin Seed Very common in standing or slow flowing water over mud. Some were found in the fish kill mentioned above.

Swamp Darter Very small fish, quite common in slow and standing waters with muddy bottoms.

Yellow Perch Many are caught by local ice fishermen in shallow well vegetated ponds with clear water. They are found in Middleton Pond and in great numbers in Emerson Bog. Well over half of the victims of the fish kill below Lake Street dam were yellow perch.

American Eel Are found in a wide range of habitats. They are probably more common down river in tidal waters; however, they are caught in the river and its tributaries here.

White Perch Were once found only in brackish waters. Now fairly common in quiet fresh waters over mud. They are caught in Middleton Pond and a few were recently found among the dead below the Lake Street dam.

2. Introduced species

Brown Trout Were introduced to Massachusetts from Europe in the 1880s. They will sustain populations (reproduce) if pH is high and the water temperature is low. Fishermen think the only ones we have are those yearly stocked.

Rainbow Trout Stocks are put in the Ipswich River each spring. It is reported that they do not reproduce in the Ipswich River basin.

Yellow Bullhead This catfish likes sluggish backwaters. They are probably found in Middleton, Mill, Pout, Creighton Ponds and the ponds in Emerson Bog. Locals often call them horn pout.

Bluegill Very common in vegetated bodies of water here.

Large-mouth Bass Were introduced to Massachusetts waters in 1862. They've successfully reproduced, many bodies of water have breeding populations. They are caught in Middleton's ponds.

Black Crappie Common now as a result of extensive stocking in the first half of this century.

(iii) Amphibians

The members of this ancient group of land/water vertebrates are much on the mind of naturalists and environmentalists these days. Many report a world-wide decline for reasons not yet fully understood.

Leopard Frog	Is reported as being in decline in this area. However, Speare reports many in the Topsfield Sanctuary. MacDougall saw them this year in the Lonergan Road area.
Green Frog	Common.
Tree Frog or Spring Peeper	Very common.
Gray Tree Frog	MacDougall sees them frequently in nearby Topsfield.
American Toad	Common.
Pickerel Frog	Common.
Wood Frog	Common. These are found in the spring in our many vernal pools. There are over thirty certified vernal pools in Middleton thanks to Leo Kenney and Jim MacDougall.
Bull Frog	Very common.
Spotted Salamanders	Very common.
Blue Spotted Salamander	MacDougall says they are relatively common. He has seen them many times in the north part of town.
Red-back Salamander	Common.
Two-line Salamander	Common.
Red-spotted Newt	Seen here but certainly not common. MacDougall thinks rare. Speare saw larval stage called red eft in Topsfield in the past year.

(iv) Reptiles

Green Snake	Found here and there but not very common.
Garter Snake	Very common.
Black Racer	Probably here but no recent sightings reported.
Northern water snake	Very common.
Milk Snake	Probably less common than when farms and more fields were here, but still fairly often sighted.
Eastern Painted Turtle	Very common.
Blandings Turtle	Is endangered. There have been rare sightings in the Ipswich River Basin.
Spotted Turtle	Not very common. Many report them to be on the decline. Speare sees them in early spring in Topsfield. MacDougall has seen them on the edge of the river in Peabody so they are here.
Stink Pot or Musk Turtle	Common in the Ipswich River.
Snapping Turtle	Very common.

(v) Birds of the Area

The following list is from the Ipswich River Wildlife Sanctuary just a few miles down river in Topsfield. The list, with a few exceptions, is probably close to our list since we are both in the coastal migration flyways and have similar habitats.

In recent years wild turkeys have been often seen particularly in the northern half of town. They are probably best characterized as "occasional" here, the Sanctuary lists them as "rare". Ruffed Grouse are often seen throughout the town. "Uncommon" rather than the "occasional" on the list would be a better description of their sightings here.

Middleton Pond and Richardsons' fields are habitat to a large over-wintering population of Canada Geese.

Key to following list:

Sp = Spring (March 1-May 31)	R Rare
Su = Summer (June 1-Aug. 15)	O Occasional
F = Fall (Aug. 16-Nov 30)	U Uncommon
W = Winter (Dec. 1-Feb. 28)	C Common
A Aerial (in flight; overhead)	M Freshwater Marsh, Bog, Swamp
O Ocean	G Grassland (Fields, Meadows, Pastures)
B Beach/Tidal Flats	H Hedgerows, Thickets, Brushy Fields, Forest Edge
S Salt/Brackish Coastal Marsh	F Forest
P Pond, Lake, Stream, River	U Urban
	X Anywhere

Common Loon	S	S	F	W	Hab
Pied-billed Grebe	R	R	R	R	A
Great Cormorant	U	U	R	R	P,M
Double-crested Cormorant	R	R	R	R	A
American Bittern	R	R	R	R	A,P
Least Bittern	U	R	R	R	M
Great Blue Heron	U	R	R	R	P,M
Cattle Egret	U	R	R	R	G,M
Green-backed Heron	U	R	R	R	P,M
Black-crowned Night-Heron	O	R	R	R	P,M
Glossy Ibis	R	A	C	C	A
Snow Goose	O	C	C	C	P,M
Canada Goose	R	C	C	C	P,M
Wood Duck	U	C	C	C	P,M
Green-winged Teal	O	C	C	C	P,M
American Black Duck	R	C	C	C	P,M
Mallard	U	C	C	C	P,M
Northern Pintail	R	C	C	C	P,M
Blue-winged Teal	O	C	C	C	P,M
Northern Shoveler	R	C	C	C	P,M
Gadwall	U	C	C	C	P,M
American Wigeon	R	C	C	C	P
Redhead	O	C	C	C	P
Ring-necked Duck	R	C	C	C	P
Greater Scaup	U	C	C	C	P
Lesser Scaup	O	C	C	C	P
Common Goldeneye	R	C	C	C	P
Bufflehead	U	C	C	C	P,M
Hooded Merganser	O	C	C	C	P
Common Merganser	R	C	C	C	P,M
Ruddy Duck	U	C	C	C	A
Turkey Vulture	R	C	C	C	A
Osprey	O	C	C	C	A
Bald Eagle	R	C	C	C	A,G,M
Northern Harrier	U	C	C	C	A,H
Sharp-shinned Hawk	R	C	C	C	A,F
Cooper's Hawk	O	C	C	C	A,F
Northern Goshawk	R	C	C	C	A,F
Red-shouldered Hawk	U	C	C	C	A,F
Broad-winged Hawk	R	C	C	C	A
Red-tailed Hawk	O	C	C	C	A,G,H
Rough-legged Hawk	R	C	C	C	A,G,H
American Kestrel	U	C	C	C	A
Merlin	O	C	C	C	A,G,H
Peregrine Falcon	R	C	C	C	F
Ring-necked Pheasant	U	C	C	C	H,F
Ruffed Grouse	R	C	C	C	M
Wild Turkey	U	C	C	C	M
King Rail	R	C	C	C	M
Virginia Rail	U	C	C	C	M
Sora	R	C	C	C	M
Common Moorhen	U	C	C	C	M
American Coot	O	C	C	C	M
Killdeer	R	C	C	C	G
Greater Yellowlegs	U	C	C	C	P,M
Lesser Yellowlegs	O	C	C	C	P,M
Solitary Sandpiper	U	C	C	C	P,M
Spotted Sandpiper	O	C	C	C	G
Upland Sandpiper	R	C	C	C	M
Semipalmated Sandpiper	O	C	C	C	M
Least Sandpiper	O	C	C	C	M
Pectoral Sandpiper	O	C	C	C	M
Common Snipe	O	C	C	C	M
American Woodcock	C	C	C	C	G,M,F
Ring-billed Gull	U	C	C	C	A
Herring Gull	A	C	C	C	A
Great Black-backed Gull	C	C	C	C	A
Black Tern	R	C	C	C	A
Rock Dove	U	C	C	C	A
Mourning Dove	A	C	C	C	M
Black-billed Cuckoo	O	C	C	C	A,U
Yellow-billed Cuckoo	R	C	C	C	H,F
					H

	Sp	Su	F	W	Hab
Eastern Screech-Owl	S	O	O	O	F
Great Horned Owl	U	O	O		F
Barred Owl	O	O	O		F
Long-eared Owl				R	F
Short-eared Owl				R	F
Northern Saw-whet Owl	R				G,M
Common Nighthawk	R	R	R	R	F
Chimney Swift	R	O	O		A
Ruby-throated Hummingbird	O	R	O		A,U
Belted Kingfisher	C	O	O		H
Yellow-bellied Sapsucker	U	O	O	R	P,M
Downy Woodpecker	C	C	C	C	H,F
Hairy Woodpecker	C	C	C		F
Northern Flicker	C	C	C	O	
Pileated Woodpecker	C	C	C		F
Olive-sided Flycatcher	R	O	O		H,F
Eastern Wood-Pewee	R	C	R		F
Yellow-bellied Flycatcher	R		R		H
Alder Flycatcher	R				H
Willow Flycatcher	C	C	O		M
Least Flycatcher	C	C	O		H,F
Eastern Phoebe	C	C	O		H,P
Great Crested Flycatcher	C	C	O		F
Western Kingbird		C	U		H
Eastern Kingbird	C	C	R		G,M,H
Purple Martin	R				A
Tree Swallow	A	A	R		A
N. Rough-winged Swallow	O	R	O		A,G,P,M
Bank Swallow	U	R	O		A
Cliff Swallow	R	C	A		A,M
Barn Swallow	C	A	A		A,M
Blue Jay	A	A	A	A	A
American Crow	A	A	A	A	H,F
Black-capped Chickadee	A	A	A	A	X
Tufted Titmouse	A	A	A	A	H,F
Red-breasted Nuthatch	C	C	C	C	H,F
White-breasted Nuthatch	C	C	C	C	F
Brown Creeper	U	C	C		H,F
Carolina Wren	R	C	C	R	F
House Wren	U	C	C		H
Winter Wren	C	C	C		H
Marsh Wren	C	C	C		H,F
Golden-crowned Kinglet	C		U	U	M
Ruby-crowned Kinglet	C		U	U	F
Blue-gray Gnatcatcher	U	U	O		H,F
Eastern Bluebird	O	U	O	R	P,H,F
Veery	C	C	O	R	G,H
Gray-checked Thrush	R		O		F
Swainson's Thrush	O		O		F
Hermit Thrush	U	R	O	R	H,F
Wood Thrush	C	C	O		F
American Robin	C	C	O	O	H,F
Gray Catbird	A	C	O	U	H
Northern Mockingbird	C	C	O		H
Brown Thrasher	C	C	O		H
American Pipit	R	C	O		A,G
Cedar Waxwing	R	C			H,F
Northern Shrike	R				H
Loggerhead Shrike	R				H
European Starling	R	A	R	A	X
White-eyed Vireo	A				H
Solitary Vireo	R				H
Yellow-throated Vireo	U	O	O		H,F
Warbling Vireo	C	C	O		P,F
Philadelphia Vireo	C	C	O		P,F
Red-eyed Vireo	C	C	O		H,F
Blue-winged Warbler	C	C	U		F
Golden-winged Warbler	C	C	U		H
Brewster's Warbler (Hybrid)	R		O		H
Tennessee Warbler	O		O		H,F
Orange-crowned Warbler			O		H
Nashville Warbler	O		O		H

	Sp	Su	F	W	Hab
Northern Parula	U		O		H
Yellow Warbler	A	A	U		P,M,H
Chestnut-side Warbler	U	O	O		H
Magnolia Warbler	R		O		H,F
Cape May Warbler	O		O		H,F
Black-throated Blue Warbler	R		O	R	H,F
Yellow-rumped Warbler	C		U		H,F
Black-throated Green Warbler	U	O	O		H,F
Blackburnian Warbler	U	R	O		F
Pine Warbler	U	R	O		F
Prairie Warbler	U		O		H
Palm Warbler	U		U		G,H
Bay-breasted Warbler	U		U		H,F
Blackpoll Warbler	O		U		H,F
Black-and-white Warbler	C	U	U		F
American Redstart	C	U	U		H,F
Ovenbird	C	U	O		H,F
Northern Waterthrush	U		O		H,F
Louisiana Waterthrush	R				H,F
Kentucky Warbler	R				H
Connecticut Warbler	R				H
Mourning Warbler	R				H
Common Yellowthroat	R	C	U	R	P,M,H
Wilson's Warbler	A		O		H,F
Canada Warbler	O		R		H,F
Yellow-breasted Chat	R		R		H
Scarlet Tanager	C	C	O	C	F
Northern Cardinal	C	C	O		H,F
Rose-breasted Grosbeak	C	C	O		H
Indigo Bunting	O	R	O		H
Dickcissel	O	C	U	R	G,H
Rufous-sided Towhee	C	U	U	R	H
American Tree Sparrow	U	R	U	R	G,H
Chipping Sparrow	U		O	R	G,H
Field Sparrow	O		O	R	G,H
Savannah Sparrow	O		O	R	G
Grasshopper Sparrow	O		R		H
Fox Sparrow	O		O	R	H
Song Sparrow	A	A	C	U	H
Lincoln's Sparrow	R	C	R	U	M,H
Swamp Sparrow	C		U	U	H,F
White-throated Sparrow	C		C	U	H
White-crowned Sparrow	R		O	C	H
Dark-eyed Junco	C	U	O	R	A,G
Bobolink	A	A	C	R	P,M
Red-winged Blackbird	R	A	C		C
Eastern Meadowlark	O		R		P,F
Rusty Blackbird	A	A	O	R	X
Common Grackle	C	C	U		X
Brown-headed Cowbird	A				F
Orchard Oriole	C	U	O		F
Northern Oriole	R				H,F
Pine Grosbeak	C	U	O	R	H,F
Purple Finch	U	C	C	O	H,U
House Finch	C				A,F
Red Crossbill				R	A,F
White-winged Crossbill				R	A,F
Common Redpoll				R	A,F
Pine Siskin	R	R	R	R	A,H,F
American Goldfinch	C	C	U	O	H
Evening Grosbeak	R			O	A
House Sparrow	C	C	C	C	U

(vi) Rare, Threatened, and Endangered Species

The following species are on the Massachusetts Natural Heritage and Endangered Species Program, Division of Fisheries and Wildlife, list for Middleton.

Ambystoma laterale
Asclepias purpurascens
Somatochlora kennedyi
Clemmys insculpta

Blue-spotted Salamander
Purple Milkweed"
Kennedy's Emerald
Wood Turtle

Special Concern
Threatened
Endangered
Special Concern

Also on the list is "white cedar association". There are several in town. Please see Atlantic White Cedar in the wetlands plant list.

In addition, there are twenty-seven certified vernal pools listed. Since the latest list six more pools have been certified.

Appendix IV

Section 5—Inventory of Lands of Conservation & Recreation Interest

Map/ Lot	Owner	Acres	Description	Property Class	Zoning
<u>Categorized Land Under Forestry with Residence</u>					
5/16	Cote, N. Liberty	46.86	Forestry w/residence	16	RA
7/6	Sawyer, Off East Street	183.00	Forestry w/residence	16	RA
11/14	Cudhea	<u>4.50</u>	Forestry w/residence	16	RA
		234.36			
<u>Categorized Land Under Agriculture with Residence</u>					
8/2	Scharfenberger, East Street	18.00	Agriculture w/residence	17	R1B
12/9	Richardson Fms, Peabody	110.00	Agriculture w/residence	17	R1B
17/46	Fitzpatrick	8.24	Agriculture w/residence	17	R1A
18/10	Richardson Farms	<u>134.00</u>	Agriculture w/residence	17	R1B
		270.24			
<u>Categorized Land Under 61 (Open Land)</u>					
1/6	Joan Cudhea	50.00	Private/Vacant	601	RA
5/15B	Peter Cudhea	3.00	Private/Vacant	601	RA
5/15	Peter Cudhea, N. Liberty (Lot 1)	60.13	Private/Vacant	601	RA
12/12	Susan Collins, Mill St. Extn.	47.93	Private/Vacant	601	RA
12/12	Susan Collins, Mill St. Extn.	40.91	Private/Vacant	601	RA
12/12	Susan Collins, Mill St. Extn.	9.59	Private/Vacant	601	RA
12/12	Susan Collins, Mill St. Extn.	<u>11.16</u>	Private/Vacant	601	RA
		222.72			
<u>Categorized Land Under Agriculture. 61A</u>					
4/12	Richardson Fms, Essex St.	27.00	Private/Pasture	718	R1B
4/13	Richardson Fms, Essex St.	36.00	Private/Pasture	718	RA
4/18	Richardson Fms, Off Essex St.	62.00	Private/Pasture	718	RA
5/11	Richardson Fms, Off Liberty	15.00	Private/Pasture	718	RA
5/12	Richardson Fms, Liberty St.	100.30	Private/Pasture	718	RA
8/8	Gilbert Scharfenberger	4.00	East Street, 61A	722	RA
12/4	Richardson Fms, Liberty St.	10.17	Private/Pasture	718	R1B
18/2	Richardson Fms, Liberty St.	.84	Private/Pasture	718	R1B
18/6	Richardson Fms, Liberty St.	9.00	Private/Pasture	718	R1A
25/3	Richardson Fms, Maple St.	4.00	Private/Pasture	718	R1A
25/20	Richardson Fms, Mt. Vernon	50.50	Private/Pasture	718	R1A
29/31	Richardson Fms, Cedar/Weaver	4.41	Private/Pasture	718	R1B
29/187	Richardson Fms, South Main	21.50	Private/Pasture	718	R1A
29/188	Richardson Fms, South Main	179.00	Private/Pasture	718	M1
32/6	Richardson Fms, River St.	17.94	Private/Pasture	718	M1
32/6	Richardson Fms, Natsue Way	5.06	Private/Pasture	718	M1
32/126	Richardson Fms, Off River St.	5.25	Private/Pasture	718	R1B
32/127	Richardson Fms, Bhnd Kimber	6.50	Private/Pasture	718	R1B
32/134	Richardson Fms, River Street	38.00	Private/Pasture	718	R1B
33/29	Richardson Fms, River Street	<u>29.00</u>	Private/Pasture	718	R1B
		625.47			

Categorized Land Under Forestry. 61B

29/184	Frank Brown, 105 South Main	49.42	Recreation, golfing	805	R1A
26/14	Danvers Fish & Game	<u>80.59</u>	Private Recreation	814	M1
		130.01			

Commonwealth of Massachusetts

2/2	Comm. of Mass, Boxford line	3.90	Boxford line	901	RA
6/3	Comm. of Mass, Boxford line	40.00	Boxford line	901	RA
8/18	Commonwealth of Mass.	2.70	I-95	901	
9/18	Commonwealth of Mass.	18.00	Off North Main Street	901	M1
15/80	Commonwealth/Harold Parker	24.10	Off Bettencourt Road	901	R1B
19/5	Commonwealth of Mass.	10.00	State Hospital, Gregory St.	901	l
20/20A	Commonwealth of Mass.	20.00	20 Manning Avenue	901	R1B
26/15	Commonwealth of Mass.	40.20	Gregory Street	901	R1B
26/15A	Commonwealth of Mass.	<u>72.30</u>	Gregory Street	901	R1B
		231.20			

Counties

6/6	Essex County	11.63	Bald Hill Area	902	RA
6/7	Essex County	11.68	Bald Hill Area	902	RA
8/14	Essex County	.90	Rear of Muzichuk	902	R1B
13/36	Essex County, Mill Street	.25	Public	902	RA
13/37	Essex County, Mill Street	12.90	Public	902	RA
13/40	Essex County	20.70	Rear Mill Street	902	RA
13/41	Essex County	11.70	Mill Street	902	R1B
13/44A	Essex County	2.58	Mill Street	902	R1B
13/105	Essex County	5.60	Peabody Street Reservation	902	R1B
13/111	Essex County	5.53	Peabody St. Reservation	902	RA
13/112	Essex County	3.40	Peabody St. Reservation	902	R1B
13/113	Essex County	2.62	Peabody St. Reservation	902	R1B
19/23	Essex County Agri Inst.	2.76	Maple Street	902	R1A
19/105	Essex County Agri Inst.	1.19	Maple Street	902	R1A
20/20	Essex County Agri & Tech	40.99	Maple Street	902	R1B
20/20B	Essex County Agri & Tech	30.00	Maple Street	902	R1B
21/8	Essex County	27.40	Maple Street	902	R1B
26/13A	Essex County	3.20	Off Bixby Avenue	902	M1
32/54	Essex County	10.02	Riverview Drive	902	R1B
32/55	Essex County, River Street	10.47	River Street	902	R1B
33/45	Essex County, Bixby Avenue	<u>3.79</u>	Bixby Avenue	902	M1
		219.31			

Municipalities

3/2A	Town of Middleton	4.00	Off Sharpener Pond Rd.	903	
8/9	Town of Middleton	.77	East Street	903	R1B
9/3	Town of Danvers	.23	North Main Street	903	R1B
9/4	Town of Danvers	.75	North Main Street	903	R1B
9/6	Town of Danvers	.25	North Main Street	903	R1B
9/40	Town of Middleton	.17	Rockaway Road	903	R1B
10/8	Town of Middleton	.50	Essex Street	903	R1B
10/10	Town of Middleton	1.46	Essex Street	903	R1B
10/10A	Town of Danvers	23.00	Essex Street	903	R1B
10/11	Town of Middleton	.25	Essex Street	903	R1B
10/17	Town of Middleton	18.30	N. Andover Road	903	R1B
10/17A	Town of Middleton	9.24	Rear Essex Street	903	R1B
12/21	Town of Middleton	.20	Peabody Street	903	R1B

13/45	Town of Middleton	5.10	Off Mill Street/Conservancy	903	R1B
13/46	Town of Middleton	.05	Mill Street	903	R1B
13/55	Town of Middleton	.04	Metcalf Avenue	903	R1B
13/57	Town of Middleton	.14	Metcalf Avenue	903	R1B
13/59	Town of Middleton	.14	Metcalf Avenue	903	R1B
13/61	Town of Middleton	.78	Summit Avenue	903	R1B
13/64	Town of Middleton	.60	Summit Avenue	903	R1B
13/68	Town of Middleton	.49	Summit Avenue	903	R1B
13/69	Town of Middleton	.11	Summit Avenue	903	R1B
13/73	Town of Middleton	1.06	Summit Avenue	903	R1B
13/74	Town of Middleton	.04	Metcalf Avenue	903	R1B
13/75	N. Shore Council/Boy Scouts	.18	Lindbergh Avenue	903	R1B
13/84	Town of Middleton	.04	Metcalf Avenue	903	R1B
13/86	Town of Middleton	.12	Allen Avenue	903	R1B
13/88	Town of Middleton	1.25	East Street	903	R1B
13/99	Town of Middleton	.20	Summit Avenue	903	R1B
14/39	Town of Middleton	.31	East Street	903	R1B
14/52	Town of Middleton	.75	Locust Street	903	R1B
15/54	Town of Middleton	.83	Woodland Road	903	R1B
15/55	Town of Middleton	.14	Woodland Road	903	R1B
15/79A	Town of Danvers	23.00	Off Forest Street	903	R1B
15/86A	Town of Danvers	13.38	Off Forest Street	903	R1B
15/86B	Town of Danvers	7.88	Off Forest Street	903	R1B
15/86C	Town of Danvers	5.41	Off Forest Street	903	R1B
15/87	Town of Danvers	9.00	North Main Street	903	R1B
16/42	Town of Danvers	21.66	Forest Street	903	R1B
16/43	Town of Danvers	5.35	Off Forest Street	903	R1B
16/58	Town of Danvers	1.92	Lake Street	903	R1B
16/76	Town of Danvers	16.00	Off North Main Street	903	R1B
16/76A	Town of Danvers	26.50	Near Emerson Brook	903	R1B
16/79	Town of Middleton	5.58	197 North Main Street	903	B1A
17/37A	Town of Danvers	3.10	Wills Hill	903	R1A
17/96	Town of Middleton	1.00	65 North Main Street	903	B
17/97C	Town of Middleton	.46	Off Essex Street	903	R1A
17/97B	Town of Middleton	.30	Park Street	903	R2
18/28	Town of Middleton	.04	Liberty Street	903	R1B
18/49	Town of Middleton	.25	Spring Street	903	R1B
18/57	Town of Middleton	.62	Pine Street	903	R1B
18/92	Town of Middleton	.13	Spring Road/Undeveloped	903	R1B
18/93	Town of Middleton	.08	Spring & Lakeview/Undev.	903	R1B
18/97	Town of Middleton	.35	Spring Road	903	R1B
18/134	Town of Middleton	.10	Liberty Street	903	R1B
19/4	Town of Middleton	.46	Gregory Street (9)	903	R1B
19/51	Town of Middleton	.10	Oak Street	903	R1A
21/7	Middleton Housing Authority	2.73	81 Locust Street	903	R1B
22/3	Town of Middleton	3.10	North Reading line	903	R1B
23/4	Town of Danvers	2.50	Near Middleton Pond	903	R1B
24/18	Town of Middleton	.80	Yvonne Lane	903	R1A
24/37	Town of Danvers	754.25	Co Middleton Pond	903	R1A
24/37B	Town of Middleton	.41	Lake Street/Conservancy	903	R1B
24/37C	Town of Middleton	.50	Water Off Lake Street	903	R1A
24/63	Middleton Historical Society	.53	9 Pleasant Street	903	R1A
24/73	Town of Danvers	1.39	Lake Street	903	R1A
24/74A	Town of Danvers	.51	Lake Street	903	R1A
24/76A	Town of Midd. Aunt Betts Pond Land	12.00	Off Lake Street	903	R1B

25/1	Town of Midd. Oakdale Cemetry	15.00	Maple Street	903	R1A
25/22	Town of Middleton	.37	Mt. Vernon/Conservancy	903	R1A
25/27A	Middleton Housing Authority	4.68	Orchard Circle	903	R1A
25/31	Housing of the Elderly	3.28	80 South Main Street	903	R1A
25/79	Town of Middleton	.34	South Main Street	903	R1A
25/80	Town of Middleton	1.20	48 South Main Street	903	R1A
25/88	Middleton/Fuller Cemetry	1.00	Old S. Main/Mt. Vernon	903	R1A
25/91	Town of Middleton, King/Mt Vern	6.00	Soccer Field & Plygrnd	903	R1A
25/122	Town of Middleton	1.00	1 South Main Street	903	B
25/123	Town of Middleton	.25	Fire Station	903	B
25/127	Town of Middleton	.50	North Main Street	903	R1A
25/168	Town of Middleton	.46	38 Maple Street	903	R1A
25/186	Town of Middleton	1.00	Central Street	903	R1A
28/83	Middleton/Hocter Park	9.00	South Main/Conservancy	903	R1B
29/7	Town of Middleton	.90	Rear Spruce Avenue	903	R1B
29/41	Town of Middleton	.40	Stevens Avenue	903	R1A
29/49A	Richardson Farms, Inc.	.46	Park Ave (Cemetry)	903	R1A
29/62	Town of Middleton	.10	Oak & Grove Avenues	903	R1A
29/80A	Town of Middleton	.02	Edgewood Road	903	R1A
32/10	Town of Middleton, Landfill	33.00	River Street/Landfill	903	M1
32/97	Town of Middleton	.09	Hilldale Avenue	903	
33/9	Town of Middleton	8.40	R Off South Main/Conserv.	903	M1
33/13	Danvers Water Supply	6.00	Water, Lonergan Road	903	M1
33/15	Town of Middleton	6.00	Lonergan Road	903	M1
33/41	North Shore Regional Voc.	8.66	30 Log Bridge Road	903	M1
33/41B	North Shore Regional Voc.	4.73	Log Bridge Road	903	M1
33/46A	Town of Danvers	<u>9.42</u>	R Log Bridge Road	903	M1
		1,115.14			

Colleges, Schools

14/35	Wreath School	.92	89 East Street	904	R1B
14/37	Wreath School	.92	East Street	904	R1B
14/38	Wreath School	4.37	85 East Street	904	R1B
20/16	MIT	91.80	21 Manning Avenue	904	R1B
20/16A	MIT	6.18	Rear Manning Avenue	904	I
25/137	Middleton Howe-Manning	10.50	26 Central Street	904	R1A
29/70	Middleton/Fuller Meadow School	<u>10.40</u>	South Main Street	903	B
		125.09			

Charitable Organizations, Non-profit

2/1	ECGB, Pritchard Woodlot	100.00	N. Liberty/Nr Pond Meadw	905	RA
4/2	Boys Club of Lynn	120.66	210 Essex Street	905	R1B
4/2A	Boys Club of Lynn	1.00	Essex Street	905	R1B
5/1	ECGB/Barett Reservation	8.25	N. Liberty Street	905	RA
5/3	ECGB/Barett Reservation	39.00	Island Pasture	905	RA
5/8	ECGB/Barett Reservation	8.25	North Liberty Street	905	RA
5/15A	NEFF	2.00	N. Liberty (Lot 5)	905	RA
5/15C	NEFF/Breakneck	50.00	Rear Liberty Street	905	RA
6/2	ECGB/Capt. Bill Woodlot	40.00	Off N. Liberty	905	RA
6/2A	ECGB	3.50	Off Liberty Street	905	RA
6/5	ECGB/Nellie Hatfield Memorial	13.53	Second Pasture W&M	905	RA
6/8	ECGB	10.00	Pine Hill Lot	905	RA
7/5	ECGB/Clapp Woodlot	5.00	Off Peabody Street	905	RA
8/19C	ECGB/Trussel-Walcott Island	3.00	Private non-profit	905	R1B
9/14	Mass. Audubon	4.50	North Main Street	905	M1

11/11	NEFF/Wilkins Lot	7.60	North Liberty Street	905	RA
11/11A	NEFF	1.33	School Street	905	R1B
11/11B	NEFF	1.25	School Street	905	R1B
11/11C	NEFF/Barn Lot	9.00	North Liberty Street	905	RA
11/16	NEFF/Bridge Lot	16.12	North Liberty Street	905	RA
11/24	ECGB/Nichols Putnam	9.82	Off Liberty Street	905	R1B
11/24A	ECGB/Nichols Putnam	9.77	Rear Liberty Street	905	R1B
11/24B	ECGB/Nichols Putnam	11.85	Rear Liberty Street	905	R1B
12/12B	NEFF	58.00	North Liberty Street	905	RA
12/15	ECGB/Jopp Lot	17.50	Peabody Street	905	RA
12/18	ECGB/Brookfield	4.50	Peabody Street	905	R1B
13/47	Elliot Family Heirs	.04	Mill Street (Family Cemtry)	905	R1B
13/104A	ECGB	2.13	Peabody Street	905	R1B
13/104B	ECGB	2.16	Peabody Street	905	R1B
13/107	ECGB/Sawyer's Riverfront	.17	Peabody Street	905	R1B
14/10	Preservation of NE Antiquities	.76	East Street (Burying Grnd)	905	R1B
14/20	Jewish CC of Greater Lynn	75.08	84 East St.	905	R1B
14/20A	Jewish CC of Greater Lynn	.92	84 East St.	905	R1B
14/29	ECGB	7.00	East Street	905	R1B
17/97A	North Shore Heritage Assn.	1.60	59 North Main	905	B
17/111	ECGB/Klosowski Woodland	3.20	Rear Burke Road	905	R1B
32/128	A.P. Gardner Post 127	1.5	69 River Street	905	R1B
33/14	ECGB/Cousins Meadows	4.00	Off River Street	905	M1
33/16	ECGB/Cousins Meadows	2.00	Off River Street	905	M1
		655.99			

Churches

17/68	Midd. Cong. of Jehovah's Witnessess	1.00	70 Essex Street	906	
24/1	Roman Catholic Archbishop	.50	24 Boston Street	906	
24/1A	Roman Catholic Archbishop	.97	22 Boston Street	906	
25/201	Middleton Congregational	2.30	11 Webb Street	906	
		4.77			

Other Important Parcels

14/28	John & Enid Rubchinuk	18.70	Private/Tillable,	716	R1B
19/106	Farmer Brown	20.30	Maple Street	To be classified	R1B
		39.00			

Vacant Land in a Residential Zone or Accessory to Residential Parcel: Developable Land (5 acres and over)

1/5	Richardson Farms, Inc.	18.00	Bald Hill	130	
8/6	Mary Ferguson	5.00	Off East Street	130	
8/25	Peter Rubchinuk	19.29	131 East Street	130	
10/5	New England Power Company	20.00	N. Main Street	130	
10/6	Donald Winer	14.00	N. Main Street	130	
10/7B	Fredrick Desimone Trust	5.13	211 N. Main Street	130	
10/7E	Fredrick Desimone Trust	5.46	211 N. Main Street	130	
10/18	Sandra Ferrier, Trust	15.00	Essex Street	130	
10/21	John O. Kunz	9.33	8 Bishop Lane	130	
10/38	Cassar Concetta	6.00	Essex Street	130	
10/44	New England Power Company	10.50	N. Main Street	130	
11/27	William E. Ogden	29.00	Essex Street	130	
12/20	Richardson Farms, Inc.	5.19	Peabody & Mill Street	130	
14/3	Thomas J. Flatley	12.19	Locust Street	130	
14/51	Thomas J. Flatley	14.64	Locust Street	130	
15/100	Richardson Farms, Inc.	30.68	Tapley Street	130	R1B

17/37	Richardson Farms, Inc.	55.51	Forest Street	130
17/61	Alfred V. Fraument	8.95	97 N. Main Street	130
17/85	Richardson Farms, Inc.	30.00	Essex Street	130
18/11	Richardson Farms, Inc.	29.00	Liberty Street	130
18/22K	Richardson Farms, Inc.	6.75	Rear Liberty Street	130
18/48	Carol Ann Bernhard	7.95	Bow, Spring, Circle	130
25/63	Alfred V. Fraument	23.10	Boston Street	130
25/200	Ronald E. Pollock	11.68	Off Maple Street	130
31/9	Carolyn Woodward	8.53	River Street	130
32/1	Joseph V. Fandry	<u>5.50</u>	River Street	130
		406.38		

Vacant Land in a Residential Zone or Accessory to Residential Parcel: Potentially Developable Land (5 acres and over)

4/10	Richardson Farms, Inc.	18.66	N. Liberty	131
9/19B	John Muzichuk	17.00	N. Main Street	131
9/43	Owner Unknown	6.00	Martin Street	131
10/40	George F. Cavanaugh	22.87	Essex Street	131
14/9A	Edward P. O'Neil	7.00	Rear 64 East Street	131
17/48	Winifred Fitzpatrick	5.00	N. Main Street	131
19/70	Geraldine Shipley	10.59	Kenney Road & Campbell	131
25/212	Gary Nadeau, et al	<u>5.21</u>	Fifth Avenue	131
		92.33		

Vacant Land in a Residential Zone or Accessory to Residential Parcel: Undevelopable Land (5 acres and over)

4/19	Eugene LeBlanc	21.00	Off N. Liberty	132	
6/2B	Richardson Farms, Inc.	22.00	Essex Street	132	
6/4	Richardson Farms, Inc.	5.18	Boxford Line	132	
6/9	Richardson Frms	25.00	Essex Street	132	RA
7/4	Carole A. Smith Trust	60.00	Off peabody Street	132	
7/8	Nicholas J. Decoulas	12.00	East Street	132	
7/9	Carole A. Smith, Trust	5.00	Peabody Street	132	
8/16	John Blodgett	45.00	Walcott Island	132	RI B
8/19	Thomas Flatley	22.00	Nr. Rt 95	132	
10/17B	Eleanor Wake	16.00	Essex Street (Rear)	132	
10/35	Richardson Farms, Inc.	15.80	Rear Essex Street	132	
10/45	Richardson Farms, Inc.	25.00	Off Essex Street	132	
11/10	Frank LeColst	9.82	School Street	132	
11/13	Thomas Jacques	30.00	Off School Street	132	
11/23	James H. Coffin	17.00	School Street	132	
12/10	Richardson Farms, Inc.	9.00	Rear Liberty Street	132	
12/13	James H. Greehy	17.00	Off Mill Street, Ox Pasture	132	
12/14	Richardson Farms, Inc.	7.00	Pinehill	132	RA
13/48	Owner Unknown	5.06	Mill Street	132	
15/81	Donald W. Martin	7.16	Forest Street	132	
16/30	Robert E. Emerson	7.00	Off Lake Street	132	
16/33	New England Power Company	12.18	730 of Thomas Lot	132	
17/83	Vincent Giannusa	5.00	Essex Street	132	
17/117A	William Sauchuk	5.36	Off Liberty Street	132	
22/1	Richardson Farms, Inc.	51.75	N. Reading Line	132	
22/4	Richardson Farms, Inc.	11.50	N. Main Street	132	
25/185	Ronald E. Pollock	26.00	Off Webb Street	132	
25/187	Richardson Farms, Inc.	37.00	Off Park Street	132	
29/52A	Pelletier & Milbury	<u>21.50</u>	Park Avenue Ext.	132	
		553.31			